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THE

CANADIAN AGRICULTURAL JOURNAL.

Vol. I.

MONTREAL, DECEMBER 2, 1844.

No. 12.

This number completes our journal for this year; and it is now for our friends and subscribers to show, by their support, whether they approve of the exertions we have made to make the journal useful, and give satisfaction. It would be incurring a needless expense to continue the publication, if it was not sufficiently supported by subscribers who would consider it worth reading and paying for. If we were properly supported, we could enlarge our journal, and make it much more useful. We have abundance of matter for a paper of double the size; and if we obtain encouragement, we promise that the publication shall be enlarged to thirty-two pages of the same size as the present number. As we stated in a former number, we have no desire to tax our friends for the support of this publication, unless it is considered useful, and likely to advance the improvement of Canadian agriculture. It is for this object we publish—but it is our subscribers and readers who are the best judges of the value of our publication for this purpose.

We have received the most satisfactory letters of approval and encouragement from many of the Roman Catholic clergymen throughout the Province, who assure us that our journal is likely to produce much good amongst the Canadian farmers. If we did not anticipate this result, we never would publish a line on agricultural improvement; and we now feel perfect confidence that we would be able to promote the object we have so much at heart, if we were supported. It is not party or individual interests that we ask for support in this undertaking, but upon the principle of being able to advance the general prosperity of Canada. If agricultural publications have proved useful in the British Isles, and the United States, they should be equally useful here; and we have it in our power to give selections from the best publications on this subject. We can appeal to our subscribers, that for the present year we have been most cautious in selecting only such articles as were likely to be useful, excluding all exaggerated statements, which would only tend to lead into error. If the production of the country was to be augmented a fourth, a third, or a half, annually, or to be doubled, which is quite possible, how vastly would the resources of the country be increased, for the purchase of British goods, for revenue—and all that was necessary for the convenience and comfort of the inhabitants? We should consider our journal of very little value indeed, if it would not be the means of increasing the revenue alone, very many thousand pounds annually. If the means of the people are increased, there is a certainty they will buy and pay for goods that are subject to revenue.

It is on the ground of public usefulness, that we

would ask public support, and upon no other. The experiment is worth being made. There is no deficiency of intellect in the agriculturists of Canada, more than with the farmers of any other country, who are not sufficiently educated. It is impossible that men will long reject improvements proposed to them in reasonable and proper terms, if such improvements are likely to add to their means of convenience and comfort in their families. The deficient education of the agricultural class is an objection with many to the circulation of agricultural publications, under the impression that they could not be read or understood. To this objection we would reply, that there is not a country parish, and perhaps not a family, now in Canada, who have not some individuals who can read; and we have also the country schools, where these publications could be read and explained. If only two or three persons in each parish were to adopt improvements, and prove the utility and profit of such changes, it would induce others to adopt the same improvements. This matter has always been neglected, and now we blame the people because they are not so far advanced in agricultural improvement as in other countries.

If our Legislature will only take up the subject this Session, and adopt such measures for the encouragement of agricultural improvement, as will be the most judicious and best calculated to accomplish that object, they will have done more for the real good of the country than has been done for it in the last fifty Sessions of our Provincial Parliament. Whatever doubt may exist with regard to the good working of other laws that are untried, there can be none respecting the good that will result from instructing and encouraging the improvement of agriculture. It is not a political question between parties, but one which all agree should be advocated by all, and entitled to obtain general support. Our purpose would be to send a few numbers of our journal, in the French and English languages, into every parish in Eastern Canada, through the Clergy, for distribution, and to the country schools. We can offer no guarantee for our future conduct of this journal, except our past unpaid exertions in the same cause. We would now wish to be secured against loss for the future, until the publication could support itself, and we would further desire some remuneration that would enable us to devote more time and attention to the subject, in order that it should be equal to any other publication of the kind in North America. Montreal, the capital of British America, should be second to none in her encouragement of agricultural improvement.

OF THE SUCCESSION OF CROPS.

A soil may be forced, by extreme care, enormous expense, and the use of manure without measure, to produce all sorts of crops; but it is not in such sort of proceedings that the science of agriculture consists. Agriculture ought not to be considered as an object of luxury; and whenever the produce of agricultural management does not amply repay the care and expense bestowed upon it, the system is bad.

A good agriculturist will, in the first place, make himself acquainted with the nature of his soil, in order to know the kind of plants to which it is best adapted: this knowledge may be easily acquired by an acquaintance with the species of the plants produced upon it spontaneously, or by experiments made upon the land, or upon analogous soils in the neighbourhood.

But however well adapted the soil and climate may be to the cultivation of any particular kind of vegetable, the former soon ceases to be productive, if constantly appropriated to the culture of plants of the same or analogous species. In order that land may be cultivated successfully, various kinds of vegetables must be raised upon it in succession, and the rotation must be conducted with intelligence, that none unsuited either to the soil or climate may be introduced. It is the art of varying the crops upon the same soil, of causing different vegetables to succeed one another, and of understanding the effect of each upon the soil, that can alone establish that good order of succession which constitutes *cropping*.

A good system of cropping is, in my opinion, the best guarantee of success that the farmer can have; without this, all is vain, uncertain, and hazardous. In order to establish this good system of cropping, a degree of knowledge is necessary, which unhappily is wanting to the greater part of our practical farmers. I shall here state certain facts and principles, which may serve as guides in this important branch of agriculture.

More extensive information upon this subject may be found in the excellent works of Messrs. Yvart and Pictot.*

PRINCIPLE 1. *All plants exhaust the soil.*

Plants are supported by the earth; the juices, with which this is impregnated, forming their principal aliment. Water serves as the vehicle for conveying these juices into the organs, or presenting them to the suckers of the roots by which they are absorbed; thus the progress of vegetation tends constantly to impoverish the soil, and if the nutritive juices in it be not renewed, it will at length become perfectly barren.

A soil well furnished with manure may support several successive crops, but each one will be inferior to the preceding, till the earth is completely exhausted.

PRINCIPLE 2. *All plants do not exhaust the soil equally.*

Plants are nourished by air, water, and the juices contained in the soil; but the different kinds of plants do not require the same kinds of nourishment in equal degrees. There are some that require to have their roots constantly in water; others are best suited with dry soils; and there are those again, that prosper only in the best and most richly manured land.

The grains and the greater part of the grasses push up long stalks, in which the fibrous principle predominates; these are garnished at the base by leaves, the dry texture and small surface of which do not permit them to absorb much either of air or water;

the principal nourishment is absorbed from the ground by their roots; their stalks furnish little or no food for animals; so that these plants exhaust the soil, without sensibly repairing the loss, either by their stalks, which are but to be applied to a particular use, or by their roots, which are all that remain in the ground, and which are dried and exhausted in completing the process of fructification.

Those plants, on the contrary, that are provided with large, fleshy, porous, green leaves, imbibe from the atmosphere carbonic acid and water, and receive from the earth the other substances by which they are nourished. If these are cut green, the loss of juices which the soil has sustained by their growth, is less sensibly felt, as a part of it is compensated for by their roots. Nearly all the plants that are cultivated for fodder are of this kind.

There are some plants, which, though generally raised for the sake of their seed, exhaust the soil less than the grains; these are of the numerous family of leguminous plants, and which sustain a middle rank between the two of which I have just spoken. Their perpendicular roots divide the soil, and their large leaves, and thick, loose, porous stalks, readily absorb air and water. These parts preserve for a long time the juices with which they are impregnated, and yield them to the soil, if the plant be buried in it before arriving at maturity; when this is done, the field is still capable of receiving and nourishing a good crop of corn. Beans produce this effect in a remarkable degree; peas to a less extent.

Generally speaking, those plants that are cut green, or whilst in flower, exhaust the soil but little; till this period, they have derived their support almost exclusively from the air, earth, and water; their stalks and roots are charged with juices, and those parts that are left in the earth after mowing, will restore to it all that had been received from it by the plant.

From the time when the seed begins to be formed, the whole system of nourishment is changed; the plant continues to receive nourishment for the perfecting of its seed, from the atmosphere and the earth, and also yields to the grain all the juices it had secreted in its own stalks and roots: by this means, the stalks and roots are dried and exhausted. When the fruits have arrived at maturity, the skeleton remains of the plant, if abandoned to the earth, restore to it only a small portion of what been taken from it.

The oleaginous seeds exhaust the soil more than the farinaceous seeds; and the agriculturist cannot be at too much pains to free his grounds from weeds of that nature, which so readily impoverish them; especially from the wild mustard, *sinapis arvensis*, with which cultivated fields are so often covered.

PRINCIPLE 3. *Plants of different kinds do not exhaust a soil in the same manner.*

The roots of plants of the same genus or family, grow in the soil in the same manner; they penetrate to a similar depth, and extend to corresponding distances, and exhaust all that portion of the soil with which they come in contact.

Those roots which lie nearest the surface, are more divided than those that penetrate deeply. The spindle or tap roots, and all those that penetrate deeply into the earth, throw out but few radicles near the surface, and consequently the plant is supplied with nourishment from the layers of soil in contact with the lower part of the root. Of the truth of this I have often had proof, and I will mention an example. If, when a beet or turnip is transplanted, the lower portion of the spindle be cut off, it will not grow in length, but in order to obtain its supplies of nourishment from the soil, it will send out radicles from its sides, which will

* "Cours complet d'Agriculture," articles *Assolement et Succession de Culture*, par Yvart.—"Traité de Assolemens," par Oh. Pictot.

enable it to obtain the necessary supplies from the upper layers of the soil; and the root will become roundish instead of long.

Plants exhaust only that portion of the soil which comes in contact with their roots; and a spindle root may be able to draw an abundance of nourishment from land, the surface of which has been exhausted by short or creeping roots.

The roots of plants of the same and of analogous species, always take a like direction, if situated in a soil which allows them a free development; and thus they pass through, and are supported by, the same layers of earth. For this reason, we seldom find trees prosper that take the place of others of the same species; unless a suitable period has been allowed for producing the decomposition of the roots of the first, and thus supplying the earth with fresh manure.

