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AGRICULTURAL JOURNAL,

AND

TRANSACTIONS

OF THE

Lower Canada Agricultural Society.

VOL. 3.

MONTREAL, JANUARY, 1850.

NO. 2.

The Quarterly Meeting of the Directors of the Lower Canada Agricultural Society took place at their Rooms, in this city, on Saturday, the 15th December last, pursuant to notice, published in both the English and French Agricultural Journals, and letters addressed to the members of the Society. Members present:—John Yule, Esq., President of the Society; Honorable R. S. De Beaujeu, Major Campbell, the Rev. Mr. Desaulniers, (St. Hyacinthe College,) P. E. Leclere, Alfred Pinsonnault, Alfred Turgeon, Alex. Morris, Hector L. Langevin, Esquires, Dr. Polin, M. D., and the Secretary, Wm. Evans.

The President having taken the chair, the Secretary submitted a number of letters received since the last meeting—all recommending the Journal to be continued. Several other letters were also received from Directors who were unable to attend, to the same effect. A complete statement of the subscriptions due to the Society for the Journal was laid before the Directors, showing a very large amount due. The Secretary stated that he sent statements of the subscriptions due to the several agents appointed in the different parishes, requesting them to endeavor to collect them. Several Resolutions were proposed and adopted. One of them, that the Agricultural Journal should continue to be published by the Society for the year 1850. In consequence of the absence from the Province of the Hon. Adam Ferrie, and the non-attendance of the Hon. J. Molson, two members of the Finance Committee, it was proposed

that the Hon. A. N. Morin, and Major Campbell, be elected instead of the two first named gentlemen, as members of the Finance Committee, which was carried unanimously. Two more Committees were appointed for other purposes. The meeting resolved that the most prompt measures should be adopted to collect the subscriptions remaining due, and that the several agents appointed for the Agricultural Journal should be urged to collect what is due in their several parishes, and requested to make correct returns of the actual subscribers to the Journal, as soon as possible, to the Secretary. The meeting then separated.

By order,

WM. EVANS,

Secretary L. C. A. S.

The Agricultural Journal has been continued by the Lower Canada Agricultural Society, in consequence of the numerous recommendations to do so, and the promises of support received from all sections of Eastern Canada: and we hope the Society will not be disappointed in receiving this support, as they publish the Journal with no other view than to promote agricultural improvement, and the general prosperity of the country. It will not be very creditable to this section of the Province, if the expenses of the publication are not fully re-imbursed to the Society. We suppose there are not less than 100,000 farmers, and other parties directly interested in land, in Lower Canada, and if so, it would not require more than one penny from each to

pay every expense of publishing between three and four thousand of the Journal annually for distribution. This amount could scarcely be felt as a sacrifice by the poorest farmer in Canada. If only 2000 farmers were to subscribe (out of the vast number) one dollar annually it would support the Journal, and enable the Society to distribute gratuitously, 1000 copies to country schools and in any other way that might be thought expedient. If this appeal to the agricultural population and their friends is not responded to, there is little hope of being able to effect much good by the Journal, however well it may be got up. The farmer who would not contribute five shillings annually to such an object, whether he might benefit by it or not, cannot feel much interest in the general improvement of Canadian agriculture; indeed we very much doubt whether he would desire to improve his own system of husbandry, but would rather practice a defective system, than introduce an improvement at any other's suggestion than his own. To any other class than the agricultural, it would appear an absurdity, if they were to forego the advantage of subscribing to a Journal that would contain much useful information referring to their business or profession at the small sum of five shillings annually. We know perfectly well, that much of what is termed "Book Farming" is worthless, and only calculated to lead inexperienced farmers into error—but we are equally certain that much good may be derived from the perusal of agricultural works, and that the best instructed farmers are the most likely to perceive these advantages and profit by them—chiefly because they are able to appreciate at once, any suggestions or information, which they know by their experience to be reasonable, and entitled to a fair trial. If only one farmer in a parish will have the good sense to do this, it will lead others to inquiry and experiment, and thus improvement would probably extend where most required. We have great hopes from the

interest manifested by the clergy for the publication of this Journal, that through their support and recommendation to their parishioners, a large amount of good will be effected. So long as we are connected with the Journal, we trust not one sentence will be inserted in its columns, that would prevent the support of this most respectable class of the community. We shall be equally careful to avoid all party or political questions. Our aim shall be to recommend Agriculture in the strongest terms we can employ, as the chief basis of all the wealth and prosperity this country can attain to, and therefore that it should be improved to the uttermost it is capable of, by every possible means. To effect this improvement we shall submit our own humble suggestions, and collect all the useful information in our power from every source at our disposal. If we are not able by this means, and the assistance of our Correspondents, to make a Journal of nearly 400 pages, worth five shillings annually to any man engaged or interested in Agriculture, we shall be very little satisfied with our fitness to act in the capacity of Editor to it. We now appeal to all who approve to give the most satisfactory proof of their approbation by subscribing to the Journal for this year. This will be the unmistakable standard by which to ascertain the estimation in which the Journal is held by all who take it or read it. We certainly cannot flatter ourselves that it will be estimated very highly, if much more than a sufficient number of paying subscribers will not be found to support it, and not allow the Society to suffer one shilling loss in its publication. It is very disagreeable to us to occupy so much space on this subject, but what is the advantage of publishing this periodical, at a considerable expense, if those proposed to be benefited by it, will not think it worth paying the small amount of five shillings annually for it. We expect not to have occasion again to write one sentence on this subject, but on the contrary, to have the satisfaction of thankfully acknowledging the favour

and ample support it has received, which will be to us a much more pleasing duty.

We perceive by our exchange papers, that it is expected Professor Johnson, (who we believe is now in New Brunswick,) will deliver Lectures on Agriculture at Albany, in the present month of January. We admire the persevering energy of the farmers of the United States, in making arrangements to procure the advantage of hearing the able lectures of this talented gentleman, on subjects connected with agriculture. We do not say we envy our brother farmers of the States for this privilege, but it is to be regretted there are not the same advantages for Canadian farmers. In all countries where the improvement of agriculture is desired, every exertion is made to forward this improvement. A few thousand pounds should not be withheld for a moment, if it could be advantageously employed to promote the improvement of Canadian Agriculture. It would soon be repaid to the country a thousand fold. Only let it be satisfactorily proved, that such outlay would be likely to effect this object, and they are no friends to Canada who would not recommend such expenditure.

In Scotland, they occasionally adopt the plan of covering the backs of the sheep with a cloth at the commencement of winter, which we have no doubt answers a good purpose, and we believe the same plan might be introduced here to great advantage. It would keep off the snow from settling down in the wool of the sheep, and freezing there, very much to their injury. We give a description of the size of the cloth made use of, and the mode of attaching it to the sheep, copied from the *Irish Farmers' Gazette*.

We have no doubt that the use of a cloth put on the backs of sheep here, particularly breeding ewes, would preserve them from much cold and suffering. The trouble and expense

may be objected to, but we think both would be compensated amply to the farmer who would take this trouble to provide for the comfort of his sheep. In the Old Country they very commonly make use of a sort of ointment, applied liberally to the back and sides of the sheep. It is found to increase the growth of wool—throw off the wet, and be every way beneficial. Care must be taken, however, not to put any substance in the ointment that would discolour the wool, or be injurious to the health of the sheep.

We have received two communications from a Correspondent, over the signature T., for which we beg to return thanks. Such communications on various subjects connected with agriculture, would greatly increase the usefulness of this Journal, and we should be very much gratified to give other opinions on these subjects as well as our own. The letter on draining contains valuable information respecting the use of small poles and other wood in under draining. We have frequently recommended the use of these materials, where stone or tiles cannot be had, or costs too much. We are glad to be able to submit our correspondents letter, to prove that wood may be employed in under draining with the best prospect of success, and the expense cannot be very great. There is no doubt that the plan of draining adopted by our correspondent must succeed, wherever it is tried, and the work executed properly. His communication respecting Agricultural Societies, deserves attention. When acting as the Secretary of the Montreal District Agricultural Society, it was a rule that no Member of the Committee of Directors should receive any pecuniary reward as premiums, except the Silver Medal of the Society, and this rule was adopted, and there was a considerable number of medals imported from England. We conceive that this rule should be general with all Societies who obtain aid by public grants from the Legislature. No farmer should

become a director for the distribution of public money, unless he is satisfied to forego any participation in the distribution to himself.

CORRESPONDENCE.

To the Secretary of the Lower Canadian Agricultural Society.

SIR,—I cannot but join my feeble voice in the general expression of approval, of the useful Society to which you act as Secretary, as well as to your own personal zeal and industry, and to regret that your labours should have proved so unproductive as to make it a question whether the Journal should be continued or suppressed. I am not aware of the amount of loss incurred by its continuance, but hope that, having proposed the plan of an agency in every parish, every friend to agricultural improvement will, without delay, take advantage of the opportunity, and select some person who will willingly and freely assist in carrying out your truly patriotic exertions. I herewith send you the name and address of one, who, I believe, will, zealously do his best in the parish in which we reside; and should other locations do the same, perhaps their united endeavours may serve the Journal until better times shall arrive, when it will not only take care of itself, but make such returns to its generous projectors as will enable them to make it more generally popular, by adopting the measures you have already proposed, of enriching it with maps, and plans, and delineations, which, however expensive, are by far the most effectual way of communicating the knowledge of machinery, of implements, and much other work to be done about a farm. I am aware that you are far better acquainted with the subjects most popular and useful for delineation than I can possibly be; nevertheless, I do beg leave to observe, that besides farm implements and machinery, that the first principles of carpentry would be greatly beneficial, if diffused through the rural population, by cuts, shewing proportions and strength of material, added to the method of framing and putting together with economy and solidity. The poorer farm cottages in the country parts are sadly deficient in this respect;

the ponderous construction of a sightless habitation, as now put up, inconvenient and untidy, costs more labour and expense than a comfortable, well proportioned, neat, and happy looking dwelling; and, if not too expensive, the drafts of some model cottages and out-buildings might occupy a part of the Journal, which would not only improve our tastes, but might excite our emulation.

