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AGRICULTURAL
JOURNAL
 AND
TRANSACTIONS
OF THE
LOWER CANADA
Agricultural Society.

Vol. 4.

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No. 6.

AGRICULTURAL COLLEGE AND MODEL FARM.

In the April number of the Journal, we submitted our estimate of the expense of establishing an Agricultural School and Model-Farm. Our estimate may not be perfectly correct, but we believe that the amount would be amply sufficient to commence with. We shall now endeavour to show what returns might be expected from a farm of 200 arpents, furnished with stock, implements, &c., as we proposed, and managed by a superintendent that would be competent for such an establishment.

We will suppose that the farm should be purchased in a suitable situation, not too near our cities, and that it should be taken possession of in time to execute the fall ploughing, say by the 1st of September. Two ploughs would, by commencing about that time, be able to plough before the winter at least 100 arpents of land, and that would be sufficient for the first year.

These horses would have to be employed during the winter in collecting manure, and a sufficient supply might be collected of farm-yard and special manures for the farm the following Spring. The 100 arpents that would be ploughed might be put under crop the first Spring. The amount allowed for the purchase of manure (£100,) would be sufficient for the purpose. Thirty arpents should be put into green crop—potatoes, beets, mangle-wurzel, carrots, parsnips, turnips, &c. Five arpents under vetches or tares, mixed with oats, to feed stock in July and August as green food when grass would begin to fail; there might be also five arpents of oats, rye, or indian-corn, (the latter sown broad-cast), to be cut as green food for cattle. If the land was suitable twenty or thirty arpents might be sown of wheat of different varieties, and manured with special manure of various kinds by way of experiment. This wheat land we would propose to sow

down with clover and timothy, although the land should not be in so good a state of preparation as might be desirable, but as meadow would be required at once, as much land as possible should be seeded down the first Spring. Thirty arpents would remain of the Fall ploughed land, and of this five arpents might be put under indian-corn, and five arpents under beans, both to be manured and cultivated properly. The remaining twenty arpents to be sown with oats and peas, ten arpents of each. If the soil was in a suitable state, barley might be substituted for part of the wheat. If the soil could be prepared in time, a few arpents of flax should be sown, if only for to raise the seed to feed cattle. Any meadow land that would be upon the farm should of course be left for hay. It might be possible after the spring work was finished to plough some land to sow with oats to cut when in ear, and serve as oat-hay, as probably there would not be much hay raised upon the farm the first year. Any idle time the horses would have, they might be employed to collect for compost, and to summer fallow some of the land, although it would be much better that, for summer fallow, the land should receive the first ploughing in the Fall previous, but this could not be done the first year. As the farm, it is presumed, shall be under the management of a qualified party, we need not lay down any particular system for them, after the first year, and we only submit this estimate to show that the farm may fully pay all expenses connected with its occupation and cultivation as a farm. There should not be any cattle bought the first winter, except the horses and a cow or two to furnish milk for the household. During the fall and first winter, any repairs necessary for the farm buildings might be made, and the dairy and new buildings erected before the hurry of the ensuing spring and summer. The dairy should, by all means, be provided, to be ready for work in the spring. The garden should be inclosed, and prepared as far as possi-

ble. The drains and fences should be attended to. We conclude all this to be possible when the capital was in hand to be expended; and all this work might be executed under contract, except the ploughing, and it would greatly facilitate business in the following spring and summer. The cows and swine should be purchased in the commencement of spring, but, perhaps, it would not be convenient to purchase sheep or oxen before the fall, but this will depend upon circumstances.

Recapitulation of the crops raised first year :

Green crops, 30 arpents, viz. :

- 5 arpents in potatoes.
- 5 do in beets.
- 5 do in mangle-wurzel.
- 5 do in carrots.
- 2 do in parsnips.
- 8 do in svedish and other turnips.

OTHER CROPS.

- 5 do in vetches or tares, with oats.
- 5 arpents in indian-corn or rye, for green food.
- 30 arpents in wheat, or, perhaps, part in barley.
- 5 arpents in beans.
- 5 do in indian-corn.
- 10 do in peas.
- 10 do in oats.

100 arpents under cultivated crops.

We proposed that 20 oxen should be purchased to be stall-fed on the produce of the farm. Oxen three years and a half old, might be purchased in good condition in the fall, to weigh between 500 lbs. and 600 lbs. for £5 each, or from 3 to 4 dollars the 100 lbs. weight. These oxen, by judicious feeding, might be brought to weigh 200 lbs. more each, in three or four months. For each ox half an arpent of roots would be sufficient, with 10 bushels of ground oats, or the value of oats in ground barley, peas, beans, or linseed, and about 16 lbs., or one bundle, of hay per day. The oxen when sold might be worth at least 30s. per 100 lbs., and have gained

200 lbs. in weight, if attended to properly. The oxen would only consume 10 arpents of the roots. The milch cows, bull, and, suppose, 6 calves raised, the swine, and 20 sheep for breed, might be allowed 10 arpents of the roots. Five arpents then remain, of which two might be allowed for the horses, and three to fatten a few sheep which could be purchased in the fall at 10s. each, and three arpents would be sufficient for 30 sheep, with a little grain and hay. We estimate the root crops to succeed as ordinary crops, producing 500 bushels to the arpent, on an average, except potatoes, which we do not include in the food for stock. This quantity of roots would require considerable storage room, but for the months of November and December the roots might be kept for the stock in pits, or in piles covered with straw and earth. The manager will attend to this, and if he understands his business he will be able to preserve the roots uninjured for the stock. We may now attempt to estimate the annual produce from all this.

20 oxen sold fat, to average from 700 lbs. to 800 lbs. each, beef, hide and tallow, at 6 dollars the 100 lbs. weight—say 700 lbs.	£210	0	0
20 ewes would pay by lamb and fleece 20s. each, .	20	0	0
30 fat sheep at 25s. each .	27	10	0
Profit on svine,	30	0	0
12 milch cows should produce 150 lbs. of butter each, or an equivalent of cheese, besides raising or fattening a calf each, 1,800 lbs. of butter, at 8d, per lb.,	60	0	0
12 calves sold fat, or at one year old, at £2 each, .	24	0	0
5 arpents potatoes at £10,	50	0	0
30 arpents wheat or barley, at 20 bushels per arpent, at 4s. 6d. per bushel, .	135	0	0

£566 10 0

The produce of the remaining 40 arpents employed in feeding the stock of animals.

Of this we propose that 10 arpents sown with tares, oats, rye, or indian-corn, should be cut as green food for the stock, in July and August, if required, and the land might then receive a half-summer fallowing. The remaining 30 arpents, we suppose, might yield :

5 arpents of beans, at 20 bushels the arpent, .	100	bushels.
5 arpents indian-corn, at 40 bushels per arpent, .	200	"
10 arpents peas, at 20 bushels per arpent, .	200	"
10 arpents, oats, at 30 bushels per arpent,	300	"
	800	"

This produce to be employed in feeding the stock.

We estimate that there would be sufficient provender raised upon the farm for all the stock and horses, with the exception of hay, which might be difficult for the first year; but by growing oat-hay, tares, &c., there would not be much more required, and some hay may be raised upon the farm; we shall, however, allow for the purchase of 5,000 bundles for the first year.

We shall now state the probable expenses.

20 oxen purchased at £5 each,	£100	0	0
30 sheep for fattening, at 10s. each,	15	0	0
Manure for first year purchased and allowed for in the former estimate, .			
Seeds of all descriptions, .	40	0	0
2 Ploughmen from 1st September for one year, supposed to cost, exclusive of milk, butter, and vegetables obtained in the			

Carried forward, £155 0 0

Brought forward,	£550	0	0
house, £36 each, . . .	72	0	0
2 ordinary men kept in the house for one year, from 1st of April to 1st of April, with the same privileges as the ploughmen, at £30 each,	60	0	0
Extra work of weeding and harvesting,	40	0	0
Dairy maid and house servant,	28	0	0
Carpenter and Black Smith,	20	0	0
Insurance on Farm-Stock.	30	0	0
Insurance on Buildings and Produce,	30	0	0
Interest of capital, £3,000,	180	0	0
<hr/>			
Total amount of annual expenditure,	£607	0	0

This estimate would show a deficiency of £40 10s. annually; but it will be observed that we allow a large amount for labour, which might be considerably reduced by the work of the pupils on a Model-Farm. We also allow £30 for contingencies on the stock, £30 for insurance, which might be done in a Mutual Insurance for, perhaps, £10 annually; the interest upon the capital is charged. Upon the whole, if the Farm was managed judiciously, we have no doubt, after the first year, it would amply pay its own expenses. There would not be any charge for manures, (unless for special manures), after the first year. The servants could be kept in the house on the produce of the farm at less expense than we have put down. We have not made any charge for the expenses of the Superintendent, as we expect the pupils would nearly pay for this, or ought to pay for it. We have not allowed for fire-wood, but as the expenses of this would depend upon the situation of the farm, we hope the produce of the farm may exceed our estimate more than will pay for the fire-wood. In the estimate of expenditure for the first establishment of

the farm, we allowed for labour and extras, £173; this would be for the horses' feed the first fall, winter and spring, and for fencing, draining, &c. If we have made any mistake in our calculations, we hope some friend may set us right. The statement we have submitted will satisfy any party who will take the trouble to examine it, that a Model-Farm may be established, that would be quite sufficient for this country to commence with, for about £3,000, and that under proper management, it would, after the first year, amply pay its expenses, and the interest upon the whole of the capital employed. We have not over estimated any product. The garden should be a great assistance towards house-keeping. It may be objected that we estimate a lamb for each ewe, and a calf for each cow. The ewes, if of a good description, and kept properly, would be likely to raise more than a lamb for each; and should any of the cows not have, or lose a calf, it would be easy to replace it, by buying a calf in the market, which may be had a few days old, and of good quality, for 10 to 15 shillings,—indeed we have seen calves of a good breed sold for less. We beg the friends of agricultural improvement will not criticise this article severely, but rather suggest some improvements upon it. The hay that may be required for the first year can be purchased from the extra fund, or from a larger produce obtained than we have estimated. If the breeding cows and sheep are of good quality, they might yield calves and lambs that would be worth considerably more than we have put down for them. The garden might also be estimated at something, for supplying pupils that would pay for their board. A fifth horse might be required before the end of the first year, but we shall not set down a price for this, as we hope there will be sufficient funds for its purchase. If any objections are made to our estimate, we can revise and correct it. It may be possible that the farm would cost more in the first instance.

THE LENTIL IN SCOTLAND.

The *Ervum lens*, although a new field-crop in Scotland, in its cultivation as an article of food, is so well known abroad, especially in Catholic countries, that the very name *Lent* is unquestionably derived from the use of lentils during that period of abstinence from all sorts of animal diet. As green crop for cattle-feeding, however, we can trace its introduction into Britain three hundred years back: the date which Mr. Lawson gives being 1545. But he adds in his "Agriculturist's Manual," that "although well adapted to our climate, its cultivation has not been attended to"—for what good reason it is difficult to discover, unless, like other items of husbandry practised by the monks in the vicinity of their settlements, it was driven out with the Reformation. The vine, which was general in the south of England, shared this fate. The *Ervum lens* belongs to the general order *leguminosæ*; in generic character its calyx is five-parted; segments linear, acute; corolla, sub-equal; pod, oblong, and two and four seeded. Six species are natives of the northern hemisphere. The species termed botanically *Ervum tetraspermum hirsutum*, presents us with those troublesome weeds of the New Testament parable called tares. They are natives of England: but the *Ervum lens*, the lentil, is a native of the south of Europe. The eatable lenticular seed is of very ancient culture. On the authority of Genesis xxv. 34, it distinctly formed the mess of red pottage for which Esau sold his birthright. Several references to it occur elsewhere in holy writ, as in 2d. Sam. xvii. 28; xxiii. 11; and Ezek. iv. 9. It constitutes at the present time much of the food of the common people of many continental states, being not only the cheapest, but the most palatable and nutritious diet. For the value of *twopence* six men may dine well on lentils; and as this extraordinary fact will doubtless excite the attention both of the poor and the benevolent, we shall mention the various modes of cooking adopted.

Steep the lentils an hour or two in cold water; then take them out and place them in a goblet, with enough of water to cover the surface; adding a little butter, some salt, and flavouring with parsley. Place the whole over a slow fire. They must boil slowly; and care must be taken to add water enough to keep the surface covered, but merely covered.

They may be boiled with ham, bacon, sausage, or merely with water and salt, or prepared afterwards with onion *a la maitre d'hôtel*.

In schools, barracks, or large boarding establishments, they are often boiled in salt and water; and when cool the water is poured off, and they are dressed with oil, vinegar, &c. like a French salad.

When the lentil is bruised or ground into meal, it makes an excellent *purée*, with wild fowl or roasted game.

It is prepared also like peas for soups, dumplings, puddings, &c.

One single pound of meal makes soup sufficient for fifteen persons; or a pudding-dumpling, *purée*, &c. for six; and the pound costs from 2d. to 3d. in France or Germany.

Being exceedingly nutritious, lentils would make a capital substitute for potatoes; and it is mainly on this ground that the recent efforts of a French gentleman, M. Guillerez, of Castle Street, Edinburgh, have been directed to bring about their adoption as a British field-crop. But why is it that, having free trade in corn of all kinds, this foreign crop is not in the meantime more largely imported for British consumption? This is a singular circumstance, for it affords one of the most popular of all dishes abroad; the finest or small brown kind—which is also the most prolific—being esteemed a delicacy by the rich, and highly relished by the poor. The very paucity of the supplies that have lately reached us of the flour of lentils have tempted those by whom it is vended as food for invalids, to palm off mixtures of bran-meal, and other leguminous products, for the genuine article. And the high price put upon the packages doled out so mysteriously, and puffed so extensively, would preclude the public from enjoying the advantages of this cheap and plentiful description of food, even if their contents were legitimate.