To prove that different kinds of plants do not exhaust the soil in the same manner, it is perhaps sufficient for me to state, that the nutrition of vegetables is not a process altogether mechanical; that plants do not absorb indiscriminately, nor in the same proportions, all the juices and salts that are presented to them; but that either vitality, or the conformation of their organs, exerts an influence over the nutritive action; that there is on the part of plants some taste, some choice regarding their food, as has been sufficiently proved by the experiments of Messrs. Davy and de Saussure. It is with plants as it is with animals, there are some elements common to all, and some peculiar to each kind: this is placed beyond doubt, by the preference given by some plants to certain salts, over others.

PRINCIPLE 4. *All plants do not restore to the soil either the same quantity or the same quality of manure.*

All plants that grow upon a soil, exhaust more or less of its nutritive juices, but all return to it some remains, to repair a part of its loss. The grains and the oleaginous seeds may be placed at the head of those which exhaust a soil the most, and repair the least the injury done it. In those countries where plants are plucked up, they return nothing to the soil that has nourished them. There are some plants, to be sure, besides those mentioned above, that by forming their seed, consume a great part of the manure contained in the soil; but the roots of many of these soften and divide the soil to a considerable depth; and the leaves which fall from the stalk during the progress of vegetation restore to the earth more than is returned by those before mentioned. There are others still, the roots and stalks of which remaining strong and succulent after the production of their fruits, restore to the soil a portion of the juices they had received from it; of this kind are the leguminous plants.

Many plants that are not allowed to produce seed exhaust the soil but very little; these are very valuable in forming a system of successive crops, as by introducing them into the rotation, ground may be made to yield for many years without the application of fresh manure; the varieties of trefoil, especially clover and sainfoin, are of this sort.

PRINCIPLE 5. *All plants do not foul the soil equally.*

It is said that a plant fouls the soil, when it facilitates or permits the growth of weeds, which exhaust the earth, weary the plant, appropriate to themselves a part of its nourishment, and hasten its decay. All plants not provided with an extensive system of large and vigorous leaves, calculated to cover the ground, foul the soil.

The grains, from their slender stalks rising into the air, and their long, narrow leaves, easily admit into their intervals those weeds that grow upon the surface,

which, being defended from heat and winds, grow by favour of the grain they injure.

Herbaceous plants, on the contrary, which cover the surface of the soil with their leaves, and raise their stalks to only a moderate height, stifle all that endeavours to grow at their roots, and the earth remains clean. It must be observed, however, that this last is not the case unless the soil be adapted to the plants, and contain a sufficient quantity of manure to support them in a state of healthy and vigorous vegetation: it is for want of these favourable circumstances that we often see these same plants languishing, and allowing the growth of less delicate herbs, which cause them to perish before their time. Vegetables sown and cultivated in furrows, as are the various roots and the greater part of the leguminous plants, allow room for a large number of weeds; but the soil can be easily kept free by a frequent use of the hoe or weeding fork; and by this means may be preserved rich enough for raising a second crop, especially if the first be not allowed to go to seed.

The seeds that are committed to the ground often contain those of weeds amongst them, and too much care cannot be taken to avoid this: it is more frequently the case, however, that these are brought by the winds, deposited by water, or sown with the manure of the farm-yard.

The carelessness of those agriculturists who allow thistles and other hurtful plants to remain in their fields, cannot be too much censured; each year these plants produce new seeds, thus exhausting the land, increasing their own numbers, till it becomes almost impossible to free the soil from them. This negligence is carried by some to such an extent, that they will reap the grain all around the thistles, and leave them standing at liberty to complete their growth and fructification. How much better it would be to cut those hurtful plants before they flower, and to add them to the manure of the farm. From the principles which I have just established, we may draw the following conclusions:—

1st. That however well prepared a soil may be, it cannot nourish a long succession of crops without becoming exhausted.

2d. Each harvest impoverishes the soil to a certain extent, depending upon the degree of nourishment which it restores to the earth.

3d. The cultivation of spindle roots ought to succeed that of running and superficial roots.

4th. It is necessary to avoid returning too soon to the cultivation of the same or of analogous kinds of vegetables, in the same soil.*

5th. It is very unwise to allow two kinds of plants, which admit of the ready growth of weeds among them, to be raised in succession.

6th. Those plants that derive their principal support from the soil, should not be sown, excepting when the soil is sufficiently provided with manure.

7th. When the soil exhibits symptoms of exhaustion

* In addition to the reasons I have given why plants of the same or analogous kinds should not be cultivated in succession upon the same soil, there is another which I will here assign. M. Olivier, member of the French Institute, has described with much care all the insects which devour the neck of the roots of grain; these multiply infinitely, if the same or analogous kinds of plants be presented to the soil for several successive years; but perish for want of food, whenever plants not suited to be food for their larvae, are made to succeed the grains. These insects belong to the family of Tipule, or to that of flies.—(Sixteenth Vol. of the *Memoirs of the Royal and General Agricultural Society of Paris.*)

from successive harvests, the cultivation of those plants that restore most to the soil, must be resorted to.

These principles are confirmed by experience; they form the basis of a system of agriculture rich in its products, but more rich in its economy, by the diminution of the usual quantity of labour and manure. All cultivators ought to be governed by them, but their application must be modified by the nature of soils, climates, and the particular wants of each locality.

To prescribe a series of successive and various harvests, without paying any regard to the difference of soils would be to commit a great error. Unfortunately however, such is the system adopted by many agriculturists, who are too little enlightened to think of introducing into their grounds the requisite changes.

Clover and sainfoin are placed among the vegetables that ought to enter into the system of cropping, but these plants require a deep and not too compact soil, in order that their roots may fix themselves firmly.

Flax, hemp, and corn require good soil, and can be admitted as a crop only upon those lands that are fertile and well prepared.

Light and dry soils cannot bear the same kind of crop as those that are compact and moist.

Each kind of soil, then, requires a particular system of crops, and each farmer ought to establish his own upon a perfect knowledge of the character and properties of the land he cultivates.

As in each locality the soil presents shades of difference, more or less marked, according to the exposure, composition, depth of the soil, &c., the proprietor ought so to vary his crops, as to give to each portion of the land the plants for which it is best adapted; and thus establish a particular rotation of crops upon the several divisions of his estate.

The wants of the neighbourhood, the facility with which the products may be disposed of, and the comparative value of the various kinds of crops, should all be taken into the calculation of the farmer, in forming his plan of proceedings.

ON THE FEEDING AND MANAGEMENT OF HORSES.

While it is important on the part of the industrious farmer to attend to the improvement of his land, and the proper cultivation of his crops, it is not less necessary that he should secure the most profitable application of his produce, when obtained. Even on farms having considerable pretension to good management, it is by no means uncommon to see large quantities of hay, and other matters, actually wasted, which, if turned to proper account, would contribute to the support of a great number of additional animals, and afford a further source of revenue to the farmer.—This is especially the case in the feeding of horses; and when the great number of these animals maintained in the country, for agricultural and other purposes, is taken into consideration, it is manifest that a very trifling saving in the maintenance of each, would afford a most important result in the aggregate, and, in a national point of view, be an object of serious consideration.

Hay and oats form the chief food of the horse, indeed in many cases, the food allowed him. The usual proportions of these, for farm horses, are from twenty five to thirty pounds of the former, and about ten pounds of the latter. A still larger allowance of hay is frequently supplied, not that it is actually consumed by the horse, but a considerable quantity goes to waste, owing to the defective manner in which it is usually supplied. The allowance of oats varies according to the work to be performed. During the period of active labor in the spring, the quantity is usually increased to fifteen pounds, and in the summer and autumn, the allowance of oats is either nearly or altogether withdrawn. Taking the entire season, however, the quantity of hay and oats consumed by every horse on the farm may be assumed at a quarter of a cwt.

of the former, and ten pounds of the latter. The cost of maintaining a horse on the farm, according to this data, is therefore, easily ascertained:

Hay for ten months, $\frac{1}{4}$ cwt each day, at £2 10/ per ton,	£9 10 0
Oats for ten months, 10lbs each day, at 5/4 per cwt.	8 13 4
Grass, two months in summer,	1 10 0

Annual maintenance of each horse,.....£19 13 4

From this it appears that the support of the working stock of the farm is a severe tax on the farmer, and in every case in which, horses of a good description are high and properly fed, we are satisfied, under the present system of management, their maintenance will not fall short of this amount. In proposing a more economical system of feeding, we purpose introducing a greater variety of substances, and applying them in a different form.

In the feeding of every description of animal, a certain amount of nutriment must be applied, nor is the form in which this is conveyed a matter of indifference; a certain bulk of food must be given, to maintain the healthy action of the bowels. Though the oat is the most valuable article of food which has yet been discovered for the horse, yet he could not live so well on oats, if fed entirely on them, as when a portion of fodder is given, to make up the quantity of food required for the healthy action of the bowels, to which allusion has just been made. But, again, the supply of the coarser food may be carried too far, and the animal may have his bowels loaded with too large a quantity of innutritious matters; when nothing less than such a mass as will render him unfit for exertion, will be sufficient to afford even a scanty degree of nourishment. Hence it is that a proper arrangement in the properties and proportions of the food of the horse becomes a matter of important consideration.

The horse, like other animals, especially when not supplied regularly with food, is apt to indulge at times, by which, as in the case of other animals, various diseases are generated, and during the period of repletion, he is unfit for any exertion. Every person accustomed to the management of horses must have perceived when a horse is actively exercised after a full meal, and probably as much water as he felt inclined to drink, he soon begins to purge, becomes fatigued, and gets into a profuse perspiration. Hence the important precaution of not allowing a horse to load his stomach before starting on a journey. In the case of the farm-horse repletion is not so injurious, his exercise not being active; but even in the case of the farm horse, it is well that his food, in the intervals for feeding, should be rather of a nutritious character, so that he may not suffer from repletion; and hence the propriety of allowing the horse oats during the intervals from work, even should it be withdrawn in the evening, when coarser food may be given for the night.

In supplying both hay and oats to horses of every description, the approved practice now is to make them undergo a certain degree of previous preparation; the one is to be cut into lengths, varying from a quarter to half an inch and the other bruised or ground into a coarse meal. This is productive of very great convenience to the animals, little labour being then required in the mastication of the food; and the whole of the nutriment which it contains is available, as is abundantly proved by the fact of the grains found in the stable manure freely vegetating afterwards. It is not necessary to shell the grain previously, as in the manufacture of oaten meal. It is sufficient to grind up the whole altogether.