That the Society have reason to be dissatisfied with the apathy of the Agricultural Societies, in relation to your Journal, I have no reason to doubt; but it must be remembered that the persons, under whose ostensible direction they are placed, are, themselves, really subject to popular sway—that every two years their administration totally ceases—and that, therefore, the measures they are constrained to adopt are more frequently those of the popular voice, than those of their own reflective judgment—that even the measures for providing for the establishment of Model Farms, however desirable, are beyond their control; any immediate retention of the moneys actually received would be looked upon with suspicion, and the committee that would attempt to carry out such distant prospects of usefulness, to be derived from the withholding of the expected premiums, would soon be removed, in order to make way for others of a more distributive complexion. This, however, might be easily remedied by a Legislative enactment, but not easily accomplished by the Societies themselves.

I acknowledge myself indebted to your correspondent of the County of Quebec, whose communication is contained in your last monthly number, shewing forth seeming abuses, inseparable from the system, which strangely enough he does not appear to condemn in the individual, but in the aggregate. As the law now stands, all the Managers, Presidents, Treasurers, Secretaries, and Committee-men, are allowed to enter into competition for the premiums in perfect equality with the public, whereas they do possess advantages which the public do not, which might be used unfairly to their own particular gain, but which, whether or not so used, expose them to suspicion, and create discontent. Now, this might easily be obviated, by simply enacting, that the mem

bers of the Committee of Management, for the time being, should be allowed no other than honorary premiums or rewards, either directly or indirectly. Such a clause would, I think, greatly benefit the Agricultural Societies, by keeping out the suspected interested individuals, which your correspondent threatens "to steer his course, to render conspicuously notorious;" and indeed the Agricultural Societies would be very thankful to him if he would, as soon as convenient, carry his threat into execution. I am of opinion that they would shew a great amount of usefulness performed—that their failing to realize the full measure of anticipated success has not been the consequence of their want of energy or of honesty; neither is it to be attributed wholly to the defects in the statute, but in reality arises out of the novelty of the case, the unprepared situation of the country, and agriculturists generally—that their success depends mainly on the education of the rural population—that, at the same time, that they are greatly influential in promoting a general desire for instruction, they feel a well grounded confidence that their usefulness will increase in a duplicate ratio, in proportion with the advances made in education. Sir, your own well-founded complaints are a convincing proof of the difficulties that surround Agricultural Societies. It is true, as you very properly observe, that it is unaccountable that the people should be so alive, and so energetic, on subjects which only remotely concern them, and, at the same time, so perfectly calm and indifferent about those by which they live and provide for their families, for, when a political meeting is called, crowds assemble, and the numbers overflow—every man comes with his opinion formed and reflected on—his reasons ready. But when agricultural improvement is the question, it is a difficult matter even to form a quorum, and nobody appears to have given a thought about the business for which they are assembled. Measures are therefore hurriedly adopted, without sufficient previous examination; and those very individuals, whose duty it was to weigh and suggest better ones, are the very first to complain and expose the unsuccessful issue. But, Sir, a very short time will change all this—our necessities will compel us to change it—and

Agricultural Societies and Agriculture must flourish.

I am, Sir,
Your obedient humble servant,

T.

14th December, 1849.

To the Secretary of the Lower Canada Agricultural Society.

SIR,—As a practical farmer, I cannot too strongly recommend your views of draining the land, previous to wasting our substance in endeavouring to ameliorate the soil.

You have already treated the subject too well to render it necessary for me to enter more particularly upon the matter, but, in one instance, I beg leave to lay before you the result of my own experience, which I do not remember to have seen noticed, although eminently useful in this country where wood abounds. I have several acres, made twenty-five years ago, which remain still with undiminished utility. I constructed it thus—first, I dug my ditch four feet deep and two feet wide at bottom: I then laid two cedar poles, parallel, at the bottom of the ditch, leaving an interstice of about four inches between them: I continued to lay similar poles, end to end, the whole length: I then cross-cut a clean (that is without knots) and sound hemlock tree, of about eighteen inches diameter, into lengths of eighteen inches, which I split, with the greatest facility, into thicknesses of about three-quarters of an inch, and these I laid on my cedar poles at the bottom of my ditch, taking care to lap them over about an inch as I proceeded: I then threw in green branches and sticks, and then the matted turf, and filled up and levelled.

This method is so simple and plain—so economical, the material lying on almost every farm, no tiles, no leaking, no outlay wanting, except the labour, and withal, so effectual—that I am, perhaps, only telling what everybody knows, but few practice.

I am, Sir,
Your obedient humble servant,

T.

POINTE A CAVAGNOI, VAUDREUIL,
17th December, 1849.

SIR,—It will give me the greatest pleasure to forward your views, by every means in my power, in this parish, in relation to the Agricultural Journal, or to be in any other way instrumental in promoting the interests of Agriculture generally, under the guidance and instruction of your Society.

I feel it, however, incumbent on me to say that the almost entire absence of lettered instruction in this neighbourhood holds out but a poor prospect of increasing your subscription list for some years to come, besides, that agriculture forms no part of the elementary system at present generally practiced in country schools; nevertheless, your suggestion, in reference to this subject, if carried out, might produce unforeseen results, and with that hope, I beg leave to be

Your most obedient servant, &c.,
R. J. ROBINS,
Secretary V. A. S.

To the Secretary of the
Lower Canada Agricultural Society,
Montreal.

REVIEW.

EXPERIMENTAL AGRICULTURE; being the result of Past and Suggestions for Future Experiments, in Scientific and Practical Agriculture. By JAMES F. W. JOHNSTON, F.R.S.S.L. and E., &c. [Blackwood & Sons, Edinburgh. Octavo (pp. 265).

Chemistry has long been offering her services to agriculture. It is about half a century since Fourcroy, a French chemist, wrote a large work on vegetation, which afterwards appeared in an English dress. Chemical science was then, compared with what it is now, only in its infancy; but its progress has been rapid towards maturity. Sir Humphrey Davy's "Agricultural Chemistry," and "Sinclair" on Grasses, two popular works, pointed out to the agriculturists of Great Britain the vast importance which a knowledge of chemistry would confer on the science of agriculture. So deep an impression had this made on the minds of many of our leading North British farmers, that it resulted in a chemical association in connection with agriculture being formed in Edinburgh, of which a great number of spirited farmers throughout Scotland became members. This association was fortunate in securing, for five years, the

services of the eminent author of the valuable work now before us, containing as it does, the results of his past experience, and the requisite means for the right conducting of experiments in agriculture. With the history and success of the association our readers are, we doubt not, already acquainted; and we now proceed to introduce to their acquaintanceship a work which contains a vast store of useful information, and subjects for thought, in a condensed form. The first part treats very minutely "of the knowledge required by a suggestor and maker of experiments; and of the way in which experiments ought to be made and criticised." We might be in danger of startling our readers were we even to give an abridgment out the multifarious requisites necessary for guiding the agricultural experimenter. They consist chiefly of a knowledge of the substances of which plants consist; of their functions and forms of chemical combination; composition of soils; nature of manures; of the varieties of feeding animals, and the structure of their digestive organs, but, for our encouragement, the author informs us that, "in the maker of the experiments all this knowledge is not required, although he cannot possess too much of it." He gives a brief summary of the substances of which the plant consists—"Carbon, Hydrogen, Oxygen, and Nitrogen." Of these four substances the nitrogen appears to be drawn by plants almost exclusively from the soil. The hydrogen and oxygen are drawn partly from the soil, and partly from the air, chiefly in the form of water, consists of these two elementary substances. "The mineral part of the plant, which forms from half a per cent. to 15 or even 20 per cent. of the whole weight of the dried plant, consists of from eight to twelve different substances. These are potash soda, lime, magnesia, oxide of iron, oxide of manganese, alumina, chlorine, sulphuric acid, phosphoric acid, silica, and probably fluorine."—(p. 8.) Referring our readers to the work itself for information regarding the "functions performed in plants by their organic, or mineral constituents," we shall merely give a short extract on silica, which we are told "exists in the sap in a soluble form, and deposits itself chiefly in the exterior portions of the stems and leaves of plants. It is supposed there to serve as a defence to the plant against external injury, and to give strength to the stem in the case of the grasses and corn-yielding plants; but, "our author adds, with that modesty which always characterises true genius, "what chemical functions it performs, if any, in directly promoting vegetable growth, we can scarcely as yet venture even to guess."—(p. 11.) We know of some plants the *Equisetum Hyemale*, for instance, which are used for polishing wood and metal, from the abundance of silica they contain. The one named is brought hither from Holland for

that purpose, under the name of Dutch rushes. Where silica is wanting, such as in mossy soils, cereal crops are apt to lodge, but the stem is strengthened by a mixture of silicious sand in the mossy soil.

We recently called the attention of our readers to the importance of a knowledge of meteorology as connected with agriculture; in this we observe we are supported by the talented author of the work under notice, who very justly observes, that "the variations of heat and cold, and of dryness and moisture, affect especially the gross produce of grass, oats, potatoes, and some other green crops, and the relative proportions of grain and straw in our corn crops."—(p. 70.)

The first part of the work concludes with an encouraging account of results obtained by Mr. Fleming of Barrochan, "as showing how much crops may be increased at a cheap rate by the careful experimenter." We intend returning to the consideration of the second part of this work, which gives accounts of "experiments with saline substances applied alone, and with lime, clay, and other mineral substances," containing much interesting information. In the meantime, we recommend the perusal of the work itself to our intelligent agricultural readers.—*North British Agriculturist*.