The character of the lentil, both intrinsic and economical, would seem to point it out as a proper substitute for the potato; and the important question is, whether it would thrive under general culture in this soil and climate as luxuriantly as that root? One of our scientific growers (Lawson) has already given his testimony in the affirmative—"Agriculturist's Manual," p. 95. Dr. Palnekeel failed, indeed, in an attempt to cultivate them twenty years ago, at Canonmills, near Edinburgh; but Messrs. P. Lawson and Son ripened specimens of the seed of the larger lentil at their Meadowbank nursery in 1835. They were sown on the 7th April, were in flower on the 6th July, and ripened the second week of August. The only systematic and persevering attempts, however, to ripen the seed, and acclimatise the plant, have been those of M. Guillerez. These have been carried on at Queensferry; and in the course of his experiments, it has been found that seed of his own produce ripened there, and proved more luxuriant than continental seed newly imported from France, given to him in exchange by Lord Murray. Here, then, there is room to hope that, if not already predisposed for vegetating kindly in our climate, the lentil is in a fair way of being acclimated.

M. Guillerez's plants grew, we believe, to two and even three feet in height—a luxuriance seldom attained in France; and yet his experiments could hardly be said to have been made under circumstances the most favorable for the growth of the plants. A dry warm soil is requisite for the lentil. This gentleman, however, sowed his at Queensferry in heavy garden-ground, manured with sea-weed and common manure. He put in the seed at various periods, some two months earlier than others, without experiencing any sort of advantage from anticipating the stated period for sowing; and, on the whole, has arrived at the conclusion, that in this country the best time for sowing is a little later than that for peas—about the middle of March. There should be from one to one and-a-half bushels to the acre; with probably a row of horse-beans between every row of lentils, to prevent their falling, and to save the expense of propping, which is never incurred by the foreign farmer. In other respects their treatment, harvesting, &c. are similar to those bestowed upon the pea. The plant is of a close branching habit, producing from 100 to 150 terns and a considerably greater number of pods. M. Guillerez counted 131 on a single stalk, and has found his pods to contain from 1 to 2, and occasionally 3 seeds each. In garden they may of course appear in pretty thick rows, 18 inches or 2 feet apart, and 5 inches distant from each other. Their appearance in this situation is improved by their being propped.

There are three cultivated varieties of the lentil—the lentil of Provence, as large as a pea, with a luxuriant straw, better adapted for culture as a tare than as a grain for human food; the yellow lentil, less in size, easily unhusked, and convertible into flour, serving as the base of the preparations so much and so long puffed in the newspapers; and the small brown lentil, the best for use, the most agreeable in flavor, and preferable to all others for haricots and soups. The two last-named varieties are those which have been grown, and their seed ripened, in the open air at Queensferry.

It was a pleasant sight to see this novel and agreeable-looking product in bloom at Queensferry in the middle of June, covering the drills with a profusion of delicate white blossoms. There was even a peculiar charm in the fairy-like tracery of its soft green foliage. In the beginning of August it was properly podded, and within a few days of being ripe. In short, the experiment, on however limited a scale, was entirely successful, and it is to be hoped that the prosecution of an object so desirable will not be lost sight of. It is always to be remembered that such an addition to our resources must be of essential importance to the poor, whether as a substitute for the potato crop or not; for a pint of the meal, or of the len-

tils entire, simply unhusked, will produce at this moment two large and substantial family dishes, at a cost of sixpence; and if cultivated in our own fields, at a much less expense. This vegetable, so generally used in France in boarding-schools, in the army, in large families, and in hospitals, is one of the most nutritious and succulent serials in existence—cheaper, more wholesome, and more susceptible of digestion and assimilation as human food, than any description of peas or beans—making delightful soup, very savoury to the taste when cooked with ham, or when its farina is used for puddings or purée with any kind of meat. In short, it wants but a knowledge and appreciation of its qualities among us to create a demand which our farmers, having now been shown the way, will greatly advance their own interests in studying to gratify. *Chamber's Journal.*

HINTS TO FARMERS.

(FROM "STEPHEN'S BOOK OF THE FARM," PART 4TH, NEW EDITION.)

Let the farmer never fail to try every experiment suggested, the object and importance of which have been sufficiently explained to him. He may much more safely follow such objections than adopt the recommended practices, of an unreasonable nature, of non-practical men. For example, when the farmer is told that cattle thrive better when lodged on bare deal boards than on comfortable straw, and that they are more healthy on such boards, with their urine and dung exposed below and behind them, even although under the process of deodorisation, than when these are absorbed and hidden in the straw, let him not believe it; because he knows that when he is himself comfortably lodged, he is better in every respect than in a contrary situation. He may probably be recommended to cut all his straw into chaff, for the purpose of giving the whole of it in fodder to his live stock, with the view of increasing the size of his farm-yard dung-heap. Let him not give ear to such persuasion; because, if Liebig be correct in his views of the mode by which the animal heat of the body is maintained, no less than 60 per cent. of the carbon of the straw will be breathed away in carbonic acid gas into the air. When he is told that it is better, in every respect, for sheep to be tied by the neck in a house than at freedom in the open air, let him give no credence to it, because he knows that confinement and restraint are quite contrary to the nature and habits of that animal. When liquid manure is so strongly recommended to him, that, in order to obtain it, the cattle must be confined in byres instead of hammels, let him doubt the propriety of the recommendation, because he knows that it has been ascertained

by chemistry, that the urine is the more valuable portion of the evacuations of every animal, and that, when it is separated from the dung, the latter is deteriorated in value in that proportion, and that the urine itself, unless scientifically managed, will lose a large proportion of its ammonia—the most valuable of its ingredients. When cattle are recommended to be confined within the limits of a box which will deprive them of any exercise, that they may fatten the quicker, instead of being in a small hammel, where they may have moderate exercise if they choose, let him receive the recommendation with caution, because he is aware that the laying on of fat is not the only object in feeding cattle—the paramount object being the laying on of large masses of flesh; and when he knows that the animals he breeds are come of a kind having a strong disposition to fatten, they will find no difficulty in acquiring a sufficiency of fat, provided they lay on abundance of flesh. It is well known that the taste of the consumer for fat meat has much altered within the last 20 years. Then, coilliers could not obtain too fat mutton; now, they won't purchase it: then, it was supposed beef could not be made too fat; now, oxen fetch the highest price in the London market, which afford the largest and deepest cuts of flesh along the back. It is therefore a retrograde movement to desire, now-a-days, to put on additional fat by depriving animals of exercise. The object of the farmer should rather be to increase the disposition to fatten in his stock, by carefully following the principles of superior breeding than to contrive restrictive measures to put fat upon ill-bred stock. Of the three modes of feeding oxen—the byre, the box, and the hammel—experiment has already proved the superiority of the hammel over the byre, and no experiment has yet proved that of the box over the small hammel: no farmyard manure has yet been produced superior to that obtained from small hammels. Warmth, not heat, is favorable to laying on both flesh and fat; and the small hammel, provided with abundance of straw, affords the requisite quantity of warmth and shelter, if one may judge from the conduct of the cattle when in them. When farmyard manure is recommended to be wholly applied to the soil in a liquid form, let the farmer doubt the propriety of the expedient, because, although he is aware that plants take their food in their liquid form, he also knows that every cereal and green crop will only take as much food as it requires at any given time—and he does not yet know at what period of its growth it is disposed to take the largest proportion of food; and he knows, besides that, if more moisture is presented to a plant than it wants, the surplus quantity will rather injure than promote its growth. Moreover, it is quite possible that the surplus moisture may

enter into such combinations with the constituents of the soil, as to form compounds injurious to the particular state of the plant, when the dissolved manure happens to be applied. The recommendation is as yet wholly unsupported by experience. It is probable that the manure in the liquid state would always form a good top-dressing to grass land, but its safe applicability to ploughed land is attended with reasonable doubt, especially in a moist climate.

We copy the following from the Agricultural Class Book (England).

Q. How are plants produced?

A. By seeds, roots, layers, offsets, suckers, cuttings, slips, pipings, bulbs, tubers, grafting, and budding.

Q. How does a seed grow?

A. When a seed is put into the earth, it is exposed to the action of heat and moisture; the covering which protects it softens, and lets in the air. The air changes the solid carbon,* which the inner part of the seed contains, into the fixed air, or gas, called carbonic acid gas; and this nourishes the little living thing within, just as part of the substance of an egg supports a chick until it breaks the shell and gets other food.

Q. How do plants grow from the roots?

A. The root, when placed in the earth, throws out fibres from its under surface, which take up the food of the plant from the soil. The young plant shoots from the upper part of the root in which it is contained, and which gives it nourishment until the fibres are sufficiently grown to supply it with its proper food.

Q. You have said that plants are increased by layers: what is a layer?

A. A branch of a plant laid in earth, so that it will take root at a bud, and become a distinct plant when separated from the parent stem.

Q. Take a lower branch of a shrub: can you explain the manner of obtaining a layer from it?

A. Strip the leaves off around and near the part to be layered; then choose a bud underneath; make a cut with your knife just below the bud (that is, on the end nearest the stem of the tree) into the pith; then turn the edge of the knife horizontally, and make a slit from half an inch to an inch in length, up towards the bud at the heel or tongue of the flat part.

Q. How do plants grow from layers?

A. When covered with two or three inches of earth, a layer will throw out roots sooner or later, of which the whole top part of the

* Carbon exists in considerable quantities in seeds, and preserves them by preventing putrefaction or decay. Carbon exists in different forms; charcoal, which is made by burning wood, is carbon, and the costly gem the diamond is also carbon.

branch, or a shoot cut from it, forms the stem of the new shrub.

Q. Can you obtain more layers from the same branch?

A. Yes, several layers may be cut from it; if it be long enough and sappy enough, the whole branch may be covered with earth, or only the portions of it cut and tongued.

Q. How is the sap carried into the extremity of the branch and brought back, if so many parts are cut half way across, or nearly so?

A. The undivided part above conveys it backwards and forwards, while enough of it oozes through the crossing veins of the branch into the bud at the extremity of each tongue.

Q. Is any thing more done?

A. Yes, the undivided part above the tongue is often twisted round, or tied tightly, to prevent the sap from returning back to the stem, unless in very small quantities, in order to nourish the rooting parts more.

Q. But will not this, also, hinder the rising sap from flowing towards the top of the branch?

A. No, its rising force will carry it on fast enough.

Q. What more?

A. In some layers, moss or clay, or any solid substance, is put into the slit to keep its parts from closing; and the layered part is usually fastened down to the earth by pegs, or some contrivance, to prevent it from springing out of it.

Q. Is earth necessary in all cases?

A. No; tender green-house plants are mostly layered under moist moss; a stone answers as a covering for others.

Q. Can many plants be propagated by layers?

A. Nearly all forest trees, many fruit trees, and several shrubs, may be so propagated; and though two years may be required in some cases, a few weeks or days are sufficient in others.

Q. How are plants propagated from joints?

A. By laying the joints in or on the earth, and without using the knife as in layering.

Q. Give instances of plants that grow quickly by nature from joints.

A. The strawberry; its runners are all jointed, and every joint grows from even resting on the ground. Couch grass and florin grass also grow from joints naturally and freely; every joint may be made a new plant by leaving a runner with it.

Q. What are offsets and suckers?

A. They are the offspring under ground or over ground of plants, which, if parted from the parents and planted separately, are at once perfect and independent plants.

Q. What are cuttings?

A. Short pieces cut from trees and other plants (and generally of new growth) with buds or joints, which are put into the earth where they take root.

Q. Give instances of plants usually propagated by cuttings.

A. Currant and gooseberry trees, flowering shrubs, and willows, and osiers.

Q. What are slips?

A. Shoots torn off at the stem.

Q. What are pipings?

A. They are almost the same as cuttings; and are only so called in reference to carnations and pinks. They are either actual cuttings made under a bud or joint, or they are pulled out of the stem at the second joint. They grow as cuttings do.

Q. What are bulbs?

A. Roundish knobs furnished with scales: at their lower part is a ring, from which the roots strike.

Q. Name some bulbous plants.

A. Tulips, onions, narcissuses, jonquils, and hiacinths.

Q. How do they grow?

A. Some of them either in earth or water; by putting the bulbs with the root part downwards and the stem end upwards, they grow readily.

Q. Can they be cut into pieces like potatoes, and yet grow?

A. Some, like the onion, must be divided from top to bottom, through the centre, where the germ is: the cut must be made through the ring at their base, in which are the rudiments of the roots, or the roots themselves.

Q. What are tubers?

A. They are roundish, flattish, or kidney-shaped knobs containing eyes.

Q. Give examples of some.

A. Potatoes, Jerusalem artichokes, and dahlias.

Q. How do they grow?

A. Either from the entire tuber, or from parts containing an eye; and in some plants there must be at least a portion of the stem with the set.

Q. Name tuberous plants which will not grow without a part of the stem.

A. The dahlia.

Q. Why?

A. Because the only rudiments or beginnings of eyes are at the upper part, where the stem is, and they cannot be separated from that portion.

Q. What is grafting?

A. The insertion of a small shoot (having one or more buds) of one plant into the stem of another, in such a manner that they become one plant.

Q. What is the small shoot inserted into the stem called?

A. A scion.

Q. What is the stem called into which the scion is inserted.

A. A stock.

Q. What is budding† or inoculating?

† Some plants will not grow well from grafting, though they will from budding. Peach trees are budded, because they are too delicate to bear the wounds which grafting would occasion to them.