In addition to hay and oats, several other matters may be used in combination for the feeding of horses, as, straw, beans, peas, potatoes, carrots, &c. Straw may be substituted for hay, with great advantage and economy; and has in fact, been so used for a length of time, even in some of the largest posting establishments in England and Scotland, in which cases it is cut by the straw and hay cutting machine, which may now be obtained from every manufactory of agricultural implements. Steamed or boiled potatoes form a most valuable addition to the mass, and unless

when the carrot or Swedish turnip is substituted, they should never be dispensed with.

The substitution of straw for hay is important on farms containing no natural meadow, as the cultivated grasses can then be more profitably employed for soiling during the summer; and as we consider the introduction of the latter practice essential to good husbandry, we have devoted considerable space to the subject both in the second and third numbers of this Journal. The present practice of feeding horses presents an effectual barrier to the soiling system, the artificial grasses being required for hay for that purpose.

This is not the first occasion on which we have introduced this subject of feeding horses on prepared food to the notice of the farming community, and, as in the case of every innovation of established usages, many will be found to decry it. Some cannot see the advantage of taking so much trouble to prepare food for their horses; some will not take the trouble; some who are anxious to try it find their men will not attend to it, without being sharply looked after, which they will not trouble themselves to do; and some are afraid that the horses won't thrive on such a mixture. But to all this we would say, give the system a fair trial, and if it do not realise the most sanguine expectation, then abandon it.

The precise proportions of the different ingredients which should be given will, in some degree, depend on the nature of the work to be performed, and the quantity on the size of the animals. We cannot, however, do better in this place than to state the system adopted in some of the extensive establishments on the other side of the channel, both for posting and cart horses. The first account of the system, which we shall introduce to the notice of the reader, is that practised by Dr. Scully for many years in Somersetshire, and which has been before the public since 1826, in which year he published an account of it in the *Sporting Magazine*. His practice is to calculate by weight rather than by measurement, and he has apportioned his ingredients into different classes, according to the season of the year, and the work to be performed. These are seen in the following table:—

	lbs.	lbs.	lbs.	lbs.
1 Farinaceous substances, consisting of bruised or ground peas, beans, oats, &c.	5	5	10	5
2 Bran, fine or coarse,.....	—	—	—	7
3 Boiled or steamed potatoes, mashed in a tub with a wooden bruiser, ..	5	5	—	—
4 Fresh grains, boiled barley,.....	6	—	—	—
5 Hay cut down by a machine,.....	7	8	10	8
6 Straw cut down by machinery,.....	7	10	10	8
7 Malt dust, or ground oil cake with two ounces of salt in each class, ..	—	2	—	2
	30	30	30	30

Each of the columns in the table contains the allowance of food for twenty four hours, which is seen to be 30 lbs. This gentleman states that his horses are accustomed to travel at the rate of eight miles an hour in his professional practice, and yet few can boast of having horses in higher condition.

In some of the most celebrated posting establishments the allowance of hay has been altogether dispensed with, and a proportionate quantity of nutritive matters added to make up for the want of these properties in the straw. In the establishment of Captain Cheyne, of the Royal Engineers, who has since been succeeded by Mr. Scott, the following mixture has been adopted, as being economical, and enabling the horses to perform their work, without falling off in condition. The morning food consists of

Oats,.....	8lbs.
Beans,	3½
Straw,	4½
	16lbs.

and at night the food was varied in the following manner:—

Boiled or steamed potatoes,.....	21lbs.
Fine barley dust,	1
Straw,	2
	24lbs.

This allowance of food was found amply sufficient for cart horses, at the hardest work.

These examples will be sufficient, as, showing the principle on which these compounds are formed, and every farmer can suit the the proportion and quality of the ingredients to the nature of the work to be performed. It is important, however, to guard against any falling off in condition at any period of the season which will require rest and extra feeding to make up for it again. A run at grass during the summer is conducive to the health of a horse, but then it must be grass of a good description. During the period he is on the grass he may be worked if occasion should require.

Some of the best authorities of the day have declared in favor of the system of feeding on prepared food, amongst others Mr. Dick of veterinary college of Edinburgh, than whom there can be no better authority on such a subject.

Beans being generally cultivated on the clay soils on the other side of the channel, are much used as horse food, and are consequently included in the foregoing list, but an equal quantity of oats or other farinaceous substances may be substituted for the straw. In short, any intelligent farmer may regulate the proportions of food for his horses, according to the peculiarities of his farm. The chief considerations to be kept in view are, that a proper supply of nutriment be present, and that the whole undergo the previous preparation of cutting, bruising, or steaming, before being supplied to the animals—*Sprull's Irish Farmer's Journal*.

SIR—I am desirous, through the facilities which your journal offers, to make a remark on the distribution of the funds of the Royal Agricultural Society for "Prize Essays." If I mistake not, the object to which these funds should be devoted is obtaining the knowledge of practical me on all subjects connected with agriculture; and to this point I specially refer, the method of distributing prizes hitherto adopted having failed to call forth the practical man, of which the theoretical nature of most of the essays are a proof; and when we look at the habit, occupation, and attainments of the practical farmer, and consider the plan hitherto adopted by the Society has been to give prizes for special subjects, to be written for under certain limitations, it is easy to see that it requires considerable time and practice in writing, which the practical man seldom possesses sufficiently for the purpose; and whilst it is desirable that some prizes should be given for special subjects, it is equally desirable that the ideas of the practical man should be obtained, and the only way I think we can do this is to offer several prizes for general subjects on agriculture, without any limitation in any way.

I have no doubt it would do more to obtain the object than giving prizes for any number of special subjects; each individual would then have an opportunity; an inducement would be held out to call forth those ideas and trains of reflection which his bent of mind, or genius, and circumstances, lead him into in the regular routine of his occupation, and on which he would be peculiarly fitted to write with ease to himself and benefit to others. We all know that these reflections which spring spontaneously from the mind are oftentimes more valuable than when our efforts are directed to particular subjects; and to catch these inspirations should be our object, and, consequently, we should hold out such inducements as will encourage the practical man to follow them out for his own and others' benefit; and I imagine the direct advantages of the plan would

not exceed the indirect, for whilst the Society would gain many valuable communications, the practical farmer would be excited to more constant observation and reflection; and by practice obtain the habit and qualifications necessary for expressing his ideas and be able eventually to write with clearness and effect on any special subject connected with agriculture.

Yours, &c.,

Aug. 3.

PRACTICAL.

ETERNITY OF MIND.—God suffers nothing that is excellent to die. There are things in his world which are not meant to perish,—works which survive the workmen, and multiply blessings when they are gone, and make all who lend a faithful hand to them, part of the husbandry of God, labourers with him, on that great field of time, whose culture and whose harvests are everlasting. The pains we spend upon our mortal selves will perish with ourselves; but the care we give, out of a good heart, to others, the effects of disinterested duty, the deeds and thoughts of pure affection are never lost, they are liable to no waste, and are like a force that propagates itself for ever, changing its place, but not losing its intensity. In short, there is a sense, in which *nothing human ever perishes*; nothing, at least, which proceeds from the higher and characteristic part of a man's nature; nothing which comes of his mind and conscience; nothing which he does as a subject of God's moral law. His good and ill lives after him, an endless blessing or a lasting curse; a consideration this which gives dignity to the humblest duty, and enormity to careless wrong. I do not now refer to the consequences of conduct in a future life; but to a certain perpetual and indestructible influence it must have upon this world. It is a mistake to suppose any lesson of human life, any exhibition of moral greatness, even any peculiar condition of society, can ever be lost; their form only disappears; their value still remains, and their office is everlastingly performed. Material structures are dissolved, their identity and functions are gone. But mind partakes of the great parent spirit, and thoughts, truths, and emotions, once given to the world, are never lost; they exist as truly, and perform their duty as actively, a thousand years after their origin, as on their day of birth.—*Rev. J. Martineau.*

DEFECT IN POTATOES.—The subject of the defect in potatoes, was discussed at a late meeting of agriculturists in Scotland. There was a very great diversity of opinion in relation to the cause—scarcely any two of the speakers agreeing. The age of varieties, the nature of the soil, the state of the weather, cutting and *not* cutting the seed, were all mentioned as tending to produce the defect. Professor Johnston summed up the testimony, and as to a remedy, remarked that all appeared agreed that sound healthy seed, and a well pulverized and well drained soil, were the best preventive of the disease, and best guarantee for a good crop.

DYNAMOMETERS.—At a late meeting of the Council of the Royal Agricultural Society, several improved dynamometers, calculated to obviate the defects of those heretofore used, were presented and referred to a select committee for trial. One of them sent by Mr. Clyburn, it is said, would record a strain of draught up to twelve hundred. Its principle or action being self-recording, was different from that of other dynamometers, the box containing the instrument being supported on wheels, which communicated by their axle, a progressive resolution to the recording cylinder with-

in it, as the draught proceeded, and its registration was made continuously by the pencil moving over its ruled surface; the average amount of draught being obtained by inspection of the indication thus obtained by the momentary variations during any given time and space. The committee will report on the results of these implements at a future day.

AGRICULTURAL COLLEGE.—The College about to be opened at Leopardstown, near Dublin, is situated on the south side of the city, and five miles distant from the Post office. The farm consists of 200 Irish acres of land, of medium quality. The terms for pupils in the Agricultural School will be 15*l.* per annum, for which they will receive a suitable education; they will be engaged one-half of each day at farm-work, under the superintendence of the best practical and scientific agriculturist that can be obtained, and during the other half in the school, over which a teacher of like ability will preside. It is proposed, also, as soon as pupils shall be obtained, to connect with the Agricultural College a school for the education of the sons of the gentry in classes, and all the branches usually taught in first-rate schools, for which there is ample accommodation.—*Southern Reporter.*

COOKED AND UNCOOKED FOOD FOR FATTENING SWINE.—Is it more economical and profitable to cook food for swine than to give it raw? This question has been much discussed by writers for the agricultural press, and the opinions of the greater number have been in favor of cooking the food, though the results of some few experiments would seem to support the opposite course. Prof. Johnston believes the general result of the numerous experiments which have been made upon this subject in various parts of England, is in favor of cooked food for cattle and swine, so far as the fattening and growing of the animals are concerned; but that the measure seems more doubtful in the case of horses used for hard work.