PLACING PIPE TILES IN DRAINS.

(To the Editor of the *North British Agriculturist*.)

SIR,—In your very useful publication of the 10th October, you have given extracts from the evidence of Robert Neilson, Esq., before the Court of the House of Lords on the subject of "land draining."

I observe that Mr. Neilson very properly objects to draining with small pipes, for the reason, that as they are laid in collars, or very carefully placed in the clay, a small pipe is very apt to get out of place, and thereby effectually stop the drain.

I have myself experienced this difficulty; and having also had to contend with dishonest workmen who wilfully displaced the pipes at the moment of packing, I was led to contrive a method of rendering this displacement impossible. I have ever since continued to use, in the South of England, the following simple but effectual plan:—

Take a straight, round rod, of dry ash, seven feet in length, reduce it in diameter until the pipes you are using will thread on to it, except the last nine inches, which must be left stouter. It will be found necessary to reduce the rod to a less diameter than the bore of the pipe, as many pipes are not quite straight.

Next take a bent scythe handle, and, to the lower end of it, fasten on a circular sheet-iron

socket, nine inches in length, and terminate in an eye, to take a hook, the socket to be the diameter of the short end of the rod, set it right-angles to the scythe handle, and point from its convex end. Through this iron sock or tube, and inwards, in the direction of the bent handle, pass the ash rod, the stout end of which will join it firmly, and prevent its passing quite through; the scythe handle will then be in the position of bending over the rod.

On the rod so fixed thread six pipes, who three inches of the rod will remain uncovered; lower the whole into the drain by means of the bent handle, passing the three inches of uncovered rod into the last pipe laid in the drain. Leave the six pipes and the machine as they are in the bottom of the drain, and pack them down firmly with the material excavated from the drain, even to ramming or treading it in for it is impossible to displace the pipes by so doing.

Having packed them tightly withdraw the machine by means of a long cord previously hooked to the eye in the socket, standing at some distance up the drain; thread on six more tiles and proceed as before.

If there should be such a bend in the drain as to prevent the use of the rod, an old tarred rope of the requisite diameter will answer the purpose, if the drain is wide enough for a man to get into, but it is necessarily more tedious.

I take this opportunity of adding my humble testimony to the necessity of deep drawing, either in farming or engineering operations, if intended to be either permanent or economical.—I am, Sir, &c.

WILLIAM McADAM.

Bath, 5th November, 1849.

EXPERIMENTS UPON SOWING WHEAT

TO THE EDITOR OF THE ESSEX HERALD.

SIR,—Having produced some experiments at our annual meeting upon sowing wheat, perhaps a few remarks in explanation will prove acceptable to those who feel interested in the results, much care and great pains having been taken to render them accurate.

The land selected for the trial is a mixed soil, deep staple resting upon marl, after a good plant of clover summer fed, and in good cultivation, and was planted on the 7th Nov., when it was wet and rather unfavourable for dibbling; and the rain which succeeded operated much against the experiments, as numbers of holes failed entirely, besides the loss of a great portion of seed which could not be detected; nevertheless the results are in unison and tolerably conclusive, and agree with a previous experiment.

Various opinions are given by different writers of the number of grains contained in one bushel, and the difficulty of ascertaining correctly induced me last year to adopt the Rev. George Wilkins' calculation of 450,000, which was soon corrected by an anonymous correspondent to 600,000, and soon afterwards appeared another statement with only 300,000, consequently with such conflicting opinions, and a desire to obtain the truth (without which these experiments would be worthless) I have had a small portion of three samples carefully weighed, and calculating the bushel at 63 lbs. gave the following numbers—537,176 new white, 543,320 new red, and 624,960 old red; and as many kernels will not germinate, I have for my experiments adopted 522,720 as a fair average of good sound kernels contained in one bushel, and as there are 43,560 square feet in one acre, four pecks of seed will allow exactly twelve grains to each square foot.

It is a curious fact that as three barley corns so correctly represent one inch, so also 480 selected kernels will be one ounce troy, and that as barley represents length, measure, and distance, so also grains of wheat regulate weight or gravity, and that as 7,000 grains troy are equivalent to 16 oz or one lb. avoirdupois, and calculating 64 lbs., a bushel of the finest wheat would contain exactly 418,000 kernels.

The experiments alluded to were for the purpose of ascertaining the quantity of seed which was most productive, and also whether the grains should be allowed to germinate singly or otherwise.

In reference to the thick and thin planting, there were nine experiments, containing fourteen feet each, and four holes upon each foot, in which were dropped from one kernel to nine that is from 56 to five hundred and four, consequently from four to thirty-six kernels per foot, and at the rate from one-third to three bushels of seed per acre, and the greatest weight came from 304 ears, the produce of 280 kernels sown; but what number of these perished it was impossible to determine, otherwise it appears from this experiment that the greatest produce is not from the greatest numbers of ears, but from that number which approaches nearest the number of grains sown, so that if the soil will produce twenty-one good ears per square foot, twenty-one kernels, or seven pecks of seed, may be sown per acre.

The other experiment shows the products of 168 kernels, or twelve per foot, planted in nine different ways, allowing fourteen feet for each trial; and the produce from eighty-four holes with two grains in each, was the greatest yield, although there were twenty-six holes missed in planting and there were three deficient, wherein twelve were deposited; otherwise but little difference would have appeared in the results,

which are somewhat extraordinary and conclusive that twelve kernels per foot, planted in any way, were not sufficient, as neither of these produced so much as a greater number in the former experiment.

I have also to repeat, in further elucidation of this interesting subject, that the gross produce varies according to circumstances. But a sheaf of wheat weighing twelve pounds will produce four pounds net; but if weighed immediately after the sickle or scythe, only one-fourth or one-fifth can be expected. But it only requires one ounce per square foot to produce by weight something more than forty-two bushels per acre, allowing sixty-four pounds to the bushel.

Trusting the foregoing remarks will induce others to assist in the attainment of that information which shall prove the most valuable and "to settle the question" upon which so much difference of opinion now exists.

I remain, dear Sir,

Your most obliged,

THOS. KING THEDAN.

FRUIT TREES.

The present being the most important time of the year, as regards the planting and root management of fruit trees, a few remarks on the subject may not be inappropriate, it being one of the branches of gardening in which there is still much to learn, and likewise much to be unlearned of the practice of our predecessors, as regards deep borders and the general system of management; but science and practice now demonstrate that a well drained bottom, and a moderate quantity of soil, is sufficient for the proper cultivation of fruit trees.

But in the following up of this system, there are still many errors committed, such as digging out pits in soil that is not considered exactly suitable for the growth of a given tree, and filling the said pit with the requisite soil. The first evil that results from this system of planting is, that the trees grow luxuriantly for a few years, until they come in contact with the original soil; and then the hopes of the cultivator are destroyed, just when the tree is beginning to bear, by the appearance of some of the evils to which fruit trees are subject. The second evil is, especially if the situation is at all damp, that this mode of planting encourages a degree of moisture about the roots, as the water from the original and undisturbed soil collects in that which is more porous, which superabundance of moisture tends to lay the germs of future disease, and unproductiveness. When the natural soil is not considered suitable to plant young trees in, and the expense of a new border not gone to, the requisite soil ought to be trenched in, and well mixed with the natural soil to the depth of two feet or two and a half. As to the

first planting, the roots ought to be regularly laid out, care being taken not to plant them too deep. Some cultivators recommend planting on the surface, which may have its advantages; but it by no means obviates the downward tendency of the roots. But the object of the present paper being to point out the advantages of regulating the growth of trees by a system of lifting, it is unnecessary to dwell on the different ways of planting.

Of late years it has become evident, that the old mechanical modes of managing fruit trees, are attended with so many serious disadvantages, that more natural ones are beginning to be appreciated. The majority of gardeners now endeavour to understand the reason of every practice, and every effect upon scientific principles, so that, at present, the march of gardening knowledge is very rapid, and the old and fondly cherished opinions of former days are being fast cast aside; and among these are the old system of pruning and training fruit trees, which in general is only a system of unnatural malformation, by which all the laws of the vegetable system are greatly embarrassed, circumscribed limits being set to the branches, whilst the roots are allowed to roam at liberty, untrained and unnoticed. The limits of the branches being obtained by a course of pruning, that is, not according to the laws of vegetable physiology, or the dictates of reason, if the operator was only to employ that important key to the proper application of the principles of horticulture, the thought must at once strike him, if I bestow such trouble on the branches of my trees, I must likewise turn my attention to the roots, there being an inseparable connection between their actions in their natural and unrestricted state. The absorbing power of the roots, being in proportion to the decomposing power of the leaves; but by the cutting system, the superficial extent of the roots is greatly increased above the relative proportion which they ought to bear to the branches, and as soon as the natural habits are encroached upon, the grand and complicated laws upon which the vegetable system works, are deranged; and how can it, then, be expected that nature's laws will be followed in the production of fruit? Imitating nature is the principal point on which the gardener's success depends.