A. It is the insertion of a bud only into a stem or branch of a different plant.

Q. Is there any law of nature against the general grafting and budding of trees upon each other?

A. God has limited this manner of increasing plants within due bounds, by ordaining that, generally speaking, those only can be best increased by grafting, &c., which are of the same species,* or family, or at least of the same general order or class.

Q. Can all plants of the same species, or within the same natural order, be multiplied by grafting, &c., one with another?

A. Yes; the hardy and the tender, the early and the late, the deciduous and the evergreen plants may be grafted on each other, but not very successfully, unless they have like constitutions.

Q. Why are any species or varieties of plants propagated by grafting or budding in preference to being raised by seed?

A. Because they are multiplied with more certainty, and in a shorter time, by those operations, than they could be from seed. Hybrids (which are among plants what mules are among animals) very rarely yield any seed at all; and if they do, their seed cannot be depended on for producing good plants. It is plain that a scion becomes a tree sooner than a seed can.

Q. How is it that bad or indifferent fruit trees, may be rendered productive of good fruit by grafting?

A. Their stems when cut down, serve for the stocks of new trees. Shoots of good sorts of fruits may be cut into a great number of little pieces; and every one of these, if grafted on one of the old stocks, may become a new tree, or a branch of a new tree, preserving its own natural fruit-bearing qualities.

APPLICATION OF CLAY, MARL, &c., TO SAND.

The newly discovered property of soils explains and confirms the variations in manuring operations which are made to suit the nature of the soil. Clay is the active substance in retaining manure, and sandy and gravelly soils not possessing a sufficiency of clay will be expected to be less retentive of manure. Such is the fact, and soils of this description are said not to "hold manure." On such soils manure must be applied more frequently and in smaller quantities than in stiffer soils, where, owing to the retentive power

* Generally, they must be of the same genus and species; that is to say, of the same nature and general characters: but there are many exceptions; for instance, the pear tree may be grafted on the hawthorn, and the hawthorn on the pear tree, though they are distinct in genus and species. They belong, however, to the same natural order, or general class. The more nearly related that plants are to each other, the better for budding and grafting them together.

of the clay, the manure for several crops may be safely deposited. If these inferences be correct, the only way of permanently improving a sandy soil is to clay it, and it is notorious that the light sands of some parts of Norfolk are only made to bear crops by copious dressings of clay. It may be observed in passing, that where a dressing of clay is required it very often happens that the substance at hand is a marl, of which more than half is carbonate of lime, which (that is, the carbonate of lime) cannot be supposed to be a substitute for clay, inasmuch as, although it is capable of improving the mechanical texture of a sand or a gravel, it has more of the chemical properties of combining with manure which clay possesses. In Norfolk this is frequently the case, and it would often pay the farmer to go a longer distance for real clay rather than apply that of inferior quality which lies under the surface.—PROFESSOR WAY.

LORD SPENCER'S RULES FOR THE SELECTION OF MALE ANIMALS FOR BREEDING.

THE first things to be considered in the selection of a male animal are the indications by which it may be possible to form a judgment as to his constitution. In all animals a wide chest indicates strength of constitution, and there can be no doubt that this is the point of shape to which it is most material for any breeder to look to in the selection either of a bull or a ram. In order to ascertain that the chest of these animals is wide, it is not sufficient to observe that they have wide bosoms; but the width which is perceived by looking at them in the front should be continued along the brisket, which ought to show great fullness in the part which is just under the elbows; it is also necessary that they should be what is called thick through the heart. Another indication of a good constitution is, that a male animal should have a masculine appearance; with this view a certain degree of coarseness is by no means objectionable, but this coarseness should not be such as would be likely to show itself in a castrated animal, because it thus might happen that the oxen or wethers produced from such a sire would be coarse also, which in them would be a fault. Another point to be attended to, not merely as an indication of a good constitution, but as a merit in itself, is, that an animal in itself should exhibit great muscular power, or rather that his muscles should be large. This is an usual accompaniment of strength of constitution; but it also shows that there will be a good proportionate mixture of lean and fat in the meat produced from the animal, the muscles being that part which in meat is lean. A thick neck is, in both bulls and rams, a proof of the muscles being large, and there can hardly be a greater fault in

the shape of a male animal of either sort, than his having a thin neck. I am inclined to say, that in the new Leicester breed of sheep, which is the breed to which I am accustomed, a ram's neck cannot be too thick. Other indications of muscle are more difficult to observe in sheep than in cattle. In a bull there ought to be a full muscle on each side of the back bone, just behind the top of the shoulder blades; he ought also to have the muscles on the outside of the thigh full, and extending down nearly to the hough. It will seldom happen that a bull having these indications will be found deficient in muscle. As I am writing for the use of farmers, it is quite unnecessary for me to attempt to give a description of what is considered a well shaped bull or ram; it is also obviously impossible to express in words what is meant by good handling. It is sufficient to say, therefore, that no small animal is fit to be used at all as a sire whose handling is not good, and that the more perfect his shape is the better.

STRAWBERRIES AND RASPBERRIES.

The months usually recommended for making new plantations of strawberries are September and October; in autumn, or March in the spring. But we consider either season as disadvantageous. If planted in autumn, they often are not sufficiently rooted to stand the winter frost, if in spring the produce has to be waited for through more than a whole year; whereas if planted in July, the plants become well established before winter, and a plentiful crop of fruit may be obtained in the following summer.

The soil best suited for the strawberry is a deep rich loam; stiff clay land is considered unsuitable, but we know a garden of several acres in which the soil is cold wet clay, planted entirely with strawberries, from which the crop is most abundant, yielding ample profit to the owner. The ground should be trenched two feet deep, well supplied with manure, and divided into beds about four feet wide, with narrow pathways between them. On these beds the young roots are to be planted from twelve to eighteen inches apart, according to the size of the kind of strawberry. The roots should be chosen from those runners which grow nearest the parent plant, and which have a full central cluster of leaves, those with only one or two leaves are generally unproductive. Strawberries may also be planted in borders, at about a foot distant from each other, but the best system to pursue is the following:

1st year, July.—Prepare the beds, and plant as above directed fixing the roots firmly in the ground, give them a good watering, and continue to do so day by day if the

weather be dry, until they are well rooted; the usual rains of the end of July are generally advantageous in assisting the speedy growth of the plants, which will be well established before winter sets in. In the beginning of December spread a thick coating of rich manure around the plants, to nourish and protect them from the frost. Fork in the manure in April, rake the beds neat, and cut off the runners as they advance.

2nd year, July.—Let a new bed be prepared, planted and dressed in the same manner; continue attention to No. 1 bed, which this year is in good bearing order.

3rd year, July.—Make another new bed: attend to beds Nos. 1 and 2 as before. No. 1 is now in full bearing.

4th year.—As soon as the strawberries have done bearing, dig up the plant in No. 1, trench the ground afresh, well manure, and replant. No. 2 will now be in perfection.

5th year.—Pursue the same course with bed No. 2. Thus year after year you will have a constant progress and succession, always two beds in full bearing, instead of leaving your beds to become worn out and unproductive.

By planting several varieties, and choosing different aspects, the strawberry season may be made to continue from June to the end of August. One successful cultivator digs trenches a foot deep, these he fills with stones about half their depth, upon these rich loam well manured is placed, and the strawberries planted upon it. The stones are to prevent the roots from striking deeply into the ground, in order that they may have the full benefit of the manure, and of that which is spread over the plants in winter. The plan is found to answer admirably.

Soot is a fine manure for the strawberries; spread about them in April, just before they blossom, it destroys slugs, and the rains carry into the soil the saline matters which act powerfully as manure. Rabbits' or pigeons' dung mixed with short litter, forms the best winter dressing. At the beginning of the present century there were only about a dozen or twenty different kinds of strawberries, now there are hundreds of choice varieties, from which to select in forming new beds. Keen's seedling a few years ago was regarded as the best, combining fine flavour and large size with abundant bearing. This has yielded the superiority to the British Queen, which is, perhaps, the best of all. The price of the plants is yearly decreasing, in 1848, they were to be purchased for 3s. 6d. per hundred. Another new variety of splendid appearance and flavour is the Black Prince, the price is, however, yet very high, six shillings for a quarter-of-a-hundred. Many gentlemen allow their gardeners to give away the runners to their poorer neighbours, from this source, doubtless, many of

our readers will endeavour to supply themselves with good kinds.

RASPBERRIES are generally planted too late. In forming new beds it is found that when they are made in October or November, that several years elapse before they become very productive. Our plan is to plant as soon as they have done bearing, or as soon as the leaves begin to fade and curl; the canes are then as much at rest as at any period, and may be removed safely; they require plentiful watering until fully established. In the winter, a good supply of manure must be put about the roots, to be dug in spring, and the result will be a good crop of fruit the succeeding summer. Gooseberry and currant-trees should also be planted as soon as the leaves begin to fade.

Sir Charles Lyell, in his Principles of Geology, offers some excellent observations in point, in reference to the animal kingdom, which apply with equal force to the case of vegetables. He says:—

“The modifications in the system of which man is the instrument do not, in all probability, constitute so great a deviation from analogy as we usually imagine; we often, for example, form an exaggerated estimate of the extent of the power displayed by man in extirpating some of the inferior animals, and causing others to multiply; a power which is circumscribed within certain limits, and which, in all likelihood, is by no means exclusively exerted by our species. The growth of human population cannot take place without diminishing the numbers, or causing the entire destruction of many animals. The larger carnivorous species give way before us, but other quadrupeds of smaller size, and innumerable birds, insects, and plants, which are inimical to our interests, increase in spite of us, some attacking our food, others our raiment and persons, and others interfering with our agricultural and horticultural labors. We force the ox and the horse to labor for our advantage, and we deprive the bee of his store; but, on the other hand, we raise the rich harvest with the sweat of our brow, and behold it devoured by myriads of insects, and we are often as incapable of arresting their depredations, as of staying the shock of an earthquake, or the course of a stream of burning lava. The changes caused by other species, as they gradually diffuse themselves over the globe, are inferior probably in magnitude, but are yet extremely analogous to those which we occasion. The lion, for example, and the migratory locust, must necessarily, when they first made their way into districts now occupied by them, have committed immense havoc amongst the animals and plants which became their prey. They may have caused many species to diminish, perhaps wholly to disappear; but they must also have enabled

some others greatly to augment in number, by removing the natural enemies by which they had been previously kept down. It is probable from these and many other considerations, that as we enlarge our knowledge of the system, we shall become more and more convinced, that the alterations caused by the interference of man, deviate far less from the analogy of those effected by other animals than we usually suppose. We are often misled, when we institute such comparisons, by our knowledge of wide distinction between the instincts of animals, and the reasoning power of man; and we are apt hastily to infer, that the effects of a rational and an irrational species, considered merely *physical agents*, will differ almost as much as the faculties by which their actions are directed. A great philosopher has observed, that we can only command nature by obeying her laws, and this principle is true, even in regard to the astonishing changes which are superinduced in the qualities of certain animals and plants by domestication and garden culture. We can only effect such surprising alterations by assisting the development of certain instincts, or by availing ourselves of that mysterious law of their organization, by which individual peculiarities, are transmissible from one generation to another.

The distinctness, however, of the human from all other species, considered merely as an efficient cause in the physical world, is real, for we stand in a relation to contemporary species of animals, and plants, widely different from that which other irrational animals can ever be supposed to have held to each other. We modify their instincts, relative numbers, and geographical distribution in a manner superior in degree, and in some respects very different in kind from that in which any other species can affect the rest.”

MOSS ON TREES.—Fruit trees growing in confined localities upon wet, undrained land, as well as those planted on hills in exposed situations, are most subject to mosses and lichens. That parasites prove most destructive to the tree they inhabit is well known to every pomologist, and though various means have been recommended, yet none is so efficacious and so simple in application as whitewashing the stem and principal branches as far as practicable; this not only destroys every germ of moss and lichen, but also every kind of insect harboured in the crevices of the bark. But should there be an objection to the white appearance of the tree, take two parts of beechwood ashes, one part of salt, add a little soft soap; mix the whole in a pail of water, let it remain until it gets clear, when by washing the tree with this solution, the result will be equally satisfactory.—*Allgemeine Gartenziitung.*— [The washing should be performed in the autumn as soon as the fruit is gathered.]