Judge Buel was of opinion that by cooking the food upon which his hogs were fattened, consisting of small refuse potatoes, pumpkins, and a small quantity of Indian meal, the expense was 50 to 75 per cent. less than feeding with dry corn. It is a fact, pretty generally admitted, that cooked food—grain as well as other sorts—is much more nutritious than uncooked. Grain of almost every kind, as all know, increases in bulk by *steaming or boiling*; and some have supposed in value in proportion as it increased in bulk. This (as Mr. Gaylord observes,) is doubtless a mistake; as the nutritive power of articles is rarely in proportion to their size, and never, perhaps, exactly in proportion to their increase of bulk in cooking. Reaumur instituted a series of experiments to determine the rate of increase in different articles used for animals' food, and found the result of some of them as follows:

4 pints of oats after boiling, filled	7 pints.
4 " barley	10 "
4 " buckwheat	14 "
4 " Indian corn	15 "
4 " wheat	10 "
4 " rye	15 "

In the continuation of his experiments to ascertain the effect of such food on animals, he found that with some of these articles, though the bulk was much increased, the food required to satisfy the animal was the same as if no cooking had taken place; or that an animal that would eat half a bushel of oats dry, would eat a bushel cooked, with the same ease. The nutritive power was, apparently increased, or the whole of it contained in the grain made available, which, when

grain is raw, is rarely the case. On the whole he came to the conclusion that when wheat, barley or Indian corn is used for feeding, it is far more economical to cook these grains than to feed them in a raw state.

A writer in the American Farmer, some 15 years ago gave the result of an experiment he made to ascertain the difference between raw corn and corn meal cooked, in fattening swine. The following is a part of his account: "I have had since the first day of December, an experiment going on between raw corn and meal made into good thick mush.—Two pigs of about one hundred weight each, have been eating seven hounds each of raw corn, per 24 hours; two others, of nearly the same size, have had exactly seven pounds of meal made into good mush, *between them*. These seven pounds of meal cooked into the state of good stiff mush, make from 18 to 33 lbs. I weighed the pigs accurately at the beginning, and again after the lapse of 16 days. At the second weighing, the two eating 14 lbs. of corn per day, had increased 17 lbs.; the two eating 7 lbs. of cooked meal per day, had increased 25 lbs. Here then, is a saving of one-half of the corn."

Many like experiments could be adduced in support of the greater economy of feeding cooked than raw food, were proof called for—but we believe it is not—at least but by few. One thing in the feeding of swine is a "fixed fact," and as such generally recognized,—that "good stiff mush," composed of Indian corn meal and potatoes or pumpkins, boiled, makes a very excellent food for fattening swine, and we very much doubt whether the advocates of the "raw material" can show proof that they have a more economical food for fattening than this. It is the *old process*—and though its antiquity does not prove its superiority, it seems to be one of those practices of our sires upon which their *wiser* sons have not made any palpable improvement.—[N. E. Farmer.

The Canadian Agricultural Journal.

MONTREAL, DECEMBER 2, 1844.

We beg to state, that we must immediately determine whether we shall continue to publish this journal or not; and as it will altogether depend upon the extent of encouragement we receive, we shall address a copy of this number to non-subscribers, and respectfully request that any gentleman who declines to become a subscriber for the ensuing year, may be pleased to return us the number so addressed as soon as convenient. Those who please to retain this number, we shall consider subscribers for the next year, and add their names to our subscription list. We shall, of course, rely upon the support of our present subscribers, that they will continue. We trust that few individuals to whom we address this number, would decline to pay a dollar annually to support this publication. We promise them we shall not offend them on political questions, whatever party they may belong to. We shall only advocate the improvement and interests of agriculture, domestic industry, the peace and welfare of the community, and endeavour to show the advantages we may derive from British connection,

by a judicious use of the means which this connection places at our disposal.

We have often been surprised at what appears to us a very erroneous impression, generally entertained, that money expended on public works, or paid as revenue, is a general loss to a country, because it is not *directly* employed in productive industry. This we conceive to be a great mistake. On the contrary, the money circulated in this manner, through the hands of the Government, finds its way into the most useful channels of employment for the industry of the people, both in the encouragement of manufactures and agriculture. Perhaps the money paid away by the Government, does not remain four and twenty-hours in the hands of those who receive it, until it is again paid for agricultural produce, or for manufactures, to be again employed in reproduction. The individuals who first receive this money from the Government, may not be actual producers; but if it be necessary to the welfare of the community that they should be employed and paid, we have no cause to consider it an evil, particularly as it actually does not withdraw capital for a period that would be hurtful, from the most useful employment. It may be said, that whatever number of individuals are thus employed and paid, are not direct producers. They are, however, necessary to the producers, and it is not any injury to the community that a few persons should be withdrawn from agriculture and manufactures, when there is abundance of labour at command for these occupations. If there was a large portion of our able-bodied men to be kept in idleness unnecessarily, and maintained, and paid from the public revenue, it would certainly be an evil to be deplored, because in that case the services of those men would be lost, and productive labourers would be taxed to pay them. This evil, however, would only extend to the value of the produce which those men might be able to create by their labour, if otherwise employed. The money which they received would not be lost, but would pass from them to the agriculturist, the merchant, and manufacturer. Nearly the whole amount paid for the expenses of Government, and for public works in Canada, will inevitably either return back to the British Isles, in payment of British manufactures, or be employed here in useful improvements and production, except perhaps a small portion that may find its way to the United States, for their agricultural produce. We are perfectly convinced that the money expended by the British Government, and that upon useful public works, in this country, is not actually lost to either the British people, or to us, as a large portion of it returns directly to Britain, and the remainder becomes a useful working capital in Canada, which will enable us to pay for the use of the public works.

We have often heard complaints of the loss sustained by merchants who have exported flour and wheat from

Canadian ports, in consequence of their damaged state on arriving in England. From the frequent opportunities we have had of seeing the exposure of wheat and flour to the weather, previous to shipment at Montreal, we should be surprised if they were to arrive in England undamaged. It must be very much against the interests of merchants, and prejudicial to the character of Canadian produce, that any article shipped from our ports should not be in the very best condition on arrival at their destination. There cannot exist a doubt, that from the moment the flour leaves the mill, and the other grain the farmer's barn, they should be constantly and completely sheltered until shipped in Montreal or Quebec. Exposure to great heat or moisture must produce damage to flour and wheat in particular. We suppose it is to save expense that sufficient shelter is not provided for flour and wheat, on their transit to Montreal, or on arrival there. The bad character of any agricultural produce, exported from this country, will be injurious to farmers as well as to merchants, though the farmers are not to blame for the damaged state of flour and wheat when they arrive at British ports. We believe that more strict attention to these matters would be very beneficial to all parties concerned. Indeed it is sinful to allow the most valuable food of man to be damaged by neglect after all that has been expended upon it previous to its coming into the merchant's hands.

We do not know to what extent beef may be slaughtered and packed in Montreal this year for British ports. We have seen large droves of cattle brought to town lately, and most of them would be considered in England only fit for to be stall-fed this winter, or kept over and fattened next year. If such cattle are prepared for export in their present condition, no wonder our beef should have a bad character, and sell at low prices in England, when arrived there. We must send well fattened beef home, or it will be an unprofitable trade. Butter and cheese must also be of good quality, in order to insure profit when exported. There is nothing to prevent our exporting the best quality of agricultural produce, if we make a proper use of the advantages in our power. In the British Isles, they have certainly a very favourable climate and soil for agriculture, but they have a more uncertain climate, and one more subject to adverse seasons than ours. We have no doubt that our climate here will be much ameliorated, by draining the soil, and when the country is more cleared of forests and thickly settled and cultivated.

There is one subject which we hope we shall be pardoned for introducing, and that is the necessity which we conceive to exist that some measures should be adopted to remedy the evil of committing persons to our prisons, and keeping them there, perhaps for months, on very slight or groundless charges. We believe it would be greatly for the public advantage,

that the cases of persons committed should be *immediately* considered by the professional men who are to conduct the prosecution. If this system were adopted many persons would be liberated within a few days after the commitment, who are now doomed to lie in jail till they are discharged by the grand or petit jury. The consequence of this is, that whatever character those persons may have borne when they entered the walls of their prison, they all leave it confirmed thieves. It is of some importance that this stream of pollution should be prevented from flowing from the public jails over the rest of the country. Lengthened imprisonment should only be for the really guilty. To imprison a man that is not really guilty, is a very great wrong, if it could possibly be avoided, and we think it might; no compensation can make up to a man for being deprived of his liberty on insufficient grounds of accusation, and frequently when the party is perfectly innocent. This subject is entitled to the consideration of our Legislature.

It is expected that a Bill for the provision and regulation of common schools will be introduced next session of our Provincial Parliament, and as the public and general means of instruction which may be provided for the youth of Canada, must have a great influence for good or evil upon the rising generation, it is entitled to receive the most mature consideration, in order that the future working of the system, whatever it may be, will be productive of unmixed good, to those whom it proposes to benefit. Our legislators have it in their power now to ascertain how systems of public education have answered in other countries. In Prussia particularly, a system of secular education has been in operation for several years, and from all we have heard of its results, we believe it is far from being perfect. It is by the results that we are able to estimate the excellence or defects of any system, and have it in our power to make the required improvements. It is the opinion of many eminent men, and we perfectly concur in this opinion, that public education, if not based on religious tuition, is worse than useless, as a means of making men better and happier. It must leave a very injurious impression on the minds of youth, that their secular education should alone be provided for, as if there was no necessity to give any attention to their instruction in religious principles, but be left to their parents, who in many instances are very incapable of giving them instruction either by precept or example.