Some suppose that by pruning the branches, they lessen the power of the root, but winter pruning has not the least tendency to it, from the rule that the sap vessels are filling all the winter by the attraction of the buds, so when the tree is pruned, all its remaining parts are well stored with sap, to supply the first demands of the few buds retained, and as soon as a sufficient supply of light and heat is produced, the growth starts with rapid vigour, whereby the roots are again set in motion to supply a gross

and unproductive growth; pruning only tends to cause a rapid circulation of the sap, the effect of which, is, that leaf buds are formed instead of flower buds. The growing season is the only time that pruning can be successfully employed to check the growing of the root, as then the cause is removed. It is upon physiological facts, such as the above, that successful cultivation depends; for unless proper means are employed to limit the amount of gross young wood, all other means, such as expensive prepared borders, and favourable exposures, will be unavailable as regards either the quantity or quality of the fruit, for any length of time. The ameliorating powers of the gardener for that purpose are many; but I consider the system of regulating the growth by frequent and judicious transplanting, the most certain, and when aided by proper stocks, the greater part of the difficulty so often complained of, in bringing trees to a bearing state would be obviated, besides the loss of time. By early and frequent transplanting, fibrous roots are secured instead of rank growing ones. The frequency of the transplanting must be regulated by the growth of the trees, which will greatly depend on local circumstances and constitutional habits. Trees so treated will require very little pruning; but in the earlier stages of their growth, a certain amount is necessary, to enable them to be trained to their required form; but as soon as the tree is formed, it ought to be lifted and carefully planted, having its roots regularly laid out, and any that show signs of rankness stopped. The whole art of transplanting consists in the preservation of the spangioles. The roots of young trees thus dealt with for several times, are in no danger of getting down into the subsoil, or from atmospheric influences. And if at any time it is not convenient to transplant them, or if they are becoming fully weighty to manage easily, the extremities of the roots can, by a very small amount of trouble, be examined as their exact position will be known.

The benefit of root pruning upon established and unproductive trees is now without doubt, the excessive vigour of growth being at once stopped, and whatever tends to diminish rapid vegetation, without affecting the health of the tree, is favourable to the production of fruit buds. But, in the root pruning of trees that have been mismanaged, or of long standing, there is one point that I must here recommend, which is the season previous to the general pruning to cut a few of the roots, by which means they will be supplied with fibrous roots, by the aid of which they are greatly assisted the succeeding season.

W. ELLIOT.

Chiswick Gardens, }
Oct. 20, 1849. }

QUANTITY OF SEEDS REQUISITE TO BE SOWN IN ANY GIVEN SPACE.

The following table, showing the requisite quantity of seed to be sown in any given space, cannot but prove acceptable, particularly to the inexperienced gardener or agriculturist, who is apt to run into the extreme of profusion in the sowing of his seed, or acting under the erroneous notion that the greater the quantity of the seed, the more prolific will be the crop. He has not the foresight to perceive that when the seed is too profusely sown, the plants are apt to choke each other, and instead of being strong and vigorous, they come up weak and sickly. The following table is rather upon an enlarged scale; but the private gardener can reduce the proportions of seeds according to the limited space of ground which he was to sow:—

ASPARAGUS.—If sown to transplant, one quart of seed will sow a bed of thirty square feet. If sown to remain, for a bed four feet and a half wide, and thirty feet in length, one pint is necessary. If plants a year old, a bed four feet and a half, by thirty feet in length, to contain four rows, nine inches distant in the row, one hundred and sixty plants will be required.

BEANS.—For early crops, one pint of seed will be requisite for every eighty feet of row; for principal crops, two quarts for every two hundred and forty feet of row, and for late crops, the same as for early.

BEANS, FRENCH OR KIDNEY.—For every eighty feet of row, the beans being two inches and a half or three inches apart, half a pint will be sufficient.

BEEF, RED OR WHITE.—For every fifty feet of drill, one ounce is requisite.

BROCCOLI.—Half an ounce will sow a bed of forty feet square.

BRUSSELS' SPROUTS.—One ounce will sow a seed-bed of forty feet square.

CABBAGE.—Half an ounce will sow a bed of forty feet square of the early crops; for the more luxuriant crops one ounce will sow a seed-bed of sixty square feet.

CAPSICUM.—A small paper, the produce of two pods of each sort, will be plenty for most families.

CARROT.—For a bed one hundred and twenty feet square, if sown broadcast, one ounce will be requisite; and the same quantity for every hundred and fifty feet of drill row.

CAULIFLOWER.—In the same proportion as broccoli and cabbage.

CELERY.—For a seed-bed of forty square feet, half an ounce is sufficient.

CRESS (GARDEN).—An ounce, or one-eighth of a pint, will sow a bed of fifteen feet square.

CRESS (AMERICAN).—If sown in drills, for every ten feet, allow a quarter of an ounce.

CUCUMBER.—From four to six seeds in each pot.

ENDIVE.—For a seed-bed of forty square feet, half an ounce is sufficient.

GOURDS.—From four to eight seeds of each variety, in separate pots, will be plenty for most families, excepting the vegetable marrow, where it is used; from ten to twenty seeds will afford an abundant supply.

KIDNEY BEANS.—See beans.

LEEKS.—One ounce is sufficient for a bed of thirty feet square.

LETTUCE.—The seeds of lettuce require room; a quarter of an ounce is sufficient to sow a bed of forty feet square, and will produce upwards of four hundred plants.

MELON.—From four to eight seeds in one pot, of the forty-eight size, or double that number may be sown if there be any doubt of the goodness of the seed.

MUSTARD.—Sow in the same proportion as for garden cress.

ONIONS.—For every forty square feet, allow one ounce of seed.

PARSLEY.—An ounce of seed will sow a drill of fifty feet long.

PARSNIPS.—Half an ounce of seed is usually sown in a bed of one hundred square feet.

PEAS.—For the small early kinds, one pint will sow a row of twenty yards in length; for the principal or large sowing sorts, the same quantity will sow thirty-three yards.

POTATO.—For a plot of early and secondary crops, eighty feet wide, by sixteen in length, planted in rows fifteen inches apart, and nine inches in the row, a quarter of a peck of roots or cuttings: for principal crops a compartment, twelve feet wide by thirty-two in length, planted in rows, two feet distant and twelve inches in the row, half a peck of roots will be required.

SAVOY.—The same proportion as cabbage, broccoli, &c.

TURNIP.—Half an ounce will sow every hundred square feet.

PRODUCE AND CULTIVATION OF CARROTS.

“The soil upon which the carrots were grown is not what is called a carrot soil, being a thin, clayey loam, having a blue, tilly subsoil, within a few inches of the surface. In fact, so stiff and unpromising was the soil at the period of sowing, and for some time after, (until the crop spoke for itself,) that very few who saw it ever thought there would be half a crop. It was drained and subsoiled, and last year carried a crop of Hopetown oats. At the first of November, 1848, manure from the farm-yard was carted up on the stubbles, and ploughed down. This manure consisted of the scrapings gathered during summer, and thrown into a pig-yard. Even of such manure as this was, there was far from being an extra allowance given, not more, certainly, than any farmer would put upon his po

tato ridges. In March and April the land was cross-ploughed, harrowed, and rolled, until made as fine as possible, the weeds carefully picked off, and about sixty barrels of Castle Espie lime applied to the Irish acre. This and five bushels of salt per Irish acre, was the only application in the shape of manure, except that which was ploughed down in November. The land was then, during the first week in May, formed into ridges five feet broad, with an alley of twelve inches between each ridge. These are similar to the common potato ridges. The seed (previously steeped for forty-eight hours,) was sown in rows across the beds, the rows being eighteen inches apart. I would particularly recommend this ridge system for growing carrots, parsnips, and of indeed, all green crops. It is especially suited to the small farmer, and even others may use it with advantage, for in a shallow soil, any depth can be obtained for growing the deep-rooted plants. The after culture consisted of thinning the young plants to seven inches apart, hoeing between the rows, and careful weeding. These after operations were executed by young girls, under the superintendence of a steady labourer.

“Now there is nothing extraordinary in these details. It is the common mode of cultivating green crops, except, perhaps, in so far as regards sowing the seed in ridges, and not in drills made by the plough; but this ought to be a circumstance which should be a recommendation to farmers in this country; it is just because there is nothing extraordinary in these details, that I have entered so fully into them, in order to show that successful cultivation is within the reach of even the poorest farmer, provided he is possessed of ordinary industry. Here there is no array of guano, bones, and other artificial manures, the very mention of which is quite sufficient to frighten men who cannot afford to purchase these valuable auxiliaries. Even the lime could in many cases be dispensed with, although necessary in this, from the excessively stiff nature of the soil and subsoil. People regret the loss of seven or eight tons an acre of potatoes, and the parrot cry of “it is impossible to prepare land for wheat without them,” is to be heard on every side; but I can safely challenge any man to show land prepared for wheat either by potatoes or that abominable plan of bare fallowing, in better condition for wheat than the land under green crops in this demesne, and so may any person, who pays ordinary attention to the management of his crops.”

THE QUEEN'S POULTRY AND POULTRY-HOUSE, WINDSOR.—In a secluded nook, on the boundaries of the Home Park, sheltered from the prevailing winds, by stately clumps of elm trees,

stands the HOME FARM—or the farm attached to Windsor Castle—the private farm of her Majesty. In this establishment, which was founded by George III., is situated the royal fowl-house and poultry-yards, figured at the head of this article, but of which, notwithstanding their great interest, the public know nothing, save the mere fact of their existence. Here her Majesty, retiring from the fatigues of state, finds a grateful relief in the simple pursuits of a country life; and here, too, it may be, like Louis XVI. in the Jardin Anglaise, of the Petite Trianon, she seeks the renovation of those higher powers, which find their best, if not their only home, in nature or its God. In cultivating the homely recreations of a farm, her Majesty has exhibited great industry and much good taste. The buildings and the farm routine, which sufficed for the clumsy management of 1793, have been discovered, by her Majesty, to be totally unsuited to the more enlightened system of 1849, and hence, under the direction of her Majesty and Prince Albert, assisted by Lieutenant-Colonel Wemyss, Lord Lincoln, and Mr. Engall, her Majesty's intelligent and respected bailiff, an entire re-organization of the establishment has been determined, and is now in progress. In these pursuits, and in her continued prosecution of them, the Queen has, in our opinion, exhibited sound judgment and a healthy taste. There are some, we know, who would have the Queen to be “every inch a Queen”—even to the forsaking of her humanity. But, no! the Queen both thinks and acts after a very different fashion; and it has resulted that in all the royal arrangements of the present reign, there is to be found that love of neighbourhood, and that affectionate interest in the every-day furniture of life, which is so truthfully depicted in the following lines of a Scottish poet; and in which, we may be allowed to say, we most heartily acquiesce:—

“I love the neighbourhood of man and beast:
I would not place my stable out of sight,
No! close behind my dwelling it should form
A fence on one side, to my garden plot.
What beauty equals shelter, in a clime
Where wintry blasts with summer breezes blend
Chilling the day? How pleasant 'tis to hear
December's winds, amid surrounding trees,
Raging aloud! How grateful 'tis to wake
While raves the midnight storm, and hear the sound
Of busy grinders at the well-filled rack;
Or flapping wing and crow of chanticleer,
Long ere the lingering morn; or bouncing flail,
That tell the dawn is near! Pleasant the path
By sunny garden wall, when all the fields
Are chill and comfortless; or barn-yard snug
Where flocking birds, of various plume and chirp
Discordant, cluster on the leaning stack,
From whence the thrasher draws the rustling sheaves.”