PRESERVED RAW VEGETABLES, &c.—Among the miscellaneous articles exhibited at the meeting of the Horticultural Society on the 18th of March were several bottles of raw vegetables both whole and cut into small pieces, such as peas, beans, Brussels, sprouts, turnips, and carrots. There was also a packet of dried cabbage leaves. These were sent by Messrs. Peyrusset, Moller Co., of Paris, and stated in a communication which accompanied them to have been dried by M. Gannal, in such a way as to render them capable of being kept for an indefinite length of time with all their qualities unchanged, being only minus the water of which they are more or less composed. The vegetables thus preserved are stated to retain their flavour, and present on being cooked the appearance common to those taken fresh from the garden. The process by which the vegetables are prepared is known only to M. Gannal, but it is stated to rest on the principle of rapid and complete aeration, by means of a particular apparatus formed for the purpose. This contrivance is somewhat analogous to that introduced some years ago for the preservation of animal and vegetable substances after they were cooked. In the present case the substances are preserved raw, and may be used with ordinary convenience. This mode of keeping vegetables is valuable for all classes, but it is especially suited for those taking long sea voyages. The process is also of some interest to the botanist, as plants and flowers dried by it retain their colors, with all their natural vividness, while the great saving of time and labor effected is, of course, of equal importance.—*Gardeners' and Farmers' Journal.*

THE AUSTRALIAN NETTLE-TREE.—The nettle, or stinging-tree, is a dangerous and abundant inhabitant of the brush, and I would recommend all horsemen to give it a wide berth. It attains a good size; its wood is white and soft, its blossom a beautiful scarlet, and its leaves are large, rough, and dark, inflicting a very poisonous sting. Strange, however, to say, it is the horse and not man that suffers most from its effects. Before I had become acquainted with its terrors, I had the misfortune, on one occasion, to get bewildered among some cedar paths in an extensive brush. Trying, at the termination of one of these paths, to force my way through the jungle, I got among some young nettle-trees, and my horse was severely stung. Within ten minutes he began to stagger under me, and at last fell. I sprang off, and landed myself among nettle-trees; but though I was stung, I did not feel it much more than common nettles. My charger had not lain long, when he started up, plunging and rearing most furiously. He soon fell again, however, when I succeeded in getting the saddle off him. Again he rose,

again he staggered about, rearing high in the air, and again he fell. I was now much alarmed for him, and would have bled him with my knife, but he was so furious that it was impossible to do so. I applied my whip, however, and kept him moving about when he was up, thinking that might do him some good, but it was of no avail. He soon became perfectly frantic, dashing his head against the trees, breaking down the young sapplings and brushwood, and leaving his hoof-marks on the bark of the trees around. At last exhausted, he fell to rise no more. After rolling and plunging about for some time longer, his limbs became rigid, and trembled violently, while his whole body was covered with lather and perspiration. In this state he remained for half an hour or longer, and then my poor steed was no more. He died in less than three hours after he had been stung. I was now in an awkward position—forty miles from home and unhoisted. There was no help for it but to shoulder my saddle, and trudge back to the nearest station, where the proprietor kindly supplied me with a nag. I was at first inclined to attribute the death of my horse to the bite of a snake; but when I heard of similar and previous cases, and remembered how my horse's skin had become covered with lumps after he was stung, I became convinced it was the nettle-tree I had to thank for his loss. It was a cruel death for the poor animal, and it may be imagined that I eschewed the "surveyor's geranium," as it is sometimes called, ever after.—*Henderson's Adventures in Australia.*

REMEDY AGAINST THE RAVAGES OF THE TURNIP-FLY.—As the season is now advancing when turnips, beetroot, mangel wurtzel, radishes, and many other things are liable to be destroyed by the turnip-fly, I am induced to communicate the following remedy, which I have found to be effectual against the ravages of this pest. Let the seed be put into a glazed pan, or any open vessel, and put to it as much rape-oil as will, when stirred together with a stick, be sufficient to make the seed moist. Next add as much sulphur as will, when again stirred together, cause the seed to separate. When properly mixed, all the seed will have a coat of sulphur adhering to it; and it will be found that the ingredients, in addition to keeping off the insect in question, will be a great stimulant to the growth of the crop. The seed thus managed may be sown or drilled with the same convenience as if it were clean. Should more seed be prepared than is found necessary to be sown at one time, it will keep well and not germinate for twelve months to come. This simple remedy I have never known to fail, and has only to be tried to be appreciated.—*ROBT. GARDY, gardener to J. K. Hedges, Esqr.,*

Wallingford Birks. [There is much common sense in this receipt. The oil coating doubtless destroys and prevents the development of the eggs of the insects, which, in all cases of this kind, are mostly to be found deposited on the outer coating of the seed-vessel.]

SCANDAL.—A great proportion of human suffering arises from the misrepresentations of others. Many of the most painful moments of our lives might have been spared, had we ceased to have been judged, and others to condemn. The blast of calumny has too often withered the fairest flower; and the smooth stream of domestic fidelity has been too often ruffled by unhallowed interference. Had the time wasted in idle curiosity, upon the affairs of others, been devoted to personal investigation, we should have found but one delinquent—self; and we should have been too much absorbed in the recollection of our own irregularities, to have found time for idle speculation, or intemperate animadversion. Too eager a desire to be made acquainted with the concerns of those around us, is a prevailing evil; and some dispositions are made continually unhappy, because a veil of obscurity hangs over certain circumstances, which their most strenuous exertions cannot remove. Our stores of knowledge, if they are only derived from such unhappy sources, will become rather burdensome than useful; for we shall be continually employed either in avoiding circumstances which are painful to our recollection, or in gaining information which will expose us to contempt.

Chastisement does not always immediately follow error, but sometimes comes when least expected.

Whoever wishes another harm will, if the opportunity offers, endeavour to bring him down.

Human heads are like hogsheads; the emptier they are, the louder report they give of themselves.

RECIPES.

Apple Jelly.—Take seven pounds of good, ripe, boiling apples; and without peeling or extricating the cores, taking out the stalks and eyes only, cut them in pieces and boil or bake in two quarts of water, until the whole is reduced to a pulp. This pulp, which thickens in cooling, is to be poured into a jelly-bag placed near the fire, and left till all is run through. When clear, add to each pint of the pulp eight ounces of white or loaf sugar, with the strained juice of a lemon, and the peel chopped very fine. Then boil the whole until it becomes a tolerably stiff jelly (which may be ascertained by cooling a small quantity on a plate,) strain it once more through the bag or a piece of muslin, and pour it into moulds or pots. If the rinds

of the apples be red, the jelly will be of a rich color: it will keep good for two or three years.

It is worth remembering that dips are the candles which best bear carrying about when alight. Moulds and composition candles generally should not be moved while burning, as they are very liable to gutter and look unsightly.

Use of Candle Snuffs for cleaning Glass.—Candle snuffs are generally thrown away as useless, they are, however, of great utility for cleaning mirrors and windows, especially the former. For this purpose take a small quantity of burnt snuffs, and rub them with a soft cloth upon the surface of the mirror; in a short time a splendid polish will appear, superior to that obtained by other means. We know those who clean the whole of the windows in a large house with snuffs; and we are told that not only are the windows cleaned much better, but also much quicker than by the ordinary methods.

Beet-root Pickle.—Wash the beet well, but be careful not to cut off the shoots, boil it till quite tender, then peel and cut it in very thin slices: add cold vinegar, cayenne and white pepper to your taste. This a cheap and useful pickle.

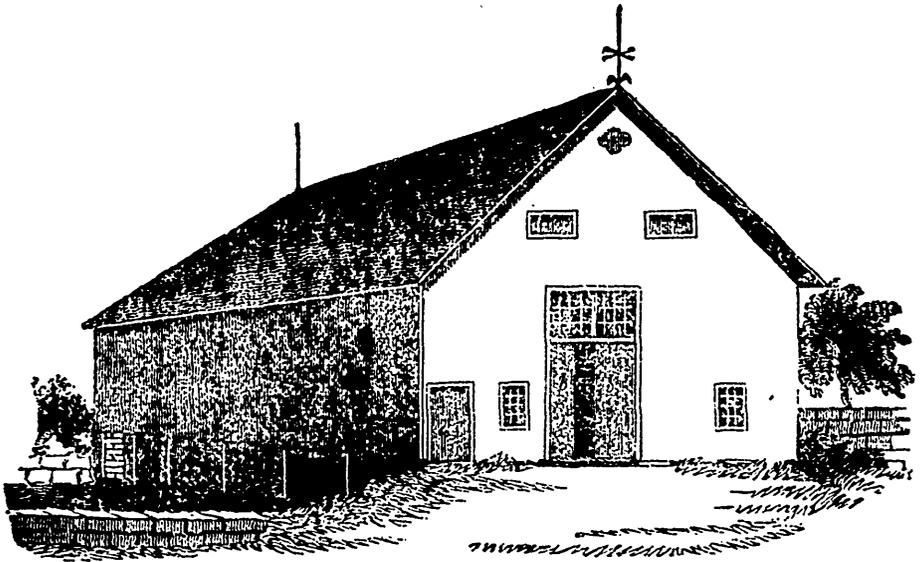
To Clean Silks or Merinos, &c.—Grate two or three large potatoes, add to them a pint of cold water, let them stand a short time, and pour off the liquid clear, or strain it through a sieve, when it will be fit for use. Lay the silk on a flat surface, and apply the liquid with clean sponge, till the dirt is well separated, dip each piece in a pail of clean water, and hang up to dry without wringing. Iron whilst damp on the wrong side. Should the silk be of more than one color, it is desirable, to wet a small piece first, lest the dress should be spoiled, by moisture causing the colors to run: but for self-colored silks, the direction is an excellent one; and satinettes, even of light colours, if not greased or stained, make up again nearly equal to new.

A Razor Strop Paste is also made of candle-snuffs, and answers very well: it consists in simply rubbing a small quantity of snuffs upon the strop, this imparts a keener edge to the razor then when no such paste is employed. Mecke's Celebrated Magic Razor Strop is certainly an excellent article, but we question whether it be much superior to the ordinary and common place substance now recommended.

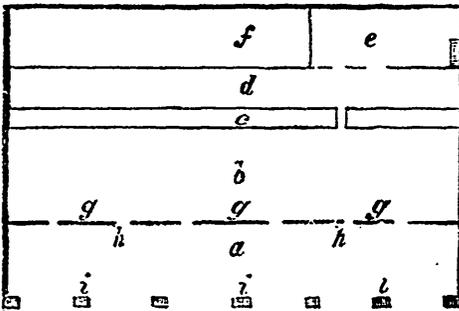
Remedy for Chilblains.—Cut an onion in thick slices, and with these rub the chilblains thoroughly, on two or three nights before a good fire, and they will soon disappear.

A country poet, after looking about over life, has come to the following rhyming conclusion:—

“Oh, I wouldn't live for ever—I wouldn't if
I could;
But I needn't fret about it, for I couldn't if I
would.”



BARN ELEVATION,
WITH THE GROUND PLAN.



BASEMENT.—FIG. 35.

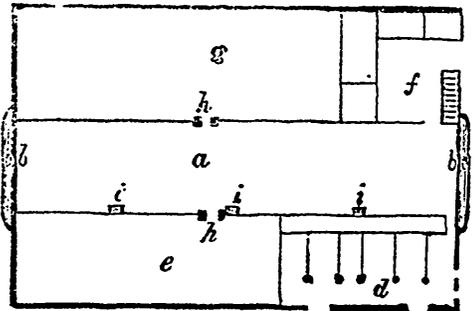
Description of Elevation.—*b b*, Large doors, which open on to the barn floor.

d, Stable door.

The windows slide back and forth, for the purpose of ventilation when necessary.

Description of Ground Floor.—*a*, Barn floor, 12 feet by 60.

b b, Doors hung on iron rods and rollers over head, like the folding doors of the parlors of our modern houses in the cities, opening and closing with equal ease; made of 1½ inch clean stuff, and battened on the outside with open battens, formed so as to give the doors the appearance of pannel work. The posts on each side of the doors are 14 inches wide, with a piece sawed out of the centre, through which the doors pass. The posts are framed into the sills with a double cock-tenon, to give strength.



GROUND FLOOR.—FIG. 36.

c c, Stone door sills, 16 feet long by 18 inches wide, with a lip raised on the inside, against which the doors rest, and then slanting with a bevel outward.

d, Stable, 12 feet by 24, with fixtures for one pair working horses, and two yoke of oxen.

e, Bay, 8 feet high, until it rises above the stable, then it runs the whole length of the barn, 60 feet.

f, Store room, 16 feet square, with a flight of stairs leading into the cellar, 8 feet high.

g, Bay, 16 feet by 44, until it rises above the ceiling of the store room, then it goes the whole length of the barn, 60 feet.

h h, Upright posts framed into timbers above and below, with rungs inserted for ladders, to ascend and descend at pleasure.

iii, Narrow scuttle doors, through which the loam is passed down into the stable below, to cover the hardpan, over which the boards and plank are laid, as described in *b*, of the basement.

Description of Basement.—*a*, Open shed, facing east, 12 feet by 60.

b, Stable, with windows the whole length, hung with strong strap hinges to open and shut at pleasure; also a window at the south end. The object of so much window is, to throw out the manure, and to ventilate the stable, which is 12 feet by 60. The ground under the stable is a hardpan, over which is placed every summer a layer of loam 6 or 8 inches thick, and carefully levelled. On this, boards are laid lengthwise, some inches apart, and on these boards plank are laid cross-wise. Through the interstices of these the liquid manure runs down, and mixes with the loam which is thrown out in the spring, and mixed with the manure under the shed, and fresh loam put in place of it, and the boards and plank replace. This takes but a short time to do.

c, Manger, 3 feet wide, made with plank formed into timbers and pinned; not a nail about it, and perfectly tight. Stalls are divided off for two cows or oxen each, to be tied with ropes fastened at each outer corner.

d, Open space, 5 feet by 60 feet.

e, Cellar, 8 feet by 16, filled with roots in the fall, and supplied from the pits during winter as they are wanted.

f, Bay, 8 feet by 34, running up to the roof, 27 feet to the eaves.

g g g, A bank of loam the whole length of stable, except against the doors, which are guarded by a narrow plank fixture to keep the loam in its place, which is mixed in small quantities with the manure every morning as the stables are cleared.

h h, Stable doors.

iii, Seven stone pillars 10 feet long, standing on flat stones 2 feet under ground, bolted to the sills of the upper story with iron bolts, made of 1½ inch round rods.

The barn stands upon a strong foundation of stone on the west side; both ends are laid in lime mortar, and well pointed with the same material. The top stones of this foundation are from 10 to 14 feet long, by about a foot square. At the south end, the walls jut out on each side of the barn doors, and the space is filled up with earth between, to make a gradual descent, and the egress easy for an empty cart or wagon to pass out into the adjoining meadow. The outside covering is of clear pine boards, well seasoned, planed, tongued, and grooved together, running up and down, painted, and the roof well shingled, and every part of the work done in the most substantial manner.