The most important object of public education should be to form the habits and elevate the character of the educated, and *enlarge the ideas of comfort* among the poor, but it is more than doubtful if a strictly secular education can do this. We admit that knowledge is power to all, but wisdom only to those who make a proper use of it. The great objection to public and general education is, that it is almost impossible to educate sufficiently those who are dependant.

for their subsistence upon the work of their hands, and there is nothing more certain "that a little learning is a dangerous thing." To guard against this danger, the half educated must be restrained by the force of moral precept taught them, from the religion of Christ, at the same time that they are receiving a secular education at the public schools. We wish not to be mistaken, or that it should be supposed we are opposed to public and general education. We have unceasingly advocated its necessity, but we would be anxious that public education should be productive of all the good to the community that its most sanguine friends could expect from it. We cannot see what reasonable objection can be made to the morality of the New Testament being taught in schools. It need not interfere with the religion of sects, as the moral truths of the Gospel are believed by all Christian denominations. Indeed there would be no necessity to teach at public schools any moral precept that would interfere with the religious principles of sects. It is very difficult to determine how far public education ought to go, or rather how far it is possible, with persons who have to work for their daily bread, and cannot give much time to education. Whatever amount of education it may be possible and expedient to give to those who may in part be educated at public expense, the most useful part of it will be the moral precepts of the Gospel, if properly inculcated. This will make education, to whatever extent it can be conveniently carried, useful, and prevent all ill consequences that might flow from a strictly secular instruction. We are supported in this opinion by persons of great eminence. One gentleman in particular, M. Coussin, in his Report on education in France, says:—"Religion is in my eyes, the best, perhaps the only basis of popular instruction. *I know a little of Europe, and have never witnessed any good popular schools where Christianity was wanting.* The more I reflect on the subject, the more I am convinced, with the directors of the *Ecoles Normales*, and the ministerial councillors, that we must go hand in hand with the Clergy, in order to instruct the people, and make religious education a special and large part of instruction in our primary schools. I am not ignorant that these suggestions will sound ill in the ears of some, and that in Paris I shall be looked upon as excessively devout; but it is from Berlin, nevertheless, not Rome, that I write. He who speaks to you is a philosopher, one looked upon with an evil eye, and even persecuted by the priesthood, but who knows human nature too well, not to regard religion as an indestructible power, and Christianity when rightly inculcated, as an essential instrument for civilising mankind, and a necessary support to those on whom society imposes hard and humble duties, uncheered by the hope of future fortune, or the consolations of self-love." The opinion of this gentleman is entitled to the highest respect, and the greatest advocates for secular education should ponder well before they aid in the establishment of a machinery that may greatly

disappoint them in its subsequent working. Let us have public and general education provided for by all means, but upon such principles as will be sure to make the educated better fitted for every station they may be called upon to fill in after life. A measure that would produce this benefit to the community, would be worth paying a tax for. There must be in all countries a portion of the inhabitants who cannot afford to pay for the education of their children, and we conceive that for this portion education should be provided by the government. There may be many intellects amongst the poor that would be worth cultivating, and would be a public loss to neglect to cultivate them. It is giving the poor some little chance of bettering their condition when they are judiciously educated, which they never can have without it. It would also be making them have some just ideas of their civil and religious accountability. We shall conclude this article by copying a few lines from Alison's "Principles of Population":—"No doubt, among every thousand of mankind, there may possibly be found forty or fifty who will derive pleasure from the discoveries of science, or the pursuits of literature and philosophy, but unquestionably there will never be found more than that number. The remaining nineteen-twentieths will be accessible only to physical enjoyments, or excitation of the fancy. This is not peculiar to the lower orders, it pervades alike every walk of life: the Peers, the Commons, the Church, the Bar, the Army. No man ever found a twentieth part of his acquaintance, even in the most cultivated and intellectual classes, who really derived pleasure from the pursuits of the understanding, or would prefer them to other enjoyments, if they could abandon them without risk to their professional prospects."

Now that our Legislature is in Session, we must, on the part of the class to which we belong, respectfully remind them of what is required from them to promote the improvement of agriculture, and the general prosperity of this country. We now repeat what we have already so frequently stated, that no country on earth is more entirely dependent on her agriculture than this is; and if this fact cannot be contradicted, it must follow, that no other interests deserve more attention than those of agriculture. Up to this period, scarcely any attention has been given by our Legislature to advance the improvement of agriculture. Small sums have been annually voted to Agricultural Societies; but this is not sufficient in a country circumstanced as this is, with regard to her agricultural population: a vast proportion of this population are uneducated,—another proportion insufficiently educated,—and scarcely any of them possessed of wealth that would admit of expending much for the instruction and encouragement of agriculture, except so far as they are individually interested. We have not here the large landed proprietors they have in the British

Isles, to take care of the interests of agriculture. We have the proprietors of large seignories certainly; but as they are secured in their small rents, whatever may be the state of agriculture, they do not appear to feel any interest in the matter. Unless, therefore, the Government and Legislature take up the subject, and do what is necessary to instruct, and encourage the improvement of agriculture, we are doomed to have only to lament its backward state, while in all other countries every exertion possible is being made by all who are possessed of wealth or authority, to promote the improvement, and secure the prosperity, of agriculture. We do not say that the inhabitants of Canada should be confined to the business of cultivating the soil, if they can be more beneficially employed in any other way, for the general advantage; but if no better way of employment can be pointed out, it requires no argument to prove that this way should be made the most of, and encouraged and improved to the uttermost. We conceive that it is only the produce of our soil that can give the means of prosperity to commerce, as well as agriculture, in Canada. To depend upon any thing external, will never secure permanent prosperity. It is upon ourselves, and upon the resources of our own country, we must rely for all we want. We cannot support a prosperous commerce with the mother country from any foreign resources; and it is discreditable to us, that we should require a foreign produce, while we neglect to raise this produce upon our own lands, that are perfectly well adapted to the purpose. We should imagine that it was a matter of some importance for the consideration of our Legislature, whether this country could be made to produce double the amount of value it does at present; and if so, if it would not be important that all that was possible should be done to secure this great advantage to the people. We take upon us to say, that these results would be sure to follow the adoption of energetic measures.

It may be the opinion of many, that the improvement of agriculture should be left to individual industry and enterprise. This experiment has been long tried in Canada; it is unnecessary to say it has failed, and it could not reasonably be expected to be otherwise. Under much more favourable circumstances, it was proved insufficient in the British Isles, and in other countries. In France, they have one of the Government a Minister of Agriculture, to attend to its interests, and to instruct and direct the industry of the people. Commerce has its Board of Trade here, and it has the advantage of better educated men generally than farming. Our public press are almost exclusively devoted to commerce and politics,—and this is a great advantage they possess. This journal is the only one devoted to agriculture in the whole extent of Eastern Canada; and though the subscription is only a dollar annually, we are certain to be at a considerable loss, besides our own time and attention given to it. This

is another proof that more is necessary than individual enterprise and industry. What we humbly suggest is, the institution of a general Board of Agriculture, that would direct and superintend all other local Societies formed for the same purpose, and that would publish an agricultural journal, to be generally circulated throughout the Province. We shall not at present presume to propose any rules for the government of such a Board; but we will say, that the institution of a Board of Agriculture, under judicious regulations, would produce more real good to the inhabitants of Canada than can be effected by any other measure we think possible to be introduced. In connection with a Board of Agriculture and Journal of Agriculture, we would suggest the utility of a Museum, for plants, seeds, approved implements of husbandry, and an agricultural library. This might be a most useful school of instruction for farmers, and a repository of the best seeds and implements of husbandry for sale. If measures of this nature were adopted, people would begin to think that agriculture must be of some consequence, or it would not receive so much attention from the Government and Legislature. It would become fashionable, and of some importance in the estimation of those who now only despise it, and take no interest in it. The citizens of Montreal have yet to learn that it is from the produce of the country the improvements of their city must be chiefly supported. Houses, however fine, will not feed people; nor can merchandize, however greatly required by the people, be purchased or paid for, except by a produce raised from our lands. We are as friendly to the improvement of our cities, and the prosperity of commerce, as any individual in this community; but we are under the impression, that to permanently secure these advantages, we must have an improved and prosperous agriculture, *creating* annually an abundant and valuable produce, which can be exchanged for merchandize and all we may require for our comfort and convenience.

We perceive, by one of our exchange papers from Canada West, that the farmers are recommended to prepare in the spring some of their best timothy hay for exportation to England, by way of experiment. We are perfectly convinced that good and well-cured timothy hay of this country will be superior to any hay of British growth that it will come in competition with in the British markets. Timothy hay of good quality is superior to any hay we have ever seen for feeding horses, and we believe that horses fed upon it will be less liable to be broken-winded than if fed on any other variety of hay. By experiment, it has been proved that timothy grass has more nutriment than is found in any other grass; and we believe the experiment was perfectly correct in its results. We do not know the expenses of shipping a ton of hay to London or Liverpool, but would imagine that when hay could be purchased here for ten or twelve dollars the ton, (or from six to eight dollars the hundred bundles of

1600 lbs.) it ought to pay in the English markets, if sold there for five pounds sterling the ton, provided merchants would be satisfied with less than fifty per cent. profits on their transactions. It would be highly desirable that any agricultural produce that could be profitably, or even safely, exported to England, should be exported, to give us some means to pay for importations. Under the superintendence of a Board of Agriculture, all these matters might be managed for the advantage of the country, provided such Board would possess the confidence of the people; and there could be no doubt of that, if properly constituted, under judicious regulations.

"The sure effects of good government, is to spread happiness and comfort among those who are subject to its influence—to give security to property—animation to industry—enjoyment to the people"; and the government that will do this, will deserve the gratitude and attachment of the governed, and the respect of the world. In order to give security to property in Canada, one of the first things that is necessary, is some final arrangement respecting seigniorial property, on the same principle as that made with the Rev. gentlemen of the Seminary of Montreal. That arrangement, we have no hesitation in saying, was concluded upon the most equitable and reasonable principle for all parties, and the inhabitants of Canada would have much cause for congratulation, if all other seigniories were subjected to the same arrangement. It is, we fear, a difficult matter to induce the other proprietors of seigniories to come forward in the same liberal spirit that was manifested by the Rev. gentlemen of the Montreal Seminary in the settlement of a matter of so much consequence to the future improvement and prosperity of this country. These gentlemen have shown an example that deserves the commendation and gratitude of this community; and we conceive that all other seigniories should be made subject to the same principle of commutation. This would be one of the greatest encouragements that industry and improvement could receive, and the longer a final arrangement is put off the more difficult it will be to make it satisfactory to any party. In the supplement to our treatise on agriculture, we have fully discussed this question, and we beg to refer to it, page 161. The commutation of seigniorial dues, on an equitable principle, would give security to property which we have not at present; and unless this matter is settled very soon, we shall have all the miserable vassalage and poverty of other countries in Canada before many years are expired. This subject we most respectfully recommend, on the part of the agricultural class, to the consideration of the Government and Legislature. It will go far to give animation to industry, and enjoyment to the people, to secure to them the full benefit of their improvements in perpetuity. It cannot fail to check improvements, in a country where capital is

not abundant and labour dear, that there should be the slightest chance or possibility that any other party should, at any future period, have a claim to any part or portion of these improvements, which they would not have if no improvements had been made. This is the case exactly under the existing laws. Again—*Land being the great place of deposit for the savings* of all ranks, every institution which prevents the free circulation of estates is prejudicial, not only to the class of proprietors, but to the ranks of the community. *Land is the great bank of the State*; and every restriction on its free circulation not only prevents capital from taking its natural and best direction, but withdraws one of the greatest inducements to laborious industry in all classes. "The seigniorial regulations are a very great obstruction to free circulation of land, and its free circulation is essential to the improvement and prosperity of this country. High prices and plenty are prosperity; low prices are misery."—SARIN.