We may be allowed, then, to agree with her Majesty in thinking, that the farm, the dairy,

and even the kennel of the Home Park, are amongst the best embellishments of the royal domain of Windsor.

The fowl-house; designed and built by Messrs. Bedborough and Jenner, of Sheet-street, Windsor, is a semi-gothic building, of simple and appropriate beauty. It consists of a central pavillion, used for inspecting the fowls—crowned on the top, by an elegant dove-cot, and on the sides, of wings capable of symmetric extension, in which are placed the model roosting-houses, and laying and breeding nests of the fowls. The ground, in front, slopes towards the park, and is enclosed and divided by light wire fences, into separate wards for the "run" or daily exercise of the birds. Inside these wards, gravel walks, bordered by grass plots, lead to the entrance of the fowl-house. In the proportions, distribution, and fittings of the apartments of this house, considerable knowledge of the habits, with a corresponding and most commendable regard to the conveniences of their graminivorous tenants, has been displayed. The chambers are spacious, airy, and of an equal and rather warm temperature, which accords with their original habits, and their nests are made, as far as possible, to resemble the dark, bramble-covered recesses of their original jungles. In this particular her Majesty has set a good example to the farmers of this country, who too often follow the false routine of their fathers, rather than consult the habits, and obey the natural instincts of the animals about them.

Her Majesty's collection of fowls is very considerable, occupying half a dozen very extensive yards, several small fields, and numerous feeding-houses, laying-sheds, winter courts, &c.

It is in the new fowl-house that the more rare and curious birds are kept—consisting of Coch-in-China, white Java bantams, some splendid bantams of Sir John Sebright's breed, a cock of which, remarkable for his martial bearing, is a great favourite with Prince Albert, with other fine bantams and some curious crosses, with grouse, and several frizzled fowl, remarkable for their silky, hair-like feathers.

The laying nests at Windsor are composed of dry twigs of heather—the Erica tetralix of our heaths—and small brambles of hawthorn, covered over with the lichen rangiferinus—the white lichen of our hedges, barn-doors, and park palings. These materials, rubbed together by the motion and pressure of the hen, emitted a light powder, the produce of the crushed leaves; and this, finding its way, between the feathers, to the skin, was found to have the immediate effect of discharging the bird of every description of parasite. The Commissioners of Woods and Forests are about to make considerable additions to this very interesting establishment.

A work on poultry would not be complete, if

a description of the most splendid poultry-house ever erected were omitted. The following is taken, on the spot, from that of

LORD PENRHYN.

The most magnificent poultry-palace, perhaps, that ever has been built, is that of Lord Penrhyn's at Winnington, in Cheshire. It consists of a handsome, regular front, extending about one hundred and forty feet, at each extremity of which is a neat pavilion, with a large arched window. These pavilions are united to the centre of the design, by a colonnade of cast-iron pillars, painted white, which supports a cornice, and a slate roof, covering a paved walk, and a variety of different conveniences for the poultry, for keeping eggs, corn, and the like. The doors into these are all of lattice-work, also painted white, and the framing green. In the middle of the front, are four handsome stone columns, and four pilasters, supporting, likewise, a cornice, a slate roof, under which, and between the columns is a beautiful mosaic iron gate; on one side of this gate is an elegant little parlour, beautifully papered and furnished; and at the other end of the colonnade a very neat kitchen, so excessively clean, and in such high order, that it is delightful to view. The front is the diameter or chord of a large semi-circular court behind, round which there is also a colonnade and a great variety of conveniences for poultry. This court is neatly paved, and a circular pond and pump are in the middle of it. The whole fronts towards a rich little paddock, in which the poultry have the liberty to walk about, between meals. At one o'clock a bell rings, and the beautiful gate in the centre is opened. The poultry being then mostly walking in the paddock, and knowing by the sound of the bell, that their repast is ready for them, they fly and run from all quarters, and rush in at the gate, every one striving which can get the first share in the scramble. There are about 600 poultry, of different kinds, in the place; and although so large a number, the semi-circular court is kept so very neat and clean that not a speck of dung is to be seen. This poultry-palace is built of brick, except the pillars and cornices, the lintels and jambs of the doors and windows; but the brick are not seen, being all covered with a remarkable fine kind of slate, from his lordship's estate in Wales. These slates are close-joined, and fastened with screw-nails on small spars fixed in the brick; they are afterwards painted, and fine white sand thrown on, while the paint is wet, which gives the whole an appearance of the most beautiful freestone.

INFLUENCE OF BREED, CONSTITUTION, FOOD, SOIL &c., ON THE QUANTITY AND QUALITY OF THE MILK.—Both the quantity and quality of milk are affected by a great variety of circumstances. Every dairy farmer knows that his cows give more milk at one season of the year than at another, and that the quality of the milk also—its richness in butter and cheese, depends among other conditions upon the kind of food with which his cows are fed. It will be proper to advert to these circumstances a little in detail.

1st *The quantity and quality of the milk are affected by the breed.* Small breeds generally give less milk, but of a richer quality. Good ordinary cows in this country yield an average produce of from 8 to 12 quarts a day. Thus the dairy cows of

Devonshire give 12 quarts a day	
Lancashire.....8 to 9 qts., a day	
Cheshire and } 8 qts., a day	
Ayrshire	

During ten months of the year crossed breeds are in many districts, found more productive of milk than the pure stock of any of the native races. The influence of breed both on the quantity and on the quality of the milk appear from the following comparative produce of milk and butter for one cow of each of four different breeds in the height of the season, and when fed on the same pasture. The

	Milk	Butter
Holderness give 29 qts., and	38½ oz	
Alderney.....19	"	25 oz
Devon.....17	"	28 oz
Ayrshire.....20	"	34 oz

Not only was the quantity of milk very different in the four cows, but the produce of butter also. The Holderness, in the quantity both of milk and of butter, being greatly superior to all other breeds.

The milk of the Holderness and of the Alderney breeds was equally rich in butter, as was the case also with that of the Devon and the Ayrshire since 1 lb of butter was yielded by

12 qts of milk from the Holderness cow	
12 qts., "	Alderney cow
9½ qts., "	Devon cow
9½ qts., "	Ayrshire cow

The butter of the milk is for the most part, derived directly from the fat of the food, these animals, therefore which lay the smallest proportion of this fat upon their own bodies, will be likely to give the largest proportion in their milk. Thus the Ayrshires and Alderneys, which are good milkers are narrow across the shoulders, and wiry and muscular about the flanks. They give a rich milk but rarely fatten well. The *short horns* on the contrary, are celebrated for their fattening tendency; they deposit more of the fat under their skin and impart less of it to their milk.

2nd. But the *individual form and constitution of the cow* causes both the yield and the richness to vary much among animals of the same breed. Every dairy farmer knows that some Ayrshire or Holderness, or Devon cows are better milkers than others. And even when they yield nearly the same quantity of milk, the richness or produce in butter may be very unlike. These four cows of the Ayrshire breed, fed on the same pasture, gave in the same week,

	Milk.	Butter
First,.....	84 qts.,	which yielded 3½ lbs.
Second and third, each	86 qts.,	" " 5½ lbs.
Fourth,.....	88 qts.,	" " 7 lbs.

so that the fourth, though it produced only four quarts more milk, gave twice as much butter as the first. Individual cases of extraordinary productiveness occur now and then. Thus a Durham cow belonging to Mr. Hewer, of Charlton, Northampton, gave in the height of the season 8 imperial gallons of milk in a day, yielding 3lbs. of butter. A cow upon ordinary keep has been known also to produce as much as 350 lbs. of butter in a year. The tendency to yield butter is no doubt constitutional, like the tendency to lay on fat.

3rd. The *kind of food* also exercises, as all cow-feeders know, much influence upon the quantity and upon the richness of the milk. The Swedish turnip gives a richer milk, the white globe a larger quantity, while both are said to cause a greater yield of milk when tops and bulbs are given together. Culpepper recommends the leaves of the black alder as a fodder for causing cattle to give much milk. Spurry is said to have a similar effect. When fed on grass and Brewers' grains the cow yields a larger quantity of milk; and when fed on malt dust she drinks much and milks well.

It is believed also that leguminous plants, clover, tares, &c., promote the production of cheese, while oil-cake, oats, Indian corn, and other kinds of food which contain much oily matter, favor the yield of butter. The cakes left by oily seeds, linseed, poppy seed, dodder, sesamin, give a milk which contains more solid matter and is richer both in butter and cheese, if the cake be not old or rancied, it does not impair when given in moderate quantities, but rather increases the flavour and pleasantness of the butter.