Cost.—The stone and timber being on Mr. K's own land, the whole cost of this barn did not exceed \$600, the work of the own-

er reckoned at the usual rates he paid to other mechanics. The presumption, however, in my own mind is, that if he did not do the work of three men himself, he did and saved what was equivalent to it by personally superintending every stroke; by being up at the early dawn of day with teams all fed, yoked, and harnessed, and every man placed at his proper post the moment he came upon the ground. I make these observations that no one may be disappointed who shall undertake to build a similar barn, hire his builders, stone-cutters, masons, and carpenters, find them plenty of alcohol, while he sits at the neighboring tavern taking into his own stomach copious draughts of the good creature, talking politics, &c., &c., and finds on footing up all his bills that they amount to \$1,200. Here is a building which, if kept properly covered and painted, will last a century or upwards.

The yard adjoining on the east, has a fountain of running water brought into it by pipes. A high wall supports the bank on the north side next to the road, which breaks off all northerly winds, and it is intended to be surrounded with sheds on all sides.

GEOLOGICAL RELIC AT CRAIGLEITH QUARRY.

—A large fossil tree has been discovered at this quarry. This geological relic was discovered about a month ago, and is now uncovered to the depth of about ten feet. It is the most perfect specimen yet discovered; the bark, branches, and general form being perfectly distinct. The outer coat is coal, the inner part stone, as hard as iron. It is supposed to be a pine, such as are yet to be found in Scotland; and from its circumference must have been a noble tree. It is lying inclined from east to west—the position of most of the strata in Craighleith—and seems to have been gradually raised by some under-powerful cause.—*Edinburgh Courant.*

Farewell cities? who could bear
All their smoke and all their care,
All their pomp, when woved away
By the azure hours of May?
Give me wood-bine-scented bowers,
Blue wreathes of the violet flowers,
Clear sky, fresh air, sweet birds, and trees,
Sights, and woods, and scenes like these.
L. E. L.

See how Aurora throws her fair
Fresh-quilted colors through the air!
Get up sweet slug-a-bed and see
The due bespangling herb and tree.
Each flower has swept, and bowed towards
The east
Above an hour since, yet you not dressed,
Nay, not so much as out of bed
When all the birds have matins said,
And sung their thankful hymns. HERREKI.

Agricultural Journal

AND
TRANSACTIONS
OF THE
LOWER CANADA AGRICULTURAL SOCIETY

MONTREAL, JUNE, 1851.

TRANSACTIONS OF THE LOWER CANADA AGRICULTURAL SOCIETY.

The following Reports would have been published in the May number of the Journal, but it was considered desirable to delay their publication until after the May Quarterly Meeting of the Directors would have taken place and approved of them:

Pursuant to advertisement in the Agricultural Journal for March, and also an advertisement in an English and French newspaper, both in Quebec and Montreal, continued for four weeks, in conformity to the terms of the Act of Incorporation of the Lower Canada Agricultural Society. A special General Meeting of the Society took place at their Rooms in this City on Tuesday the 20th day of March, 1851, at 11 o'clock, A. M.

The President Alfred Pinsonneault Esq., having taken the Chair, stated that the meeting had been called for the purpose of considering whether it was necessary or would be expedient to make any alteration in, or addition to the Rules and Regulations of the Lower Canada Agricultural Society. That the Provincial Parliament had, last Session, in compliance with a Petition from the Society, passed an Act, reducing the Quorums that were established by the Act of Incorporation of this Society, 10 and 11 Victoria Chap. 60 in section 6, from nine to five, and in section 9, from 50 to 15. That as the period for holding the Annual General Meeting was fixed by the Rules and Regulations of the Society to take place during the Session of the Provincial Parliament, it might be expedient to alter this Rule, Parliament no longer assembling at Montreal, and as this

Rule was only adopted that the Society might have the benefit of the attendance of Members of the Legislature at the Annual Meetings, it cannot be any longer necessary. It was accordingly Resolved, That in future, the Annual General Meetings of the Lower Canada Agricultural Society for the election of Directors, may take place at any time the Directors in office may think proper to order it, whether the Provincial Parliament may be in Session at the time or not.

Resolved, That in future, no member of the Society be elected as President or Secretary of the Lower Canada Agricultural Society, who shall not have been a Member of the Society for, at least, twelve months previous to such election taking place.

Resolved, That in future all members of the Lower Canada Agricultural Society who have been elected Presidents of that Society, shall be entitled to act as Members of the Executive Committee, with or without being elected thereto, but this Rule shall not prevent the election of an Executive Committee, annually as heretofore.

Except, some general discussion on Agricultural subjects, there was no further business done by the Meeting.

By order

WM. EVANS, Sec.

L. C. A. S.

MONTREAL, *March 20th*, 1851.

Pursuant to written notice addressed by the Secretary to the Directors, a special Meeting of the Directors of the Lower Canada Agricultural Society took place at their Rooms in this City, on Friday the 28th March, 1851, at 11 o'clock, A. M.

Gentlemen present—Alfred Pinsonneault, Esq., President, the Hon's A. N. Morin and Adam Ferrie; Major Campbell, John Yule, H. L. Langevin, and Wm. Evans, Esqs. The President having taken Chair, the following Resolutions were adopted:—

Resolved, That the Rules and Regu-

lations of the Society that were revised and amended at the Special General Meeting of the Society, which took place the 18th day of March, instant, shall be published in the Agricultural Journals, both in English and in French, and that there shall be 100 copies extra printed and set apart for the use of the members of the Society, and that such copies shall contain a complete list of the members of the Lower Canada Agricultural Society; that the names of the annual members of the Society who refuse to pay up their subscriptions, shall be omitted in future in the list of members, and be no longer considered as members.

Resolved, That the sum of thirty dollars shall be paid to Mr. George Shepherd, the seeds-man of the Society, for the use of this Room for one year from the 1st day of May next; provided always, that the room shall exclusively belong to—and be set apart for the use of this Society—except that the Botanical Society of Montreal may hold their Meetings in this Room on certain evenings during the winter season.

Resolved, That the Reports of the Special Committee of the Legislative Assembly of last Session, on the state of Agriculture in Lower Canada, be taken into consideration, in order that the opinions and views of this Society be expressed on the subject, and submitted to the Provincial Parliament.

Resolved, That the Hon. A. N. Morin, Dr. Meilleur, and P. E. Leclere, and H. L. Langevin, Esqs., compose a Committee for preparing a Circular, to be signed by the Directors of this Society, and to be addressed to the Mayors of Municipalities, Presidents of Agricultural Societies, and Commissioners of Schools, representing to them the importance of circulating useful and practical Agricultural information, and praying them to use their influence in obtaining an extended circulation for the Agricultural Journals of the Lower Canada Agricultural Society, by taking a certain number of copies for distribution in the rural districts of the Country.

Some other business was transacted that is not important to publish, and the Meeting adjourned to 4 o'clock in the evening, to assemble again to discuss important business of the Society.

According to adjournment, the Directors met at 4 o'clock in the evening.

Gentlemen present—Alfred Pinsonneault, Esq., President of the Society, Hon's A. N. Morin and Adam Ferrie, F. A. La Rocque, H. L. Langevin and Wm. Evans, Esquires.

The President in the Chair.

The first subject brought before the Meeting was the Report of the Special Committee of the Legislative Assembly of last Session, on the state of Agriculture in Lower Canada, and on attentively reading this Report, it was considered necessary to examine it paragraph after paragraph, and prepare notes for a General Report, to be submitted to the next Quarterly Meeting of the Directors of the Society. The Directors accordingly proceeded to discuss the subject, and make those notes, until 6 o'clock, when the Meeting adjourned to the next evening, Saturday, at 4 o'clock.

The same gentlemen met the following evening, Saturday, for the same purpose, and continued to do so every evening, (Sunday excepted), to Saturday the 5th of April.

The Meetings were principally occupied with the discussion of the Report of the Special Committee, before referred to, and preparing notes for the Report of the Society for the Legislature. It was Resolved, however, that a Circular Letter should be prepared, containing several queries to be addressed to parties interested in Agriculture, throughout Lower Canada, and to be signed by the Directors who attended the evening Meetings. These queries were accordingly determined upon, and 25 copies in English, and the same number in French, were ordered. On the evening of the 3rd of April, the Circulars were signed by the Directors, and ordered to be addressed by the Secretary to gentle-

men whose names were handed him, and Circulars to be post-paid. The Circular will be found in the columns of this Journal. On the evening of the 5th of April, the Directors having concluded their notes for their Report, adjourned to Monday, the 14th of April, to meet at 4 o'clock, P. M., Mr. Langevin having kindly consented to take the notes, and make a regular report upon them, to be submitted to the adjourned Meeting of the 14th of April, instant. On the 14th April, the Directors met at 4 o'clock, P. M., according to adjournment. The same gentlemen were present, with the exception that John Yule was present. The Report prepared by Mr. Langevin, was presented and discussed, and copies in English and French ordered to be submitted at the Quarterly Meeting of the Directors, which was fixed to take place on Tuesday the 20th of May, at 10 o'clock, A. M.

The Meeting then separated.

By order,

Wm. Evans, Secretary,
L. C. A. S.

Montreal, April 14th, 1851.

The Quarterly Meeting of the Directors of the Lower Canada Agricultural Society, took place at their Rooms in this City on Tuesday the 20th of May, at 10 o'clock, A. M.

Gentlemen present—the President of the Society, Alfred Pinsoneault, the Hon. G. R. S. De Beaujeu, the Rev. M. Desaulniers, Major Campbell, P. E. Leclère, Alfred Turgeon, H. L. Langevin, J. G. Guilbault, J. Vincent, F. Armond, M. Valois and Wm. Evans, Esquires.

The President, Alfred Pinsoneault, Esq., being called to the Chair, the Secretary submitted a financial statement for the past year: Also 27 letters received in reply to the Circular Letters addressed by the Directors to gentlemen residing in Lower Canada, and to one gentleman in Upper Canada. The answers were from all parts of Lower Canada, including the

District of Gaspé, and containing very useful and interesting information.

The President, Mr. Pinsoneault, then delivered the following address:—

GENTLEMEN,—It is customary in most Agricultural Societies that the President, on retiring from office, should give a report of the different matters which have been presented to the notice of the society during his period of office. This narrative sometimes takes the form of a discourse, or lecture, in which an account is given of the proceedings of the society, the progress it has made, and the results which have been accomplished, the financial state of the society is then made known, and finally a few practical considerations on the advantages of agriculture put forth and commented upon.

I think, gentlemen, that we should introduce this practice among ourselves. Here, as elsewhere, the effect of it will be to give importance and add to the interest of our society; and without having the pretension of delivering a lecture, and still less a discourse, I think it right to begin by giving the example myself of a practice which I should wish in future to be followed by the president of our society. The lengthy report which I shall have presently to read will not allow of my entering greatly into detail, I will merely give a rapid sketch of the matters which have engaged the attention of the directors and myself during the year which has just elapsed.

By the letters received and the information obtained from various quarters, we remark, with pleasure, that the taste and desire for agricultural improvement is greatly on the increase among our farmers; this is an undoubted proof that prejudice is disappearing, and that we may soon hope to see that old routine of agriculture, to which unfortunately our "Habitans" have been so long wedded, undergo important alterations. It is a saying old as the hills, that to succeed needs but to will. What happy results may we not expect our farmers to obtain, when we see them exerting their best energies to the improvements of their lands. But as facts speak more forcibly than any demonstration, I shall mention a fact, which will not fail to surprise you. I have procured a statement of the amount of clover seed sold by the principal druggists of the city; and I must

here make an honorable mention of the readiness with which these gentlemen were kind enough to make known the amount of their sale. The following, is the information obtained of the amount of sale of clover, both indigenous and imported: Messrs. Carter & Cohane sold, at least, 200 barrels, weighing each 2 cwt., Mr. Workman 50 barrels, Messrs. W. Lyman & Co., 300 barrels, making in all 550 barrels, which, at 224 lbs. each, will give 123,200 lbs. Messrs. B. Lyman & Co. have sold 7,000 Mr. Shepherd 7,000 Mr. Urquhart about 1,500 Mr. Trudeau, about as much 1,500 Forming a total of 140,200 To this may be added say 12,000 Sold by grocers, many of whom sell largely of this article, and we arrive at the enormous amount of 152,200 lbs.

of clover seed purchased by farmers of Lower Canada since the beginning of the present year. This calculation, far from being exaggerated, falls short of the actual amount sold, if we are to trust to the experience of Messrs. Workman & Urquhart, who with their knowledge of the demand on market, consider that no less than 800 barrels have been sold this year, equal to 179,200 lbs. granting that these gentlemen are right in their calculation, there will have been sown this year, in Lower Canada, no less than 89,600 acres with clover seed, at the rate of 2 lbs. per acre, the usual allowance. From the greater degree of care required in preparing the soil for that seed, every practical man knows that it acts as a powerful agent in restoring to worn-out land its former productiveness.