AGRICULTURAL REPORT FOR NOVEMBER.

The first snow we had this year occurred on the 28th and 29th October, and we have never before seen so heavy a fall of snow so early in the season. We believe it covered the ground nearly to the depth of two feet on an average, and though we had rain and snow occasionally throughout the month, a part of the first snow continued upon the ground up to the 22d. The ploughing was generally stopped the first day of snow, and that work is very much behind this year, as in strong soils, it was only a short time previous to the fall of snow, they were fit to plough. This will be injurious to farmers, and increase the work of spring very materially. Indeed the winter has commenced prematurely this season, which will make it much longer than the average of Canadian winters. It may not, however, be very severe, and this will compensate for its longer duration. Very long winters would be a discouragement to strangers settling in Canada, but to those who know the country, they are not regarded as a great evil. The cattle that have to be sheltered and hand-fed in Britain, are generally housed about the 1st November, and continued so until the 1st of May. There is this difference, however, that many of the cattle, and most of the sheep, are not housed in winter, and collect a large portion of their food from the pastures, while in Canada they cannot obtain any food from the pastures, during the time the snow remains on the ground. There can be no doubt that the country, whatever be the length of our winters, is capable of supplying our market with abundance of all that is necessary for our tables, of meat and vegetables, of the best quality, and also hay and oats of the best quality for our horses. There is a vast improvement observable in respect to the market supply, and Montreal has at this moment a market not unworthy of the metropolis of this noble province of the British Empire. Our Provincial Parliament may congratulate themselves upon the change to Montreal of the seat of

government, to a healthy city in a high state of improvement, and improving beyond any city in the colonial Empire of Britain, with a market well supplied and cheap. Our legislators will have incontrovertible proof of the capabilities of the country for production, and how little we require any foreign supply, if our own lands were made the most of. A stranger has only to go into our market, and he will be able to estimate what the country may be capable of. We trust a new stimulus will be given to agricultural improvement by the seat of government being fixed in Montreal, in the heart of the finest, and most populous part of British America. We have seen several articles published on the disease, or rot in the potatoe crop this year, but not one of them appears to be a satisfactory explanation of the matter. We very much apprehend that the potatoes that are stored will not keep well. A friend informed us that he had stored about 500 bushels in a pit, and found them very soon rotting to a great extent. The best remedy we conceive would be to procure new varieties of seed from Britain next spring. We have seen several reports of potatoes planted in swarth, or grass land, being safe from rot this year. When planted in the fresh sod land, the soil is kept more open, and must be more favourable to the growth and health of the potatoes. We are satisfied that potatoes grown in such lands this year would have a better chance to escape the rot than in any other. We have attributed the rot in potatoes to the heat, and moisture, and extremely luxuriant state of the crop in the month of August—and we have seen that the more close and heavy the soil was, the greater was the rot. The potatoes were soft and luxuriant, and the wet-warm state of the soil and manures had the effect of creating disease in the roots. In the newly broken up grass land, the clay was open, and did not adhere to the potatoe, but allowed the air to go about them, and prevented them from being half boiled by the hot moist clay and manure, which we believe was the true cause of the rot in the crop. The early planted potatoes were less injured than those that were young, and very soft. We do not pretend to be able to account satisfactorily for the disease in potatoes, and all we can say, is matter of opinion. The change of seed to new varieties is very desirable, and early planting is in all cases to be recommended when possible. the loss of the potatoe crop is a serious one to farmers and to the country, but we hope it was only produced this year by a peculiar state of the crop and the atmosphere. As any improvement that can be effected in the quality of the potatoe is important, we beg to copy some observations on the subject from the *Gardener's Chronicle*:—

It is well known that in some soils, and in most seasons, the produce of potatoes is abundant, and their quality excellent; while in others, the quantity is not deficient, but the quality is inferior; and there are situations so unfavourable, that the crop is always bad in every respect. Occasionally, indeed, cold wet seasons deteriorate this important crop, even in the best

soil on which the most excellent cultivation has been bestowed.

Supposing, however, that all has been done that could possibly be effected, in the way of good cultivation, yet when the crop is fit for taking up, its proper after-management is a most important consideration.

People think that if they guard their crop from frost, they have done all that can be needed; but this is a mistake of the worst kind. By improper management after taking up, potatoes of the finest quality are easily spoiled; and, on the contrary, by judicious treatment, even such as are watery may be much improved.

It is of the first consequence that *light*, as well as frost, should be guarded against, for light renders the tubers unwholesome. The stems, and in fact all the parts of the potato plant above ground, are more or less poisonous. Tubers are occasionally formed along the stem, but they are, as we all know, green and bad. This is entirely owing to their exposure to light.

Having pointed out one of the sources of the deterioration, it may be as well to name a means of improvement. Always dry the tubers before cooking them. If a potato is weighed when fresh taken up, then laid in a dry warm place for some time, and again weighed, it will be found to have become lighter, in consequence of the evaporation of a portion of its water, and it will then in cooking be more floury. In Ireland, with this in view, potatoes when watery, are often taken out of the caves and kept in a dry place for a few weeks, and a great improvement is the consequence. The French are aware of this fact. A writer in the "*Revue Horticole*," says—"In unfavorable seasons, potatoes are often found to be watery and without flavor, altho' cooked with the greatest care. In this case, the mode of effecting an amelioration is easy: it consists in placing them near a stove or oven for about a week previously to their being used. At the end of that time they will be found mealy and of good flavor."

It is very probable that provender for cattle will rise in price this winter, it has commenced so early, and much of the hay crop was injured last summer in curing, and some rendered useless or lost. The prices of produce will be seen in our market report. We hope some business will be done in preparing beef of good quality, and pork for exportation next spring. Bacon and hams might also be prepared, and we are sure they would pay, if properly cured and dried. We trust we can congratulate farmers on the prospect of better times for them, and more encouragement for improvement and production. Very high prices we do not desire, but we want a steady market, and remunerating prices, which we never can have with free foreign competition.

Côte St. Paul, Nov. 30, 1844.

The following letter appeared in a late number of the *Maine Farmer*. In a part of the letter we do not copy, it is stated, that the value of poultry in the State of New York has been estimated at 2,273,029 dollars,—an amount larger than the value of swine, and nearly equal to half the value of sheep in the same State. To make poultry valuable, it is necessary they should be provided with properly constructed houses and yards:—

The inquiries naturally arise, "What breeds are the best? What method of keeping, the cheapest?" I

am expected to give only the result of my own experience. I am now experimenting, not only by a trial of the pure breeds of several well known and highly approved varieties, but of crossing them, a work of some trouble and difficulty, in order to be certain as to the result. Of the pure blood, I have the "Dorking," from the pair procured at considerable expense in Boston, by Rev. William A. Drew.—"Black Poland," with white tufts upon their heads, procured in New York by Dr. James Bates.—"White Poland," with white tufts. "Booby," brought to Westbrook by Mr. Stevens, and by me procured from him, "Malay," also procured from the same gentleman. "Wingate," of the English breed, procured from Paine Wingate, Esq., of Hallowell; and common kinds. The crosses I have made, are as follows:—Booby and Wingate—Dorking and Poland—Spanish and Dorking—Booby and Malay—Poland, Spanish, and Dorking—the crosses are all chickens of the present year, and some of them late chickens. I exhibit in a coop with the necessary partings, duly labelled, a specimen of *each variety*. I also exhibit for the inspection of the Committee, a *feeding hopper*, which is of a highly approved model, enabling a week's feed to be dealt out to them at one time, without its exposure to be trampled under foot or wasted. I also exhibit one of my range of nests, which is constructed so as to give to the hens all the secrecy they require, and to their owner easy access to their eggs, without much disturbance to other hens which may happen to be upon their nests. My hen-house, roosts, and yards can be visited by the Committee without much tax upon their time. But to return to the hens—I give the preference—considering their qualities for food, eggs, hardiness, &c., to the Polands. They are not so large as several of the other varieties, but their flesh is rich, their constitutions hardy, and they have truly been denominated *everlasting layers*. Their eggs are not large, and they are rather inclined to forage upon neighbouring fields and gardens, and yet, I think, considering how little feed they require, they are to be preferred. The Dorkings are an excellent variety, but they must, I think, from breeding in, or some other cause, have depreciated from the original stock brought out by Mr. Allen, of New York, who represents the common weight of that breed to be from 8 to 10 lbs. About 5 lbs. is the largest I have met with—their meat is excellent, and they appear to be hardy, but mine do not lay more than two-thirds as often as the Poland. The Booby does not appear to be a great layer, nor very hardy. I have found much difficulty in rearing the chickens, and have lost more than of any other breed—they are of slow growth, and feather late. They are large, and may be useful in increasing the size of some of the smaller varieties, and with this view I have crossed them with other valuable kinds. The meat I have not tasted, but have an impression it must be coarse and dry. The Malay is a good layer, and I have crosses of this breed. I shall raise none of the full bloods, as my Malay rooster, which weighed over 10 lbs., died early last spring. The Wingate, or English variety, have proved good layers, weigh heavy, and their meat is superior, I think, to any of the other breeds—they require much feed, and have suffered from breeding in. I hope the crosses will improve the breed. The Poland hens seldom show an inclination to set, and the Dorkings much less than the other varieties. My hens laid nearly as well during the winter as in the warm weather. Their habitation was warm, and so construct it as to bring them to the ground, where they found at all times a good supply of old plastering, ashes, pulverized oyster shells, charcoal, fresh water, once or twice a week beef liver, or some other kind of meat,