If the food contains little fat, the animal still produces butter. It robs its own body of fat, becomes leaner, and for a time yields more fat in the form of butter than it has eaten in its food. Where only a part of a dairy of cows is kept for their butter, and the rest for cheese, the buttermilk from the former may be given to the latter, and thus the produce of cheese increased.

4th. *The nature of the soil* also in which grow, and the manure by which they are raised, affects their influence upon the milk. It has been

known from most remote times, that when fed upon one pasture, the cow will yield more butter, upon another more cheese. This difference must depend upon the soil. Again it has been found by experiment, that vetches grown upon well-limed or marl land promote the production of cheese, while after manuring with wood ashes, they increase the quantity of milk and of cream (Sprenzel) in Cheshire the addition of bones has greatly increased the value of the grass, and the produce of milk and cheese.

On this curious subject numerous experimental researches are still required.

5th. The milk is affected also by a *variety of other circumstances*—its quantity depends very much upon the distance from the time of calving—diminishing as the calf gets older, this is no doubt a natural adaptation to the wants of the calf which in a state of nature gradually ceases to require support from its mother. A cow which during the first fifty days after calving yields 24 quarts of milk a day may yield no more than 6 quarts after six months have elapsed.

The quality of milk is better from cows that are in good condition and have already been two or three times in calf. It is richer in warm climates, in dry seasons, and when the cow is not too frequently milked. It is said to be richer when cows are kept constantly in the house—those which go at large in the pasture yielding more cheese. When a cow is allowed to dry for two or three months before calving, it is believed to give more milk the following season. In autumn it is riched upon the whole, giving a less proportion of butter, but a greater of cheese (Aiton) while it becomes poorer in both when the cow is in calf. The first milk which comes from the udder is also poorer than that which is last drawn, the *stoppings* or *stroakings*—and lastly the quality of the milk is very much affected by the treatment and moral state of the animal. Gentle treatment and a state of repose are favourable to the richness of the milk—while anything that frets, irritates, or harasses the animal injures its quality.—*Johnston's Elements of Agricultural Chemistry and Geology.*

The foregoing remarks are valuable to every farmer who keeps a dairy stock—as they can be relied upon, we believe, in every particular.

THE VEGETABLE BANQUET.—(*From Punch.*)—That highly-respected vegetable, the Potato, being now, it is hoped, thoroughly re-established in health, it was determined by a few leading members of the Vegetable Kingdom to offer a banquet to the worthy and convalescent root on his happy recovery. The arrangements for the dinner were on a scale of great liberality, and the guests included all the principal vegetables. The invitations had been carried out by an effi-

cient corps of Scarlet Runners, and the Onion occupied the chair. He was supported on his right by the head of the Asparagus family, while Salad occupied a bowl at the other end of the table, and was dressed in his usual manner. The Potato, though just out of his bed, was looking remarkably well, and wore his jacket, there being nothing to mark his recent illness, except perhaps a little apparent blackness round his eyes. After the cloth had been removed, the Onion got up to propose as a toast, the Potato, their much respected guest. (*Immense cheering.*) He, the Onion, had known the Potato from infancy; and though they had not always been associated in life, they had frequently met at the same table. They had sometimes braved together the same broils, and had found themselves often together in such a stew (he alluded to the Irish stew) as had brought them, for the time being, into an alliance of the very closest kind. He, the Onion, was delighted to see the Potato once more restored to his place in society; for he, the Onion, could say, without flattery, that society had endeavoured to supply the place of the Potato in vain. (*Hear, hear.*) They had heard of Rice having been suggested to take the place of his honorable friend, but the suggestion was really ridiculous. *Risum teneatis, amici*, was all that he, the Onion, had to say to that. (*Loud laughter, in which all but the Melon joined.*) He, the Onion, would not detain them longer, but would conclude by proposing health, long life, and prosperity to the Potato. The toast was received with enthusiasm by all but the Cucumber, whose coolness seemed to excite much disgust among his brother vegetables. The Onion had, in fact, affected many of those present to tears; and the Celery, who had sat next to the Horseradish, hung down his head in an agony of sensibility. When the cheering had partially subsided, the Potato rose, but that was only a signal of renewed enthusiasm, and it was some minutes before silence was restored. At length the Potato proceeded nearly as follows:—Friends and fellow vegetables.—It is with difficulty I express the feeling with which I have come here to-day. Having suffered for the last three or four years from a grievous disease, which seemed to threaten me with total dissolution, it is with intense satisfaction I find myself once more among you in the vigour of health. (*Cheers.*) I should be indeed insensible to kindness, were I to forget the anxious inquiries that have been made as to the state of my health, by those who have held me in esteem, and sometimes in a steam. (*A laugh, in which all but the Melon joined.*) I cannot boast of a long line of ancestors. I did not, like some of you, come in with the CONQUEROR, but I came in the train of civilization amidst the memorable luggage of Sir Walter Raleigh, in company with my right

honorable friend the Tobacco, who is not now present, but who often helps the philosopher to take a bird's eye view of some of the finest subjects for reflection. (*Immense cheering, and a nod of assent from the Turnip Top.*) Though I may be a foreigner, I may justly say that I have taken root in the soil; and though I may not have the grace of the Cucumber, who seems to have come here in no enviable frame, (*loud cheering.*) I believe I have done as much good as any living vegetable; for, though almost always at the rich man's table, I am seldom absent from the poor man's humble board. (*Tremendous applause.*) But," continued the Potato, "let me not get floury, or mealy-mouthed, though there is nothing objectionable in either extreme. I have undergone many vicissitudes in the course of my existence. I have been served up, aye, and served out (*a smile*) in all sorts of ways. I have been roasted by some; I have been basted by others; and I have had my jacket rudely torn off my back by many who knew not the treatment I deserved. But this meeting, my friends, repays me for all. Excuse me if my eyes are watery. (*Sensation.*) I am not very thin-skinned; but I feel deeply penetrated by your kindness this day." The Potato resumed his seat amid the most tumultuous cheering, which lasted for a considerable time.

KYLE-PARK NATIONAL AGRICULTURAL MODEL SCHOOL.

Our attention has been directed to the above-named institution, which promises to be of so much advantage to the locality where it is situated, and to lead to the diffusion of agricultural knowledge in a more extended sphere, if those of the farming class, still in a position to do so, would avail themselves of the opportunity offered, and place their sons in a situation which would doubtless be securing for them a comfortable provision in after life.

We are now enabled to state that the handsome and extensive buildings known as the Kyle park School have been for some time in the possession of the Commissioners of National Education, who have also become tenants for about eighteen statute acres of the adjoining lands, to cultivate them as a model farm for the practical instruction of the pupils, on the same system as that followed at Glasnevin. The entire of the buildings—comprising two large school-rooms, apartments for teachers, dormitories for boarders, dairy, and range of farm offices—have just undergone repairs and improvements to a great extent, and at a considerable expense, rendering the establishment a most creditable one to the commissioners, ornamental and useful to our county, and such as it not surpassed in architectural beauty by any institution of its size in Ireland. In fact, to estimate fully

what the Kyle-park School now is a personal visit to it would be necessary, as our description of it must fall far short of the reality; and we say to our readers to look and judge for themselves.

To carry out the object of the school in all its branches, the commissioners have placed there two masters, the one having charge of the literary, the other of the agricultural department. A female teacher is also to be appointed, whose duty it will be not only to instruct girls in the ordinary course of elementary education usually followed at national schools, but also in needlework and other industrial works, calculated to be of advantage to females. Ample accommodation has also been provided for indoor pupils or boarders, several of whom can be received, and that at the moderate charge for each of five pounds per annum, the commissioners defraying the further expenses necessary for their support, and giving those pupils the advantage of admission to the Glasnevin Model Agricultural School, free of all cost, so soon as they shall be so far advanced in their education as to be qualified to obtain the privilege of admission—a privilege of no ordinary kind, and one which should not be lost sight of.

To secure to the utmost the well-working of the Kyle-park School, and other like agricultural institutions, under the control of the National Educational Board, for the establishment and support of which the legislature has lately considerably augmented the annual education grant, an inspector of agricultural schools has been appointed by the commissioners, and from the well-known scientific and practical acquirements possessed by Dr. Kirkpatrick, the gentleman who holds the office of inspector, the public have a sufficient guarantee that in all the details connected with agricultural schools, every care will be taken to make them efficient. We understand, further, that to Mr. Stoney, of Kyle-park, by whose exertions, if not at whose expense, the establishment had its origin, is committed the local management of the school, as its patron. So that upon the whole, we have the fullest assurance which can be given in such a case, of the best results arising to our county from the institution. And, in conclusion, we entreat of landlords, and other parties interested in the improvement of this country, to aid by their influence and exertions, in drawing the attention of farmers to the advantages offered on such favourable terms.—*Nenagh Guardian*

TRUTH.—Truth is always consistent with itself, and needs nothing to help it out; it is always near at hand, and sits upon your lips, and is ready to drop out, before we are aware; whereas a lie is troublesome, and sets a man's invention on the rack, and one trick needs a great many more to make it good.

Agricultural Journal

AND

TRANSACTIONS

OF THE

LOWER CANADA AGRICULTURAL SOCIETY.

MONTREAL, JANUARY, 1850.

THE NEW YEAR.—We beg to offer our most sincere congratulations to the subscribers to this Journal on the commencement of the new year, and we wish them all possible health, happiness, and prosperity. To the agriculturists, we wish a favorable season, abundant crops, and remunerating prices, and to the non-agriculturists, ample funds to purchase the produce of the soil at reasonable prices. There is a never failing encouragement to the husbandman, that if he executes his part properly, he has to rely upon a Bountiful Creator to give him the reward of his toil, and this reliance is scarcely ever disappointed. Seed time and harvest never fail us, and the harvest generally rewards us in proportion to our careful cultivation of the soil. There is no occupation of mankind that has a more certain and never-failing source to rely upon than the agriculturists, and this alone should attach us to agriculture.