Farmers have not only bought this year clover seed, the gentlemen above mentioned have also sold them turnip, carrot, and mangel-wurzel seed in no small quantity, all of which roots contribute largely to the improvement of the soil; all this evidently proves that the farming population is earnestly engaged in improving the worn-out lands of Lower Canada. This enormous sale of clover seed is certainly the more astonishing, when it is borne in mind that almost the whole of the "Habitans" hardly knew, four years ago, the use of that plant as a fertilizer of the soil. The question comes, what

is the cause of the remarkable improvements in the manner in which the Habitans are preparing their land? I do not hesitate to say that it is mostly owing to their reading of the Journal published under the auspices of our Society; this Journal, which has now been circulating throughout the parishes for about four years, has, by degrees, prepared the minds of farmers to adopt wholly, or in part, the improvements suggested. If the reading of this Journal produces such results, should we not consider it of the highest importance to make every effort for the continuance of its publication, and to render it increasingly interesting. The Directors of this Society, convinced of the good produced by this Journal among farmers, have, this year, taken measures for securing its existence. The expense of printing and publishing being greater than their means would allow, they considered that they consulted the interest of the Society in accepting the offer of Mr. R. W. Lay, who undertakes to print and publish this Journal at his sole expense. But in parting with the publication, the Directors continue to exercise an entire control in the choice of matter to be inserted in the Journal. The consequence of this arrangement is, that the Society has the use of and control over the Journal, without incurring the heavy expense of printing and publishing, which has, up to this day, absorbed the grants of money made by the province. The Society will of course derive the full benefit of this arrangement, if Mr. Lay abide by his contract. If it should happen, however, that he does not fulfil the conditions of his agreement, it will then be the bounden duty of the Directors to adopt such measures as will secure the publication of the Journal, either by making arrangements with some other party, or by publishing it themselves, as heretofore, in the name of the Society. In the latter case, great caution will be required to steer clear of debts, which have always crippled the means of the Society, and prevented it from doing all the good it had in view.

I will now proceed to lay before you the statement of our liabilities and assets. The Society, as I have just mentioned, has, ever since its existence, been straitened in its pecuniary circumstances, owing mostly to the publication of the Journal. If the arrange-

ment with Mr. Lay is adhered to, we shall soon be out of debt.

We paid to Lovell & Gibson, Printers, during the past year, the amount due to them up to the 1st. of January last,....£583 10 0
To Hector L. Langevin, Esq.,

balance in full..... 13 10 0

To Wm. Evans, Secretary and Editor of the Agricultural Journal

25th. Oct., 1850.....£25

15th. Nov.,.....75

20th. May,.....93.

— 193 0 0

To M. Bibeaud, Esq. for translating Journal..... 40 0 0

To postage.....£10 11 3½

Books for library..... 4 7 9

Distributing Journal in Montreal..... 4 10 0

Sundry expenses for covering-paper, writing-paper, &c..... 3 4 10½

Writing and translating reports, circular letters, &c., &c..... 7 19 0

Paid notarial contract with Mr. Lay for Agricultural Journal 2 0 0

————— 33 12 11

£863 12 11

Received grant of money last Session.....£600 0 0

Received by Mr. Evans subscription for Journals to this time.....125 6 6

Received donation from members, and for advertisements.....23 15 0

Received on hands last year..... 2 3 7½

————— 751 5 1½

Due Society.....112 7 9½

In addition to this balance, which ought to be paid when we are in funds, we should pay to Mr. Evans as Secretary and Editor to this time, 20th. May. 1851. 124 14 6½

To Mr. Bibeaud, translator..... 10 17 6

To Mr. Millar, bookbinding, &c. 5 17 2

We arrive at the sum of.....£141 9 2½

Which probably cannot be paid before the next Legislative Grant. The current ex-

penses of this year, commencing this day will be £200, viz. :—

To the Editor of Journal and Secretary...£150

To the Translator of the French Journal 50

£200

Taking for granted that we receive this year the usual grant of £600 there will be left, after paying the above mentioned debts, a sum, at our disposal, of £148 9 1½, which I consider should be applied partly in the purchase of agricultural works, and the balance to be given as a reward for the best agricultural treaty, applicable specially to Lower Canada: that treaty should not contain less than 15 pages, nor more than 30 of the size of our Journal.

I should have wished to add some remarks with a view of showing the necessity under which the Directors are to spend as much of their time as possible in attending to the affairs of the Society, in order to impart to it that degree of usefulness and influence, which it is called upon to exercise, but time will not permit me to detain you any longer, I will, therefore, conclude by craving your attention during the reading of the report which the Directors have prepared for the Legislature.

I am, &c., &c.

(Signed) ALFRED PINSONEAULT.

The President's Address was heard with great satisfaction by the Directors present.

The Report prepared by the Directors, at their Adjourned Evening Meetings, referred to above, was then submitted and discussed.

It was Resolved, that a Committee, composed of Major Campbell, Alfred Pinsoneault, Hector L. Langevin, and P. L. Letourneux, Esquires, be authorised to revise the said Report, and to meet on Saturday next, the 24th instant, for that purpose, at 11 o'clock. It was then ordered that the Report, when revised by the Committee, should be forwarded to the several branches of the Legislature. The Financial Statement, and a Petition to the Legislature for a Grant of Money for the present year, were also to be forwarded by the Secretary. The answers that were received to the several Circulars sent out by the Directors were ordered

to be copied, and a copy of each forwarded to the Legislative Assembly.

It was Resolved, that the Directors vote the sum of five pounds eight shillings, currency, for copying the Reports and answers to circulars—that the answers be copied in the language in which they are written—and that the copies be appended to the Report of the Society, to be presented to the Legislative Assembly—the originals to be piled in the Office of the Society.

The Annual General Meeting of the Lower Canada Agricultural Society, took place pursuant to notice published in the Agricultural Journal, at their Rooms in this City, on Tuesday the 20th of May, instant.

Gentlemen present—Alfred Pinsonneault, Esq., President of the Society, Hon. G. R. S. De Beaujeu, Major Campbell, Rev. M. Desaulniers, Rev. W. Harper, P. E. Leclere, Alfred Turgeon, H. L. Langevin, John Fraser, David Laurent, Joseph Vincent, M. Valois, H. Hurteau, F. Armond M. Leprohon, J. G. Guilbault, M. Chagnon, P. L. Letourneaux and Wm. Evans, Esquires.

Alfred Pinsonneault, Esq., President, took the Chair.

The President stated the object of the Meeting to be, to elect a Board of Directors for the ensuing year, in conformity to the Rules of the Society, and also to the Act of Incorporation.

The final result of the election was the nomination of the following gentlemen as Directors for the ensuing year, viz :—

Hon's A. N. Morin, Adam Ferrie ; G. R. S. Beaujeu, P. De Boucherville, Rev. F. Pilote, Rev. M. Desaulniers, Major Campbell, Alfred Pinsonneault, John Yule, John Fraser, Alfred Turgeon, P. E. Leclere, F. A. La Rocque, R. N. Watts, M. P. P., A. Vandandaigue, C. Tache, M. P. P., F. Armond, H. L. Langevin, A. Morris, J. I. De Bellefueuille, D. Valois, J. Vincent, H. Hurteau, H. Latour, J. G. Guilbault,

Wm. Evans, P. T. Chagnon, A. E. Montmarquet, E. Cartier, E. A. Kierskowski, M. Leprohon, P. L. Letourneaux, David Laurent, Esqs.

The late President having left the Chair, Major Campbell was called thereto. It was then proposed by P. E. Leclere, Esq., seconded by H. L. Langevin, Esq.

Resolved—That the thanks of the Lower Canada Agricultural Society are due to their President, Alfred Pinsonneault, Esq., for the discharge of his duty as President, and for the courteous manner in which he presided at the meetings of the Society for the past year.

This resolution was passed unanimously. Subsequently it was proposed by Hector L. Langevin, Esq., and seconded by J. G. Guilbault, Esq., and carried unanimously.

Resolved—That Robert N. Watts, Esq. M. P. P., be elected President of the Lower Canada Agricultural Society for the ensuing year.

Proposed by John Fraser, Esq., and seconded by Alfred Pinsonneault, Esq.

Resolved—That Wm. Evans, Esq., be elected Secretary and Treasurer of the Lower Canada Agricultural Society for the ensuing year, and that the thanks of the Society be offered to him for his zealous efforts in the service of the Society for the past year. This resolution was adopted unanimously.

Six Vice-Presidents were elected, viz : The Hon. P. De Boucherville, G. R. S. D. Beaujeau and Adam Ferrie, Alfred Turgeon, P. P. Chagnon, and P. L. Letourneaux, Esqs.

Executive Committee: The Hon. A. N. Morin, Major Campbell, John Yule and Alfred Pinsonneault, Esqs.

Finance Committee: The Hon. G. R. S. Dr. Beaujeau, Major Campbell, and P. L. Letourneaux, Esq.

Journal Committee: The Hon. Adam Ferrie, Alfred Pinsonneault, John Yule, and P. P. Chagnon, Esqs.

The Meeting then separated.

By order,

W. Evans, Secretary and Treasurer,
I. C. A. S.

Montreal, May, 1851.

OFFICE OF THE LOWER CANADA AGRICULTURAL SOCIETY,

Montreal, April 4th, 1851.

SIR,—We have the honor to acquaint you, that the Directors of the Lower Canada Agricultural Society, have "Resolved" to address the following "Queries" to gentlemen interested in Agricultural pursuits, and request answers to all, or as many as you may be disposed to reply to.

The object of the Directors is, to obtain as much information as possible, on these subjects, from all parts of the country, that the Society may be able to make a useful Report to the Legislature next Session. It is desirable that the "Queries" should be answered by the 20th of April, instant.

1. What is the cause that a greater number of sheep are not raised in Lower Canada? Is the climate favorable for their propagation and keeping? Which breed or breeds would be the most suitable and profitable? Is the number of sheep augmenting or diminishing?

2. What is the most profitable mode of raising horses for this Market? What breed of horses would sell to the most advantage; would it be the pure Canadian breed, or mixed breeds?

3. What would be the most suitable and profitable methods of raising neat cattle in Lower Canada? Can these animals be raised to advantage, supported as they frequently are, upon straw only? Would it be more profitable for farmers to sell this grain and hay, or to employ their produce in raising and fattening animals? If it would be more profitable to raise stock, what breed or breeds would be the best to raise, and upon what grounds is this preference founded? If breeding is generally advantageous; what mode of culture should be adopted with that view, and in connection with it?

4. Is it advantageous to keep milch cows, and which would be the most profitable to make cheese or butter? What breed of cows do you conceive would be best adapted, and most profitable for dairy

purposes? Which breed is the least expensive to keep? Would cheese making be profitable?

5. Which are the most profitable breed or breeds of swine for Lower Canada, and what is the most profitable mode of raising and fattening them?

6. What would be the best mode of keeping poultry, what breeds would be preferable; what food should they have, which would be the most suitable and economical? Are they profitable to raise and keep for market supply?

7. Which would be the most suitable variety of wheat to sow in Lower Canada? Would the old white four months "*blé froment*" be suitable, and would it be safe from the fly? Do you know if the Black Sea wheat has degenerated in Canada, and if so, to what do you attribute this degeneration, and what means is there of restoring it to its original standard? What is your opinion of fall wheat, can it be grown advantageously in Lower Canada, and if so, what is the best mode of cultivation? In some of the neighboring states, fall wheat is covered with branches before the winter sets in, in order to retain the snow upon the surface, to prevent the frost from injuring the plants. Do you think the same means could be adopted advantageously in Lower Canada?

8. Do you suppose that other grain crops should be cultivated in preference to wheat, and for what reason?

9. Would you recommend the extensive culture of the potato; what variety would you prefer; and which particular varieties are least liable to disease, and what mode of cultivation do you find answers best for the crop?

10. Do you think that turnips, mangewurzel, beets, carrots, and parsnips, might be cultivated advantageously, and which would be the most productive and profitable?

11. What variety of Indian-corn would be the most profitable to cultivate, and

would it be more profitable than the roots innumeraled in the last "Query?"

12. What are the weeds most prevalent in your part of the country, what means are taken to destroy them, and what would you suggest to get rid of them? Is summer fallow calculated to effect that object,—is it much practiced, and with what results?

13 What other suggestions would you make upon the above "Queries" generally, or on any other subject relative to Agricultural improvement?

We have the honor to be

Sir,

Your most obedient servants,

ALFRED PINSONEAULT,

President.

ADAM FERRIE.

A. N. MORIN.

HECTOR L. LANGEVIN.

F. A. LAROCQUE.

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

THE AGRICULTURAL JOURNAL.

In the original articles prepared for this Journal, as well as in the selections, the Editor does all in his power to make the Journal useful to the agricultural community of Canada, without even thinking of any distinction between farmers on account of their origin. He is perfectly aware that the soil, the climate, the influence of the sun, and the atmosphere, the rain, the dew, the frost, and the snow are the same for farmers of all origins, and that the soil will generally yield a produce proportionate to the skillful application of capital and labor to its cultivation and management, whether this application is by English, French, Irish, Scotch, Dutch, German, or American farmers. The Editor from a long experience is convinced that there is only one good mode of draining and ploughing land in Canada where the soil is of equal quality, that the system that is *best* for the cultivation of crops, will be the most advantageous to be adopted by farmers of all origins, that there

is a certain system to be observed in the breeding, feeding, and management of animals, which to make them profitable, is as necessary for the farmers of French as of English origin. The management of the dairy, so as to make good cheese and butter, must be uniform with the English and French Canadian farmers; or at least, the best mode of managing milk, so as to produce the greatest quantity, and best quality of cheese and butter from it, will be the most advantageous for farmers of all origins to adopt. This is not the time to allow prejudice to prevent our adopting improvements from whatever quarter they are proposed to us, if we can be convinced that their adoption would be advantageous. The Editor of this Journal would be most happy to receive communications and to publish them, from any friends of agriculture, who conceive that they can suggest improved modes of farming for the Canadian farmers, that would be preferable, and more suitable for them than the system he recommends. Indeed he shall do all in his power to recommend any real improvements that may be proposed, from whatever quarter they come. There is another objection made, that the translation of English into French, cannot be so good or so agreeable to Canadian farmers, as if originally written in French. This may be the case to a certain extent, and the Editor regrets extremely that he is not sufficiently acquainted with the French language to write in that language for the Agricultural Journal. However, when there is a good translator who understands both languages perfectly, which is the case with the gentleman engaged at present as translator, there cannot be any difficulty in making the English into perfectly good French. A literal translation would not of course be suitable, but a translator of good education, can always make English into good French if he takes the trouble to do so. The Editor is cautious in original articles to make them as plain as possible, and in selecting to

choose those that are plain and easy to understand and translate. There may be some terms made use of occasionally that would be difficult to Canadian farmers, but the translator has always in his power to have them clearly explained. The Editor is most anxious that every suggestion and information that appears in the Agricultural Journal shall be as suitable and useful to Canadian as to English farmers, but he will not admit that what would be a good system of husbandry for one farmer would not be so for another, provided they are placed in the same circumstances, as regards climate, soil, and markets.