or grease instead. I feed chiefly upon baked or boiled potatoes, giving their food to them warm in the morning and at night, occasionally dealing to them a little corn or oats, and giving them all the crumbs, and skins, and fragments, of the cooked vegetables. To prevent their being infested with lice, about once a fortnight I mixed in dough, so as to discolour it, a quantity of flour of brimstone, which is a sure preventive as well as remedy, and may safely be given in small quantities to young chickens for the same purpose. It will be seen from my mode of keeping my hens, which averaged about 25, and 3 roosters, through the winter, that I cannot give the precise cost of keeping, but I am satisfied that potatoes may be given as the general food, and fowls kept cheaper in this mode than in any other—and they will always be ready for the spit, if not stinted in quantity. I find my fowls fat at all seasons. I estimate that my hens afford me from their eggs, without regard to their meat, a clear profit of 50 per cent. I confine them to their yard, hen-house, and barn-cellar during gardening, and to their house and cellar in the winter, and think with that degree of confinement they lay better than they do when allowed to wander at large. Hen-houses and roosts should be kept neat, and often white-washed, and their nests should always have half an inch or more of ashes or lime on the bottom, under the hay. Broken or rotten eggs should never be allowed to remain in the nests. Dirty water should not be given them. To do well, they require pure water, and all their food fresh and uninjured from taint or fermentation. I estimate that during the year, (deducting the time of their moulting, and inclination to set,) I have got daily, one half as many eggs as I have had laying hens. Every family can, with a very little trouble, with their flock of a dozen hens, have fresh eggs in plenty, during the whole year, say in all 2000, and 100 full grown chickens; and of all the animals domesticated for the use of man, (if such be the fact,) the hen is capable of yielding the greatest possible profit to the owner. It is a pleasant recreation to feed and tend a bevy of laying hens. I published in the *Maine Farmer* some time in February last, the weight of some of my fowls at that time, as follows:—

Booby Rooster, about 6 months old,	5 lbs. 8 oz.
Dorking Rooster,	7 " 4 12
Wingate Pullet,	8 " 5 4
" "	8 " 5 3
Dorking "	12 " 4 6
Half Blood,	12 " 4 8
Polish Hen,	12 or more, 3 5
Common Fowl,	12 " 3 14

Care should be taken to change roosters often, as otherwise the best variety in the world will run out, and cease to be profitable from breeding in, and I feel great confidence that much improvement may be made by due attention to crossing, and in this way some of the evils from breeding in, be averted. I have stated that I give my fowls meat or grease; this is indispensable, if they are not allowed to go at large. If corn is fed out, it should be soaked, and 15 bushels is a fair yearly allowance for 12 hens and a rooster. But they should always have food by them, and after they have become habituated to find enough at all times in the trough, they take but a few kernels at a time; except just before retiring to roost, when they will take nearly a spoonful into their crops—but if they are scantily or irregularly fed, they will greedily snatch up a whole crop full at a time, and stop laying, and not unfrequently engender some fatal disease.

The following letter we copy from the *Albany Advertiser*. It is written by an American gentleman, now in Scotland, and contains interesting information:

Mr. L. TUCKER—You have probably received papers containing accounts of the great annual show of the Highland Society, held this year in Glasgow; I will therefore not attempt any description of the exhibition itself, but will merely say that the show of animals and implements, was on a magnificent and immense scale, and the number was perfectly bewildering. A week at least would have been necessary in order deliberately to view every thing. There were, however, some meetings incidental to the occasion, which were specially interesting to me, and of which I will endeavor to give a brief report.

First, I would notice an Education meeting. Arrangements had been made by which five boys, from the Lanne Agricultural School near Belfast, in Ireland, were present, with their teacher, Dr. Fitzpatrick, from Lanne, Mr. Skilling, from Dublin, Sir Robert Bateson, from Templemoyle, and other gentlemen interested in the cause of Agricultural instruction, were also present.

The boys were from 14 to 16 years old, and had been in the Agricultural class two years. Prof. Johnston stated that by this meeting it was hoped that light might be thrown upon two points. 1. Is it possible to give boys instruction in agriculture, practical and scientific, that will be of use to them in after life. 2. Can this be done without interfering with other studies. These questions were both most distinctly answered in the affirmative by numerous gentlemen present, connected with agricultural schools in Ireland and England. The boys before mentioned were finally placed upon the platform, and with a view to answering the second inquiry were questioned in geography, grammar and arithmetic, by Mr. Gibson, inspector of schools. The examination was a somewhat severe one, especially upon grammar and geography; yet notwithstanding the embarrassments and novelty of their situation they appeared admirably. I think that some one of them answered every question. They were then examined upon various points in chemistry connected with agriculture, by Prof. Johnston, and lastly, upon practical farming, by various other gentlemen. Their answers showed not only that they had learned by memory, but that they had also reflected. Frequent and irrepressible bursts of applause interrupted the examination, and the most sceptical were convinced. These boys devote one hour each day to scientific and practical agriculture, and once in the week they are questioned upon the studies of the preceding five days. An enthusiasm was aroused by this exhibition which will hardly expend itself in mere words. A resolution was passed "that it was the opinion of the meeting that agricultural instruction should be introduced into the schools of Scotland." A large committee of influential and distinguished gentlemen was appointed to deliberately consider the subject. I may here mention that Mr. Skilling, superintendent and teacher in the Norman Farm School near Dublin, gave most ample testimony in favor of Prof. Johnston's works. They are introduced into all the Irish schools, and their importance impressed upon every teacher. The Catechism was written expressly for schools, and has been found of signal benefit.

A most excellent feature of this Show was the introduction of public breakfasts, at which certain questions of interest to the farmer were discussed. The subjects were fixed and made public before the meeting, so that gentlemen came prepared with facts and arguments. I was exceedingly interested at the last one. The subject was "the disease of potatoes." The discussion was most animated, and lasted more than two hours after the

active business of the meal was over. A large number of gentlemen spoke, and almost every one brought out new facts and new views. All agreed that the evil was wide spread and increasing. Each person supposed to know any thing of the subject, was in turn called upon to give particular statements both as to his own experience and that of his districts, his views of the cause and the remedy. Mr. Alexander of Southbar, a very distinguished farmer, attributed much of the disease to improper stowage of the potatoes during the winter; to placing them in large masses so that they heated and lost much of their vitality. He had never known a failure except from improper treatment. Mr. Fleming of Barochan, an equally eminent authority, said that the less ripe the potatoe when dug, the less likely to fail. After raising several thousand varieties from seed, he has never produced a healthy kind. For several years he has dressed his potatoes with certain saline substances, such as sulphate of magnesia, nitrate of soda, &c. &c.; all those so treated, have succeeded admirably. Mr. Anderson, a manager of large estates in Ireland, laid much stress upon the thorough draining, subsoiling and pulverization of the soil. He digs his potatoes before they are ripe, selects the most perfect tubers and buries them in shallow, narrow pits, from two feet to thirty inches wide, heaping the earth as high as possible. There they remain until the planting season arrives; the drills are then opened, the manure placed the potatoes taken out, planted and covered within half an hour; by following this course, he has no disease. Several speakers mentioned the fact that potatoes which had lain exposed to the sun until they became green, make the best seed.

This sketch will give an idea of the way in which these breakfasts are conducted. They ought to be accompaniments of every agricultural meeting. In the present instance, practical men from all parts of the country came prepared to give their views upon certain subjects, and the result was such an amount of information and of facts as could have been in no other way so easily collected. Each farmer went home with a large stock of suggestions, and increase of knowledge, whereby to conduct new and more intelligent experiments. After a few such conversations, they will undoubtedly be able to devise certain means for the arrest of this formidable disease. As with this subject, so with every other, much light would be accumulated, were practical men freely to exchange their facts and theories. If those interested in agriculture could be induced to enlist with spirit in one such conversation, they would be most amply repaid; and judging from my own experience, look forward with pleasure to future opportunities of a like nature. I am, very truly yours,

JOHN P. NORTON.

SYDNEY.—We have advices to-day from Sydney, of the 18th May inclusive, from which we take the following low list of prices:—Fat cattle selling at 34s. per head, when "in very superior condition;" best fat sheep, 5s. per head; milch cows, 55s. per head; beef 3d. to 1d. per lb.; mutton, 1d. to 1½d. per lb.; 1s. to 1s. 3d. for a pair of fowls; coals, 18s. to 22s. per ton of 28 bushels. The governor, Sir George Gipps, had been obliged to make concessions respecting the tax on depasturing licenses, and had published explanations by which it appears that one license will cover a station capable of depasturing 4,000 sheep and 500 head of cattle, and 1l. only extra will be charged for every extra thousand head of sheep; and if the owner should double his flocks from 4,000 to 8,000, he will have to pay in all 14l. instead of 20l. His Excellency also recommends to the home government that a fixity of tenure should

be given to the occupants of public lands. These modifications are approved of by the *Sydney Morning Herald*, but the high price of the lands (1*l.* per acre), and the sales by auction are strongly denounced.

AN EXAMPLE WORTHY OF IMITATION.—At the meeting of the Arundel and Bramber Agricultural Association, his grace the Duke of Norfolk, E. M., spoke as follows:—"Gentlemen,—No one can feel more keenly than myself the prevalence of distress amongst the poor labourers of the farm in the dreary season of winter, and the scarcity of employment; I therefore propose to give a premium this time next year of 50*l.* to that farmer who shall have proved to the satisfaction of a committee, to be appointed, that he has employed the greatest number of labourers according to size of his farm, during the forthcoming winter. I offer this simply as an experiment for one year, and I trust that it may be found to answer the purpose intended; and if it do, I beg to call upon all friends to join me in the speculation. If it should answer, I shall most readily continue the premium."