AGRICULTURAL REPORT FOR DECEMBER.

The winter may be said to have commenced about the 1st of December, although rather mildly. We had not very severe frost, or much snow, previous to the night of the 22nd, but from that day to the 30th, a large quantity of snow fell, and the thermometer went down to 17° below zero on the night of the 25th, with a high wind and drift. We were glad to see the land covered deeply with snow before we had much severe frost, as we think it is always beneficial, in a Canadian winter, to have the soil covered, particularly meadows and pastures. The Canadian winter,

far from being injurious to agriculture, is, on the contrary, beneficial—where the lands are prepared properly in the fall by draining and ploughing, the frost and snow have a good effect, and they give bridges and roads to the farmers of the remotest sections of the country, who would be shut out from our markets if they had not this convenience furnished without labour or cost to them. Every country possesses advantages the most suitable to its situation and circumstances, and our severe winters are not the least of our advantages. We require of course to provide good shelter and good food for our animals, and for ourselves; but when this is duly attended to, our winters will not be injurious to us, but the contrary. We would not think it desirable that they should commence on the 1st of November, and continue to the 1st of May; but commencing as this year, about the 1st of December, and continuing, (as we hope,) only to the first of April next, we shall have no cause to complain of a long winter. It is not of frequent occurrence that the winter continues after the 1st of April, or commences much before the 1st of December. We have frequently sown grain in this country from the 1st to the 7th of April, and if the soil is properly ploughed, and sufficiently drained in the fall, sowing may generally commence early in April, and the exceptions to this rule will not be of frequent occurrence. It may appear doubtful to some parties; but we are persuaded that a skilful and industrious farmer, possessed of sufficient capital, will have it in his power, by judicious management, to lengthen the summers and shorten the winters, so far as it would be advantageous for him to do so. It is the unskilful and neglectful farmer, that complains most of unfavorable and short summers and long winters; because his land is not ploughed properly, or drained sufficiently to admit of his sowing in time, or harvesting in good season. This management has the effect of forcing the

work of one season into another, and not affording time or the most favorable opportunity for executing any work, or giving the crops a fair chance of the growing season. In our climate, it certainly does require that work should be executed, if possible, to the day; and loss is generally the result when this cannot be accomplished. The object of this reasoning is to convince farmers that our climate is no reasonable excuse for bad farming and inferior crops; and so far as we are capable of judging, we would not exchange our country, our soil, or our climate, for that of any other State on this continent, notwithstanding all that is urged against our short summers and long severe winters. We may not be able to produce sugar cane, rice, or cotton, or many other tropical productions; but we are persuaded that this country can produce, *upon an average*, as heavy crops of wheat, barley, oats, rye, buckwheat, peas, beans, Indian corn, potatoes, turnips, carrots, parsnips, mangel wurtzel, hay, and grass, as any country on the continent, from the Northern Frozen Ocean to Cape Horn. We can also have domestic animals of every variety, as useful and profitable, (if not all so large,) as those of any other country in America, without exception. We are aware this is a bold assertion; but we make it advisedly, after a long residence in the country, and the most careful study of the subject; and we trust no true friend of Canada, or of the prosperity of her population, will dispute our proposition, without very sufficient grounds for doing so. We advocate the improvement of our agriculture, and we maintain there is nothing in our climate or soil to prevent its profitable improvement. Large crops of wheat, may, in some instances, be produced in other countries, from fall sowing on fertile soil; but we feel almost certain, that even wheat, by careful management, and a selection of the most suitable varieties, we could raise in Lower Canada, as large an

average as they generally do in the United States; and of other grain, roots, and hay, our averages here may be much larger than in that country. It may answer a good purpose, that we should, at the close of the past year, that has undoubtedly been a favorable one for producing crops, submit our proposition, that this country is not inferior to any other for agriculture, unless we make it so by our want of skill, neglect, or want of capital to improve its natural advantages to the uttermost. It would be foolish or useless to propose or suggest improvements that it would be impossible to introduce in consequence of inferior or unsuitable soil, unfavorable seasons, summers that were too warm, long winters, excessively severe frost, and very deep snow. This character of this country may pass for a satisfactory excuse for those who are not disposed to introduce improvements in their system of husbandry; but it will never be urged by those who know Canada and its capabilities, and desire to improve them or see them improved. We possess the natural requisites here for a successful agriculture. What is required is skill, capital, and energy, to make the most of our natural advantages. Prices of produce may not satisfy the farmers; but even this may be changed for the better by skill and judicious management, and growing the crops that will be most and constantly in demand. A better system of agriculture would enable us to cultivate such crops as would be most suitable and profitable for us, and if we had to grow much of oats, barley, buckwheat, or Indian corn, we would know our interest better than to sell these grains at a very low price, but rather to manufacture them into beef, pork, or the feeding of our own cattle and sheep. The waste of breweries, distilleries and mills, are sold out of all proportion to the prices paid for grain. Bran sells for more than half what is paid for wheat—by weight—and the waste grains of brewers and distillers averag-

ing—all the grain they make use of—is, perhaps, sold for near a third of what is paid for the raw grain. We do not offer any objection to this; we only propose to those who may have to buy these wastes, rather to have the raw grain, with all its substance in it, ground up for their cattle, and we can assure them, they will find it a much more profitable plan. A small quantity of ground oats or barley, given with hot water to cattle, will be found the most economical mode of feeding for the butcher or the dairy. There is as much prudent management required in the judicious use and disposal of the crops after they are produced, as there is in the careful cultivation necessary for producing them; and both are essential to the prosperity of the farmer. We have no doubt that many farmers, who come a long distance to our markets with oats or barley, at the present low prices, would be considerable gainers by feeding these grains to their cattle and other stock, many of which may be reduced to very low condition, or perhaps to death, for want of them, before the end of next spring. The produce of a few acres of oats, barley, or Indian corn, fed out to a farmer's stock during the winter, would produce immense improvement in the stock, and in the farm profits. This matter is deserving of the most serious consideration of farmers. It is upon wheat, and upon his stock of cattle, horses, sheep, and swine, he should chiefly depend for his money income. Much time is wasted in coming a long distance to market with a load of produce that will not sell for more than a trifling amount, that would scarcely pay a reasonable remuneration to the farmer for his time and other expenses. The judicious consumption of this produce upon the farm, by manufacturing it into butchers meat, butter, and the improvement of the stock generally, would be a much more profitable employment of it, than transporting it a great distance to sell it at a low price. One shil-

ling, or fifteen pence a bushel for oats, containing ten gallons, and weighing from 30 to 40 lbs., is cheaper food than hay, at 30s. to 40s. per hundred bundles of 1600 lbs. Barley at 1s. 8d. to 2s., per bushel of 50 to 56 lbs., is also cheaper food than hay. Of course, neither of these grains can be substituted altogether for hay, but given with hay or straw in small quantities, the stock would benefit greatly by such a mixture of food. The farmer's own family might make use of a proportion of oat-meal, rather than sell oats at prices that will not yield over from 20s. to 30s. per arpent, for a crop on an average. This return will not pay for the expenses of cultivation, &c., leaving no rent for the land—and this, we are convinced, is frequently the case—but it is the farmer's own fault—to dispose of produce at very low prices, when he might apply it to a better and more profitable purpose. There may be a great difference in the actual amount realized from the same varieties, and quantity of products raised upon a farm. One man may apply all, and dispose of all to the very best advantage—while another man may exactly do the contrary, and not realize half the amount of the first man. One man may keep his stock so well that some of them will be constantly yielding a return, and all greatly improving in size and value, while the other man neglects his stock, they yield no return for their keeping, and are of much less value in the spring than in the fall, and perhaps, some of them die from insufficient keep and neglect. This is the management that causes some farmers to be prosperous, while others never improve their condition, and are likely to attribute their want of success to anything but the proper cause. We have often thought it a strange circumstance to see a farmer, the proprietor of one hundred arpents of land or more, a good house and farm buildings, a stock of horses, cattle, sheep and swine, farm implements, &c. &c.;

travel from 30 to 100 miles or more to sell a few bushels of oats or barley, that would not bring him, perhaps, more than from four to eight dollars in cash for his load, and for his time and expenses. It is quite absurd to think a farmer in such a respectable position, should so greatly misapply his produce, and his own time. We know, at all events, that such management will never allow of any great improvement in the condition of the farmer who practices it. Indeed it would be impossible for him to realize his own, only that he gives his own labour for nothing, or estimates it at nothing. If by following a better system, and keeping their inferior grains at home, they could have a good horse or two to sell annually, a few good oxen, milch cows, some pork, and good butter or cheese—they would find themselves much better, and in a more independent condition very soon, than by the present general system of going long journeys to market to sell a load, or an animal that was not bringing much cash. Their sheep and cattle would be purchased at their farms by drovers or jobbers, who would soon find it convenient to go to them, if the farmers would not be constantly going to town from remote sections of the country, with a lamb, two or three sheep, or any other animals of not much value. These matters have a great influence on agriculture, and on the real profits derived from it, and we recommend the subject most earnestly to farmers' attention. Every expense should be avoided, of time or money, that diminishes the farmer's produce when selling, from twenty-five to seventy-five per cent of its amount. We have extended this Report considerably more than we intended, but we have done this from a desire that farmers—now, when they have leisure—should consider what we have submitted for their consideration, and act upon our suggestions if they find them reasonable. They may not have taken the trou-

ble to reflect on these matters, but we conceive it to be our duty to do so, while we occupy our present position. The past year has been very favourable throughout, to the farmers, and we only wish the present year to be equally so. The produce may not in all cases be satisfactory, but we certainly do not admit that the season was to blame for this. There has been considerable loss in potatoes by the usual disease, with many farmers, but even this loss, we conceive, might be lessened by more careful cultivation and storing. Large quantities of manure, we know to be injurious, and should not in any case, be applied to the crop. The use of charcoal applied in the drills, when the seed is planting, we believe, would be beneficial. Storing them in small quantities, and in a temperature not too warm, is also necessary. Prices of produce are undoubtedly low, but we have suggested in this Report, a change in the general system of disposing of low priced grain, that, if adopted, would, we hope, prove very advantageous to farmers. Our suggestions may not be suitable in all situations, and under every circumstance, but they may be safely tried in almost all situations, very remote from Montreal. There can be no doubt, whatever, that if the farmer's stock of animals require better keep than is usually supplied to them, he will be a gainer by feeding his oats and barley to them, rather than selling them at a low price. In conclusion, we hope, that should we be spared to make an Agricultural Report at the close of the present year, we may have it in our power to congratulate farmers on a most propitious season, fine crops, remunerating prices, and a manifest progress in the improvement of Canadian husbandry. This is our sincere wish, and our humble exertions shall not be wanted, so far as regards the management of the Agricultural Journal.