A farmer, who has not sufficient capital cannot, perhaps, adopt all the improvements that one who has sufficient capital can do, but this circumstance will not make a defective system of husbandry a good one, nor a good system a bad one; farmers who have the means do not always practice a good system of agriculture, while others who may not have much means, endeavour to do so. It will undoubtedly act as a great check to improvement in this country, if the idea is entertained that the system of husbandry that would be suitable and profitable for the farmers of one race to practice, would not be proper for those of another race or origin. Let those who can offer useful suggestions or information on the subject of agriculture come forward and do so, and the columns of this Journal shall always be open to them so long as the present Editor will have the power to do so. Discussion, if carried on in a good spirit, will always be productive of good. Let parties who may not be satisfied with the French Agricultural Journal point out wherein it is defective and unsuitable for the Canadian farmers. By pointing out the faults and defects, every exertion will be made to remedy them. The agricultural population of Canada, without distinction, should have only one common interest so far as regards agriculture, and all should be united in their efforts to promote its improvements,

and secure its interests. We should never forget that the farmer, whoever he may be, who brings the largest quantity, and best quality of produce to market, will obtain the greatest amount of money for it. The system of husbandry, therefore, that will yield the largest quantity, and best quality of produce, if the expenditure is judiciously applied, and not too great, will certainly be the best to practice for every farmer in Lower Canada, otherwise it would be useless to recommend improved systems of husbandry.

The Rules and Regulations of the Lower Canada Agricultural Society, as they stand, revised by an Act of the Legislature last Session, and by the Special General Meeting of the Society on the 20th of March last, shall be published in the July number of the Journals, together with a correct list of the actual members of the Lower Canada Agricultural Society. This delay is made in order to give gentlemen, who desire to be members of the Society, an opportunity of paying their subscription as members, either at the office of the Society, No. 25 Notre Dame Street Montreal, or by letter addressed to the Secretary through the Post Office. There are many names of members on the subscription list, who, if the parties wish to continue members of the Society, will have to pay their subscription forthwith, or their names cannot appear in the list to be published. A copy of the Journal for the month of July shall be sent to any gentleman who becomes a member, and who is not already a subscriber to the Journal, in order that such member may have a copy of the Rules and Regulations of the Society. It will not be necessary to send an extra copy to parties who are subscribers to the Journal. Two pounds ten shillings, currency, is the subscription of a Life Member, five shillings for an annual member.

“Many speak the truth when they say that they despise riches and preferment, but they mean the riches and preferment possessed by other men.”

It will be seen, from the address of the late President of the Lower Canada Agricultural Society, what a large quantity of clover seeds have been sold in Montreal the present spring—perhaps as much as has been sold in the three previous years put together. The quantity of turnip, carrot, parsnip, mangel-wurzel, and other farm seeds, that have been sold, are increased in the same proportion. We would observe, that many farmers have raised some of these seeds for their own use, particularly in the Eastern Townships; and a large quantity must have been sold in Quebec and other towns. We have been estimating that this quantity of clover seed sold in this neighbourhood must have cost nearly £6000. The timothy seed sowed with the clover seed must have cost more than the latter, and thus we arrive at a large amount paid for these seeds by farmers. As to the timothy seed, every farmer might have it of his own. The quantity of other farm seeds sold must also amount to a very considerable sum, if we are to judge by the quantity

sold by the seedsman of the Society, Mr George Shepherd. These are the best possible proofs of the progress of agricultural improvement. Parties may imagine what they please, but we are confident, from what we have seen, that there has been more of the seeds we have enumerated above, purchased and sown this Spring, in the settled portions of the District of Montreal, than in any section of North America, of the same extent. This fact is very satisfactory, as the neglect of sowing clover and grass-seeds, and of cultivating green crops, heretofore, was one of the greatest defects in the agriculture of Lower Canada. There is another fact—that the advantages which must follow these improvements in our system of husbandry are of vastly more importance than any possible advantage that could have been derived from any Exhibitions or Cattle Shows, which the Lower Canada Agricultural Society could have held up to this time. Improve the land, and augment the provender first, and a good stock of animals may be kept for Exhibitions, but not before.



The annexed cut is an Illustration of a Devon Bull, copied from the Farmers' Magazine. This breed of cattle is not much known in Lower Canada, but in Upper Canada and the United States they appear to be highly prized. We would recommend this breed to the attention of farmers. A fair trial should be given to them, and we believe they would be formed a useful and suitable breed of cattle for Lower Canada. We do not say that they would be preferred to all others, but they might form part of our stock of Neat Cattle.

RAISING AGRICULTURAL SEEDS IN CANADA.

A large amount is annually paid by farmers in Canada for imported seeds, when the same description of seeds might be raised here, not only to supply the wants of this country but for exportation. It might be advantageous to change some seeds, rather than sow our own, but we might grow the seeds to exchange for others, as seeds grown in Canada might answer better in other countries, than their own. The climate of Canada is favorable for growing small seeds, such as those of flax, hemp, clover, lucern, turnip, mangel-wurzel, beets, carrots, parsnips, mustard, onion, and almost every seed sown in gardens, and seeds grown in the country would be much more certain than many that are imported. Flax seed might be grown to a great extent, as there is an unlimited demand for it, and it would pay the farmer better than wheat. Hemp seed might also be grown, and would be sure to find a market. Unfortunately the hemp seed at present to be had to purchase here, is generally unfit for sowing, and that prevents many from attempting to cultivate hemp. If we were to commence raising hemp seed, we might then be sure of our seed. There are many products might be raised in Canada, that would greatly increase the value of the returns obtained from the lands, if farmers would only give attention to them. Large quantities of English, French, and Dutch clover seeds have been imported by Mr. Shepherd, the seedsman of the Lower Canada Agricultural Society, within the last three years, and this year the supply was far short of the demand for it. From these seeds, we might raise some here, and it would be very desirable to do so. It might be very proper to continue to import a new supply, and to raise our seed from this fresh supply—lest the continual sowing from seed grown here, might cause it to degenerate. We have no doubt, however, that by adopting this plan of raising our

seed from clover grown *directly* from imported seed, we should be able to prevent any tendency to degenerate in our clover crops. There is a difficulty in separating the seed by common mode of thrashing, but we have seen at the Exhibition of Syracuse, machinery attached to a thrashing mill for thrashing and cleaning clover seed, that was said to answer perfectly well, and there is nothing to prevent us from having this description of machinery. We hope this matter will receive due consideration from all true friends of Agricultural prosperity, as it is one of great consequence to farmers.

SALT, LIME, SOOT, AND ASHES.

In England they find if worms or slugs attack the young wheat plants, that to sow four or five bushels of salt per acre, early of a moist morning, is a certain remedy. Lime and salt mixed together, at the rate of two bushels of the former to one of the latter, and kept for some time under cover, repeatedly stirred up with a shovel, is an excellent fertilizer, applied at the rate of from 30 to 50 bushels of the mixture to the arpent. We have no doubt, but that this application would pay the farmer here, if salt and lime could be had on any thing like moderate terms. In England, they top-dress crops with soot, ashes, lime, or salt and lime. Soot and salt mixed, and applied at the rate of from 8 to 12 bushels of each to the acre, *trenched* or deeply ploughed in, is one of the most powerful of all manures for carrots. It is considered a good plan to steep carrot seed in a mixture of water and saltpetre—(6 quarts of water to 1 pound of saltpetre) for a short time previous to sowing, but not so long as to injure the seed. Of course the quantity of steep required, would be in proportion to the quantity of seed. The seed when taken out of steep might be dried with gypsum. A steep of some kind, is recommended for all seeds. A weak solution of saltpetre, (nitrate of soda for barley), or common salt; and the seed may

be mixed with lime or ashes to dry them for sowing. For clover or grass seeds, the solution should be weaker, and they should be dried for sowing with gypsum. Soils that are clover-sick, or that the clover soon fails upon, may be improved for this plant by draining and deep ploughing, and sowing with the clover seed from $1\frac{1}{2}$ to 2 cwt. of gypsum, particularly if the gypsum or sulphate of lime does not exist naturally in the soil. It is said, that if common coal, or other ashes spread on the clover or lucern, promotes their growth, gypsum may be securely applied. Nitrate of soda is used as a top-dressing for spring corn, at the rate of $1\frac{1}{2}$ cwt. per acre, and saltpetre at the rate of 1 cwt. per acre. It is particularly recommended for barley. These top-dressings do best on dry or light soils. Ditch-scrappings, pond mud, and weed heaps, with which one bushel of salt is mixed with each square yard, is said to be the very best dressing for potatoes on dry or gravelly soils. Mangel-wurzel seed should be carefully selected. If the seed of the common garden beet is sown, the crop will be far inferior to that which would be produced from the seed of the large field varieties of mangel-wurzel. The long-red variety is best for deep strong soil, and the yellow globe and red globe is best for light or gravelly soils.

FLAX.

There is at present every encouragement to farmers to cultivate flax to a certain extent. Even for the seed, we have no doubt but it would pay better than wheat in many instances. The seed would require careful management to save and dry it properly. Canada is very favorable for this, our climate is so dry generally. We hope that some of our merchants will import some Russian flax seed next spring. Where the object is to raise seed only, the Canadian or American seed will answer, but where the fibre is required, the Russian seed is best. It is computed that

animals that get a portion of oil cake, or linseed with their food, their manure is improved to the extent of half the value of the oil cake or linseed consumed. This fact is very encouraging to farmers to grow linseed as food for animals. It is also said that land manured with the dung of animals fed with a portion of oil cake or linseed, will show the improvement beyond other manure, for three or four years.

We have received by the spring shipping, the London "Farmers' Magazine" up to March last. Each number contains two beautifully executed copper plate engravings of first class animals, and occasionally the portrait of some eminent agriculturist. This Magazine is not inferior to any agricultural periodical of the present day. It also advocates the interests of agriculturists in a very able manner. The articles that appear in this magazine are always good, and can be relied upon. We do not say that the English system of husbandry can be adopted exactly here in all its branches, but any man who understands any thing of their practice of agriculture, cannot fail to be instructed by reading this magazine. We have also received a few other new works for the Library.

The three last numbers of the Transactions of the Highland and Agricultural Society of Scotland have been kindly forwarded to the Lower Canada Agricultural Society, by John Hall Maxwell, Esq., the secretary of the Farmers' Society. These numbers are up to March last. The whole of the new series are now in the Library of the Lower Canada Agricultural Society; up to the month of March, 1851, and contain a vast amount of the most valuable information. The articles published in the "Transactions" have the strong recommendation of coming to us from one of the oldest Agricultural Societies in existence, and from a society who have done much to bring the Agriculture of Scotland to the high state of improvement it is in at present.

As a proof that a covering of snow preserves plants in Lower Canada, we left a few small savoy cabbages out in the garden during last winter, without any covering, but the snow, and they were perfectly safe and good this spring. We had also cabbage stalks left in the garden where they grew, and this spring, more than half of them produced sprouts fit for the table, and some of them have sprouts upon them now. We have no doubt that if proper means were adopted, vegetables might be preserved during winter here, with much less trouble than is supposed. Too great a degree of heat is as injurious to most vegetables as too much cold. If we could manage so as to preserve them in a temperature of about 30 degrees, we should succeed better than in a temperature above or below this.

We beg to direct attention to the extract which we copy from "Stephen's Book of the Farm." In regard to liquid manure we have always entertained the same opinion as Mr. Stephens, viz: that the most economical way of saving it is, by littering the animals constantly with straw, which will be sure to imbibe most of the liquid manure. And should there be any saved in a liquid state, it can be best employed by being poured over the dung, or compost heap as it is collected. As Mr. Stephens observed what manure is found in the liquid, is so much taken from the solid manure, which of course leaves the latter of less value. A good bedding of straw is necessary for the comfort of our cattle in this climate in winter, and if this is provided for them, there is no better means of saving both liquid and solid manure; and this employment of the straw is necessary to maintain the fertility of the land that produced the straw. We recommend the whole of this extract to the attention of our farmers. The liquid manure should be saved by all means, but the question is, how shall this be done to the greatest advantage.

We have received the 19 numbers of "The Farmers' Guide to the scientific practice of Agriculture," by Henry Stephens, F. R. S. E., assisted by Professor Norton, M. A., Yale College, New Haven, and published by Leonard Scott and Co., New York, and sold in Montreal by Mr. Dawson, Bookseller, Place D'Arms, from whom we have received the numbers. The work altogether is one highly interesting, and should be in every farmers' library. It is an excellent book of reference, as well in Canada as in Britain, and any farmer who reads it cannot fail to be usefully instructed. The prejudice of Agriculturists against what they term "Book-Farming" is a great absurdity. We feel persuaded that it is Book-Farming that has created such an interest on the subject of Agriculture within the last few years, and that our best improvements in husbandry have been produced by the great circulation of Agricultural Books and Periodicals.