THE HIMALAYAN CEDAR.—Its botanical range extends from seven thousand to twelve thousand feet above the level of the sea; and in its most congenial locality attains a great height, and a circumference of above thirty feet. When young it closely resembles the real cedar, but never sends forth spreading branches. So durable is its timber that some used in the building of one of the wooden bridges over the Jailum, was found little decayed after exposure to the weather for above four hundred year's—*Thornton's Gazetteer of India.*

CHEAP BEER FROM POTATOES.—The *Plesser Kreistblatt*, a Silesian journal, gives circumstantial information how to prepare a wholesome and palatable potato beer, by which every family can supply itself herewith at very trifling expense. Twenty-five gallons of such beer are made from half a bushel of potatoes, 10 pounds of malt, half a pound of hops, and two quarts of yeast. The cost of two tuns of such beer does not exceed two shillings and twopence, consequently the cost of a quart does not amount to a farthing.

NATURAL PREPARATIONS.—In a word, there is no limit to the number and variety of these remains of animal and vegetable existence. At one time we see before us, extracted from a solid mass of rock, a model of the softest, most delicate, and least easily preserved part of animal structure; at another time the actual bones, teeth, and scales, scarcely altered from their condition in the living animal. The very skin, the eye, the foot-prints of the creature in the mud, and the food that it was digesting at the time of its death, together with those portions that had been separated by the digestive organs as containing no further nutriment, are all as clearly exhibited as if death had within a few hours performed its commission, and all had been instantly prepared for our investigation. We find the remains of fish, so perfect; that not one bone, not one scale, is out of place or wanting; and others in the same bed, presenting only the outline of a skeleton; or various disjointed fragments. We have insects, the delicate nervures of whose wings are permanently impressed upon the stone in which they are imbedded, and we see occasionally shells, not merely retaining their shape, but perpetuating their very colours—the most fleeting, one would think, of all characteristics; and offering evidence of the brilliancy and beauty of creation at a time when man was not yet an inhabitant of the earth, and there seemed no one to appreciate

beauties which we are perhaps too apt to think were called into existence only for our admiration.—*Ansted's Geology.*

IMPORTANCE OF TEETH.—The form of the teeth, and the corresponding articulation of the jaw, must in a great measure determine the nature of the food which the animal eats; as, for instance, sharp teeth which meet and lock into each other like scissors, with a vertical motion, are only adapted to cat and tear flesh. Animals unprovided with such organs, on the other hand, and whose teeth are flat topped, and their jaws provided with a lateral motion, could not exist at all if their extremities were not organised so as to obtain a sufficient supply of vegetable food, and their stomachs to digest it. There are several modifications in the structure of the teeth and the motion of the jaw upon which important distinctions are founded; and it has been discovered that even differences so minute that they can only be observed by the aid of an excellent microscope, correspond in a most remarkable way to other differences, either in structure or in the habits of the animal; and may be depended on as indicating such differences, even in the absence of every other part of the skeleton.—*Ibid.*

A CUNNING TEST.—I have been told by a practical man, who had been employed in selecting stone for an important public building about to be erected, that in looking out for good stone, he was accustomed to go to the churchyard in the neighbourhood of the quarries he wished to judge of, and examine on all sides the oldest tombstone that were there. He found that he could determine by that means the relative value and durability of most of the stones in the neighbourhood, because they were there exposed under almost all conceivable circumstances. A luminated stone, however, that might be extremely decomposable as a tombstone, would not be necessarily had in the wall of a building, where its edges only are exposed.—*Ibid.*

CURING HAMS.—In Spain and Portugal, where the hams are remarkably fine, sugar is very commonly used in the proportion of about one pound to two or three of salt, and two ounces of saltpetre; this is most frequently rubbed in dry, the hams being at the same time exposed to the air; but if pickle be used, the brine is made with the common wine of the country, instead of water. In Westphalia, where the hams also bear a high character, the process is much the same; though juniper berries are commonly added, and the use of sugar is sometimes omitted. The pickle is also made of strong beer instead of wine. The peculiar flavour of hams is generally thought to arise from the mode of drying, which is always done by smoking them in the large chimneys of the farm-house, where oak wood is the only fuel used; whilst, in this country, fir, or any sort of timber, and even charcoal, is not uncommonly employed. In the curing of hams of Bayonne and Strasburg, which are so deservedly celebrated, not only is sugar largely used, but garlic, allspice, cloves, and other spices, are also used, in different quantities, to add to their flavour; nor would English curers do amiss in following their example. Sugar much assists, both in preserving the meat and rendering it mellow, as it corrects the pungency which is often occasioned by the too free use of salt; and a slight taste of spice could do no harm. There is, indeed, in this country, so strong a prejudice against garlic, that it might not be easily overcome; but there are few condiments which, if delicately employed, will imperceptibly impart such high flavour.—*Farming for Ladies.*

FETTERCAIRN—TRIAL OF MANURES.—The following result of experiments with sulphate of ammonia, guano, and bone dust, made by a gentleman in the Marais, may not be uninteresting to our agricultural reader:

The first was upon a field of oats after lea, the soil poor and light with a retentive subsoil. About five weeks after the seed was put in, one-twelfth of an acre, in the middle of the field, was sown on the surface with sulphate of ammonia, at the rate of one cwt. to an acre, and at the cost of twenty shillings. Another twelfth of an acre was sown with guano at the rate of two cwt. per acre, and at the cost of twenty six shillings. A twelfth of an acre was selected, of a fair average, which got nothing; and the produce of each was as under:—

	Bush.	Qrs.	Bush.	Pks.	Lip.
1-12th of an acre, with } ammonia produced	4,906	— 7	2	3	2
Do. do. with guano, --	3,312	— 4	7	3	0
Do. do. nothing, ----	3,171	— 4	6	0	1

—thus showing an increase with ammonia, at the cost of twenty shillings per acre, of 2 quarters, 4 bushels, 3 pecks, and 1 lippy. It ought also to be mentioned, that the fodder upon what got nothing was very poor; after guano, fair, and after ammonia, very strong.

The next experiment was with bone dust and guano, for raising turnips—the soil light, with a gravelly subsoil. Twenty five bushels of bone dust, at the cost of 62s. 6d. an acre, produced 28 tons 6 cwt. 3 qrs. 4 lbs.; and three cwt. of guano, at 39s., produced 33 tons 3 qrs. and 4 lbs.

A piece of newly-trenched ground was planted with potatoes, and part was manured with twenty-five cart loads of stable yard dung per acre, and part with four cwt. of guano; the dung produced 10 tons 14 cwt. 1 qr. 4 lbs.; and the guano, 14 tons 13 cwt. 2 qrs. 8 lbs.

STATEMENT OF MR. MARTIN, ON FOWLS.

To the Kennebec County Agricultural Society.

GENTLEMEN,—The following is my method of keeping poultry, for which I want your premium, if you consider me entitled to it.

My family of hens consists of twenty in number, exclusive of old king chanticleer, who rules the roost, cracks the day and calls to operations. They are of the genuine old Kennebec breed, which line by eating, and lay for amusement; they generally pay all my bills by using their own. I have a room for them in one corner of my barn, warm and comfortable, well furnished with roosts, nests, &c., where all their operations are carried on, although I give them liberty to go into other parts of the barn, and occasionally the liberty of the yard, which is equal in size to that of any honest man or rogue, who has taken the benefit of the poor debtor's oath. Their bill of fare consists of a constant supply of corn in cold weather, and another dish, which they much prefer, is made of boiled potatoes mashed up fine, and scalded meal or bran, in the proportion of three parts of the former to one of the latter. In the summer the corn food is shortened, and more of the hen-pudding (as we call it) is supplied. In order that the shell department of this business may be carried on to advantage, I supply them with lime and pounded bricks. I kept an account current with them, between the first of January last and the thirty first day of July, inclusive, in which time I received two hundred and fifteen dozen eggs: these I have sold for eleven cents per dozen, making \$22 65

Estimated cost of corn and potatoes, 5 00
Balance in favor of the hen family, \$18 65

From this sum, take the interest of the capital invested, cost of lime, brick dust, and attendance, and you have the profits of the brood.

JESSE MARTIN.

MONTREAL MARKET PRICES.

CORRECTED BY THE CLERK OF THE MARKET.

New Market, November 1.

Wheat,.....per minot, ...	4/9 @ 5/3
Oats,..... do ...	1/3 @ 1/4
Barley,..... do ...	2/0 @ 2/6
Peas,..... do ...	2/0 @ 2/9
Buckwheat, do ...	1/8 @ 2/0
Rye,..... do ...	2/6 @ 2/10
Flaxseed, ... do ...	4/0 @ 5/0
Potatoes, New, do ...	1/3 @ 1/6
Beans, American, per bushel,....	4/0 @ 4/6
Do. Canada,.... do ...	6/0 @ 6/8
Honey, per lb.,... ..	0/5 @ 0/6
Beef, .. do ..	0 1/3 @ 0 1/5
Mutton, per qr. ...	1/0 @ 4/0
Lamb, ... do ...	1/0 @ 4/0
Veal,.... do ...	2/0 @ 1/0
Pork,.....per lb.,....	0/2 @ 0/4 1/2
Butter, Fresh, do ...	0/9 @ 1/0
Do. Salt, do ...	0/6 @ 0/6 1/2
Cheese,..... do ...	0/3 @ 0/4
Lard,..... do ...	0/5 @ 0/6
Maple Sugar, do ...	0 1/4 @ 0 1/5 1/2
Eggs, per dozen, fresh, ...	0/9 @ 0/10
Turkeys, (old), per couple, ...	4/0 @ 6/0
Do. (young) do ...	4/0 @ 6/0
Geese,..... do ...	3/0 @ 5/6
Ducks,..... do ...	1/8 @ 2/6
Fowls,..... do ...	1/0 @ 1/8
Chickens,..... do ...	1/0 @ 1/8
Partridges,..... do ...	2/0 @ 2/6
Hares,..... do ...	0/4 @ 0/7 1/2
Apples, American, per barrel,...	7/6 @ 12/6
Do. Canada,.... do ...	10/0 @ 15/0
Flour, per quintal, ..	10/6 @ 12/0
Beef, per 100 lbs.,...	20/0 @ 22/6
Pork, Fresh, do ...	22/6 @ 25/0
Hay, per 100 bundles,...	20/0 @ 27/6
Straw, per 1200 lbs.,...	12/6 @ 17/6
Woodcock, per brace,...	0/0 @ 0/0
Peaches, half barrels,...	00/0 @ 00/0

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