AGRICULTURAL REPORT FOR MAY.

The month of May was unusually cold. There was not more than three or four warm days during the month. Up to the 18th, the land was in very good working condition, but there was considerable falls of rain from that time to the 30th, and we fear that on heavy clay soils, and on any soils that were not well drained, the spring sown seed must have suffered to some extent. Heavy falls of rain on any land not thorough drained, immediately after they are sown is generally injurious, particularly in this country, where the succeeding heat and draught are so great. Fresh worked soils, that are saturated with moisture, when exposed to the summer heat of Canada, become so hard and baked, that it is impossible for plants to thrive in them.

The unfavourable state of the weather, has greatly retarded the spring work in general. Farmers were unwilling to incur the risk of sowing all their wheat before the 20th of May, and the consequence is,

that in very many instances the land was unfit to sow, up to the end of May. We hope the damage done will not be so extensive as we apprehend it to be. We have no doubt it would be a good plan when the soil becomes dry, where corn has been sown, to pass the harrow over it, except in cases where grass-seeds have been sown with the grain. The farmer will be able to judge whether he should make use of a heavy or light harrow for this work. It will loosen the soil, and although it may destroy some of the young plants, we are convinced that it would have a good effect. Of course, it should be carefully executed, and such an implement made use of as would be the most suitable for the purpose.

In the old country it was considered very beneficial to fall sown wheat, to harrow it well in spring, and it was with this harrowing that the grass-seeds were generally sown. The system of drilling wheat and barley, now so commonly adopted in Britain, is with a view to be able to stir the soil between the rows of plants, and to keep it clean from weeds. In this country of occasional heavy falls of rain, succeeded by extreme heat, the soil would require stirring about the plants, as long as it was practicable to let in the air and dews for the healthy nourishment of the plants. It is easy to perceive in a garden, the good effects of stirring the soil about plants in the driest weather, and it will have an equally good effect in the field. Where clover or grass-seeds have been sown, however, the harrow cannot be made use of with safety upon the growing crop. We believe that several new varieties of wheat have been sown this year, and we hope the results may be reported, for the benefit of Agriculturists. It would be very desirable that farmers would report any circumstances that might occur in their practice, that would be useful to their brother farmers. The period for sowing turnips is now very near, and a full crop is so very difficult to realize that

farmers should adopt every reasonable precaution to prevent the ravages of the turnip fly; soot scattered over the young plants is said to be a sure remedy against the fly. In England they have cabbage plants ready to fill up empty spaces in the turnip field; why should we not do so here? It is a great advantage in agriculture to be prepared for any contingencies that may happen, and there is no doubt it would be possible to a considerable extent.

Fall wheat has succeeded admirably in Lower Canada this year, perhaps better than in Upper Canada, or the United States. We saw fall wheat this year grown in drills, by Major Campbell of St. Helaire, that was about 18 inches in height, the 15th of May. We believe it would be difficult to find fall wheat of more luxuriant growth at the same period of the season. If fall wheat is safe from rust, we are persuaded it may be grown successfully in Lower Canada by sowing in time, and in drills. If farmers do not cultivate properly for it, and sow in time, they had better not try it. We may have many difficulties to contend with, but we are persuaded they may be overcome or mitigated in a considerable degree, but it is necessary for us to understand the science and art of Agriculture, in order to practice it successfully. We do not know to what extent the slugs and wire-worm have injured the growing crops this spring, though we are certain some injury has been done. We know a piece of land that was ploughed last fall, after meadow, that a part of it had been top-dressed last spring with farm-yard dung. It was sown with wheat the 12th of last April, and the plant appeared very healthy the beginning of May. About the 20th of the month, there was scarcely a plant left by the grub on the part where the meadow had been top-dressed last spring, while on the remainder, and on a few perches ploughed this spring, there was scarcely any damage done. The land where the grub is destroyed all the

young plants, was well harrowed on the 27th of May, and we have never before seen land so infested with the grub. About four bushels of salt was then spread upon an arpent, and black-sea wheat harrowed in. If the salt does not destroy the grub, the second sowing will have no chance of success. This circumstance deserves some consideration. The manure put on in spring may have been the cause of producing the grub, and the ploughing of the land in the fall protected them in the soil. If a good dressing of salt had been applied before the land was ploughed last fall, we believe there would not have been any grubs. We shall report the result of this experiment. In England they sow turnips and rape broadcast to be fed off by stock in the autumn, and the land is then sown with wheat. They also sow turnips, in the latter end of May, amongst beans that have been drilled 27 inches apart. They have a large stock of cabbage plants on hands to fill up vacancies in turnips, in order that the land may not be waste, and to secure some kind of crop for stock. There is no country on earth where farming is more attended to, that the greatest possible produce may be raised from the land. There is nothing to prevent us doing all these things. We might sow turnips with beans, and fill up vacancies in the turnip drills with cabbages. In England they sow buckwheat to plough in as green manure, and what is to prevent us doing so? Rape and turnips are also sown sometimes, and ploughed in as manure. By sowing these seeds here after the middle of July, they might escape the fly, and they could be ploughed in about the 1st of October, and might be partly fed off before ploughing, if required, for the farmers stock. There are very many plans that might be adopted in Canada, that would be a great improvement in agriculture, and which would not require any great expenditure. We content ourselves with half crops when we might have full crops at little more expense. The appearance of the meadows

and pastures is as favorable as could be desired, although it has been rather cold for a very tusearient growth,—and too much wet in many places. If the weather is favorable for the future, we may yet have very good crops, where the seed has not been injured by wet. From all accounts we have seen, we are not in a worse position, at this moment, than our neighbors, West or South of us, in regard to the prospect of good crops. The markets are well supplied with butchers' meat, dairy produce, grain and garden produce, and the prices cannot be complained of, when we hear of the prices in the British Isles. Barley, oats and eggs, are in good demand for the neighboring states. If it were not for the demand for the latter country, these articles would not sell for much in our markets. The month of June is the time for farmers to check the growth of weeds, and not allow them to rob the cultivated and useful plants. We hope our next report will be a favorable one.

31ST MAY.

We give in this number the ground plan of the American Barn, the elevation of which appeared in the May number, but as the plan may be better understood by having the elevation with the ground plan, we copy it again in this number.

To the Editor of the Agricultural Journal.

STR,—I need not tell you that this is an excessively rainy day, and likely to do great damage to the crops in this part of the country, as the fields are in many places covered with water, and will produce effects that will require the practical application of a story I am going to tell you.

It so happened, a good many years ago, that an English farmer came over the border to one of those hiring markets, that took place in Scotland in the spring of the year, where he hired a Scotch ploughman, who, of course, appeared at his new home in due time, and had committed to his care a pair of horses with all their accoutrements for farm labour. The master, having occasion to leave home

for two days, told the man what work should be done against the time he came back. When he came home, he asked the man if he had got his work done; yes, says the man, and I had some time to spare, but I saw the peas were needing angering, so I angered the peas. Angered the peas! said the master, what do you mean? come and show me what you have done. When they came to the field the master got into a great rage when he saw that the whole field had been harrowed: there were the peas, some with their heads knocked off, some covered with earth, others with their roots laid bare, in fact things looked so ill for the time being, that the poor man was only allowed to keep his place, on promising never to meddle with anything about the place again, until he was ordered. The result, however, was very different from what the master expected, as it turned out to be the best crop of peas he ever had, and a great deal better than that of any of his neighbors. The farmer often told the story and always concluded with "I never forget to anger the peas."

Now, Mr. Editor, I know that such a practice will be objected to by the generality of farmers in Lower Canada; they will say the like of that may do in England or Scotland, but it will never do here; but I know it will do here, and even when the plants have grown to a considerable length. There are many of the readers of the Journal who will remember, that in 1847, the pea crop failed in many places in Lower Canada, from the excessive heavy rains that fell in spring and early summer. I observed a field I had was looking sickly, the lower blades of the stem had become yellow, they were evidently suffocating from a hard crust that had formed on the surface of the soil, which completely excluded the air from the roots of the plants; the story of "angering the peas" came into my mind, and I sent a pair of harrows and harrowed the whole field well. My neighbors, who had seen me do many foolish things, such as ploughing a field two or three times in one year and never sowing it, or sowing wheat in drills, declared that harrowing the peas after they were fairly above the ground, was the most foolish thing they had ever seen me do; the result was a full average crop, while several of my neighbors' fields yielded no crop at all. You are

at liberty to make what use of the above you please, while I remain yours sincerely,

WILLIAM BOA.

Virtue Roadhead, 22nd. May, 1851.

To destroy Caterpillars in Gooseberry Trees.
—Gather dust from any turnpike road, and shake it well amongst the trees, and the caterpillars will immediately fall to the ground. It is an excellent plan to dust the trees twice or three times a week, as it will effectually prevent the lodgment of caterpillars.

AGRICULTURAL AND GARDEN SEED STORE,

No. 25, NOTRE DAME STREET,
Montreal.

THE Subscriber, SEEDSMAN to the LOWER CANADA AGRICULTURAL SOCIETY, begs to acquaint his friends and customers that he has an extensive assortment of AGRICULTURAL and GARDEN SEEDS, and PLANTS, new, and of the best quality, which will be disposed of on as favourable terms as any person in the trade. As he obtains a large portion of his Seeds from Lawson & Sons, of Edinburgh, Seedsmen to the Highland and Agricultural Society of Scotland, he expects to be able to give general satisfaction to all who favor him with their custom.

The following Seeds will be supplied to Agricultural Societies on moderate terms, viz:—

English Red Clover; Dutch Red and White Clover; Lucern; Skirving's Purple Top Swedish Turnip; Laing's do. do.; Skirving's Yellow Bullock Turnip; Long Red Mangle Wurzel; Yellow Globe do.; Belgium White Carrot; Attingham Long Red Carrot; Long Orange Carrot.

A large proportion of the Carrot Seed has been raised in Canada and shown at the late Exhibition, for which a premium was awarded to the Subscriber.

The Subscriber has also imported Lydon's Patent Spades, Shovels, and Digging Forks, and he has also an excellent collection of Garden Tools.

GEORGE SHEPHERD.

Montreal, February 24, 1851.

GREAT SALE OF SUPERIOR THOROUGH BRED SHORTHORN CATTLE.

THE subscriber having more stock than he can well sustain on his farm, will offer at public auction, about 30 head of his improved short, horn cattle, consisting of bulls, cows, heifers, and heifer and bull calves, on the 26th day of June next, at his farm $2\frac{1}{2}$ miles from this city.

It is known to breeders of improved stock, in this country and in Canada, that the proprietor of this herd, during the past 12 years, has through the medium of importations from England, and selections from the best herds in this country, spared no expense to rear a herd of cattle from which superior animals could be safely drawn, for improvement and crosses upon other herds. His importations have been derived from that

eminent breeder, the late Thomas Bates, Esq., of Kirklevington, Yorkshire, England, which herd it is well known has recently been disposed of at public sale by his administrators and dispersed in many hands, and can no longer be resorted to as a whole, for improvement. The announcement of that sale, created a great interest, and all short-horn breeders in England seemed emulous to secure one or more of these animals, to mingle with the blood of their own herds, and at the day of sale, there was found assembled the largest audience ever before witnessed upon a similar occasion, numbering as was said from 400 to 500 persons, and among them the breeders in England, and several from other countries, some of the animals bringing prices that seemed incredible to many.

In the herd now offered for sale will be included, the imported Bull, Duke of Wellington, and the premium Bull, Meteor, these are Bates's bulls, and their reputation as stock getters are too well known to need any comment. I am, however, authorized by Dewis F. Allen, Esq., of Black Rock, one of the most prominent breeders in this country, and who has had ample means of forming a judgment, to say "that in no instance to his knowledge had these two bulls been bred to short horn cows of other herds, previously imported into the United States but what the produce were superior in general qualities to such herds."

The most of the stock which is now offered for sale, have been bred from these two bulls, and the proprietor having a young Bull more remotely connected with that portion of the herd he retains, (being about 14 in number) can spare these two valuable Bulls. There will be in the stock offered for sale, seven young bulls from 8 months to about 2 years old, in addition to the two named above, and the remainder of the stock will be composed of Cows, (most of them possessed of extraordinary milking qualities,) Heifer and Heifer Calves. It is believed that no herd of short horns has ever been offered for sale in this country, exhibiting more of the valuable combinations of qualities which contribute to make up perfect animals.

A Catalogue containing the pedigrees of these animals, will be ready for delivery at an early period, in which the terms of the sale will be particularly stated. A credit will be given from 6 to 18 months. Gentlemen are invited to examine the herd at their convenience.

G. VAIL.

TROY, New York, 1st March, 1871.

MATTHEW MOODY,

MANUFACTURER OF

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

THE Subscriber has been employed since 1846 in manufacturing his improved THRASHING MACHINES, with Horse powers. He was awarded the highest Prize at the Terrebonne County exhibition after competition with many others. They have thrashed and cleaned, with 2 horses, from 100 to 124 minots of Wheat per day, and from 200 to 250 of Oats, and have given uni-

versal satisfaction. He guarantees all purchasers for any recourse by Paige & Co., of Montreal, who allege having a patent for these machines, dated December, 1848! and warrants them equal to any made here or elsewhere, for efficiency and durability.

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

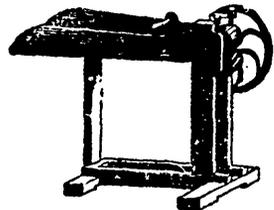
Having lately erected new and enlarged Works for the above articles, he will execute promptly all orders in his line.

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