January 2nd, 1850.

EDUCATION.—We have for a long period endeavoured to advocate the necessity of providing an Agricultural Education for the youth attending at country schools. We are aware that it would not be practicable to provide this education generally, and immediately, until there would be Schoolmasters properly qualified to impart this instruction. While, however, we have to wait for properly trained masters, what is to prevent us from introducing suitable agricultural books into our country schools for the reading of our youth? We do not hesitate to say, that we could name many books referring to the science and art of agriculture, that would be as suitable for the reading and study of farmers' sons while at school, as most books that are at present provided for them. We cannot understand the motive for excluding from the country schools, the books that are the best adapted for the use of the scholars. There is much less of exceptionable matter to be found in agricultural books, than the generality of school books we meet with. It appears to be a great absurdity that in the country schools provided almost exclusively for the children of agriculturists, they never have an opportunity of seeing or hearing a single sentence that has any reference to the employment of their fathers, or that which should occupy their own future lives. The whole tendency of their teaching and reading is in quite a different direction, rather than to the fields of their fathers, and to their judicious cultivation; so that every day they return to their father's house from such teaching they are less disposed, and less fitted to become industrious and skillful cultivators of the soil, and less attached to a country life. This subject is of more consequence to the real prosperity of Canada than most parties imagine. Indeed, the judicious teaching of the farmers' children is of vast importance to the well being of the country. We do not say that not one of the sons of farmers should be allowed to go to any other business but farming, but we do say, that their education

and reading should be such as not to estrange them from agriculture, and direct them to the practice of other professions, rather than agriculture. Let their reading teach them to know that the business of the husbandman is the most useful and honorable that man can be engaged in, and that every profession on earth has to be supported from the products of the land. The education of farmers' children should, if possible, be connected with the cultivation of the field or of the garden. It should be constantly impressed upon their minds, that the object of their education is not to induce them to forsake the occupation of their fathers, but to enable them to practice the same business with more success and satisfaction to themselves. It is greatly to be regretted when sons of farmers fancy that there is less work, and more money, show and enjoyment, to be obtained in other occupations than in agriculture. It is such ideas that attract the most talented of the rural population from the country, and deprive agriculture of advantages that ought to belong to it. If youth are encouraged to look forward to the acquisition of fortune or high station, as they generally are, by the sort of reading and education they have at schools—it is not to the country or to agriculture their attention is directed to seek this fortune or high station. Perhaps it would be the last business or occupation that would be recommended to a youth for the acquiring of fortune, or a respectable station in Canadian society, by the generality of school masters. Until there is a total change in this system, we despair of any great and permanent improvement in our husbandry. We cannot conceive why an unsuitable and defective system of education for the rural population should have been persevered in so long, and we hope the subject will now obtain due consideration, and if a better system is possible that no obstacle shall be permitted to prevent its immediate introduction. The friends and supporters of the present system, if they wish to continue it, are at least bound to show that it is a suitable

ble, and the best system of education that is practicable for the rural population; and until they do this, we shall maintain our proposition—that it is not so. Perhaps we may be told, the people have it in their power to make such changes as they conceive to be proper or useful, and this may be true. But, with our population, it is necessary that some general principle be established for the government of country schools, and at least one model school be provided in each county at once, which would soon afford us qualified schoolmasters, for all other schools to be conducted upon the same plan as the model school. The education and teaching of the children of the rural population is not a matter to be treated lightly or with indifference, but requires the most serious consideration, attention—and action, when we have arrived at a proper conclusion on the subject. Every inhabitant in Canada is interested in it. We do not propose any measure that interferes with religion, parties or politics—nor do we presume to meddle with the education of any class, but that of the agricultural population. For them we would be most anxious that such an education should be provided as would best qualify them to become good and successful farmers, and at the same time be capable of acting in any capacity which the government or the country might require of them, with credit and honor to themselves, and with advantage to their country. We would be the last to wish that farmers should not obtain a good education. We only wish them to be so educated as not to produce any dislike or disinclination in them to the *most honorable and useful profession on earth*. Any young man, who, after having an opportunity of knowing something of the science and art of agriculture, and all the pleasures that belong to the practice of husbandry under a good system, who is disposed, after all, to choose some other occupation—let him go to it by all means; agriculture can very well spare all such. We seldom see the sons of classes

not agricultural, after coming from school, become farmers, but we see every day, the sons of farmers, after they come from school, become anything rather than agriculturists. There must be something decidedly wrong that leads to these results, as they are results that unquestionably do not tend to advance the prosperity of Canada. No man, however great his talents, or high his rank, can employ himself more usefully for Canada, than as an agriculturist residing in the country. We have no object in bringing this subject so constantly before the public, but to induce others to give it due consideration. We should not do our duty as Editor of this Journal, unless we submitted what appeared to us to have a great and injurious influence on the state of agriculture, and suggest some measures that, we conceived, would change this injurious influence, and cause our system of education to act beneficially for the improvement and prosperity of agriculture.

CANADIAN HORSES.—We refer again to this subject that is of so much consequence to Canadian farmers. We see almost every day in Montreal, citizens of the United States who come here to purchase these horses at a fair price. Farmers might considerably augment the value of the produce of their farms, by raising good Canadian horses, free from all mixture, or cross with other breeds. A young horse would not cost very much more to three years, than an ox to four years old, and the difference of value for sale would be perhaps from twice to six or eight times as much in favour of the horse. We are by no means advocates for keeping a large stock of horses if not required for work—but as a market has been raised up for the sale of good horses for a foreign country, we should by all means endeavour to raise a supply for it, that will realize cash. There is more encouragement to do this, as the market is likely to be a permanent one, and the demand appears to be

only limited by the supply. The profit of raising horses will be greatly influenced by the sort of animals raised. It may take as much to raise a horse that would only be worth ten pounds as one worth twenty or thirty pounds; and therefore it will be of great consequence that good animals be raised, as it is only such that will leave much profit to the breeder. It is not horses that are very high priced that would be most suitable or find the most certain market and demand, but those of a good description fit for agricultural purposes, and for labour at their public works, and in their cities and towns. Horses that would sell for sixty to one hundred and twenty or fifty dollars each, will always be most in demand and find most purchasers, and these prices would pay the breeders. We recommend this matter to the attention of farmers, particularly those residing beyond convenient distance from our cities—Should the market fail at any future time it will be easy to discontinue the breeding of horses, and turn our attention to some other products. We do not advise any farmer to enter extensively into the business, but those who can, might raise a few horses annually, that would prove of great assistance in the increase of the value of his farm produce.

We report with great satisfaction the establishment at Vaudreuil of the Canadian Glass Manufactory, by Messrs Boden and Le Bert. We have been assured by one of the firm, that they will be prepared to execute promptly any orders that may be sent to them, at moderate rates, provided that models are sent for any particular article required. The manufactory is in a very convenient situation, as there is cheap means of communication to it from all quarters. We sincerely wish it success. We have frequently recommended glass milk pans for dairies, as the best that could be made use of, particularly in this country. They are easy to keep clean, and never impart any unpleasant

flavour to milk or cream. They are to be manufactured immediately at Vaudreuil and we hope sold at such a price as will enable farmers to purchase them in preference to milk pans of any other material. This is a manufactory that deserves every encouragement. The material is native produce, worked by native or emigrant labour, which is all our own. We hope to see manufactories established that will supply us on better terms, and with better articles than could be imported. They would act as a great encouragement to agriculture, if conducted on a proper principle—giving good articles at fair, (not exorbitant) prices. They cannot expect to thrive, or be encouraged on any other conditions. It is not desirable to have home manufacturers, which pay as low prices as possible for the raw material that is raised by the farmers, and sell the manufactured produce at higher prices than the article is worth, according to quality. This, we conceive, is not an advantageous system to be encouraged, and certainly should cure itself by fair competition; but this remedy is not always so easy as one might imagine in Canada. Domestic or native manufactures can never be permanently successful, unless those who establish them make good articles, and rest contented with moderate profits.

We have received our exchange papers by the last English mail, and they contain much of interesting information on the subject of agriculture, and ample encouragement to adopt improved systems of husbandry. We perceive by a statement submitted by the Secretary of the Royal Irish Agricultural Improvement Society, that although the expenditure in premiums, &c. &c., at the last great Annual Cattle Show of the Society, held in Dublin, amounted to £1,350, all the expenses of the show were defrayed by the receipts, and the Society had not to advance one shilling towards it from their other funds.

We believe that the Royal English Agricultural Society is a considerable gainer by its great Annual Cattle Shows, &c., from the large receipts at these shows, and from the circumstance, that the city or town fixed upon, where the show is to be held, contributes generally towards the funds of the Society, one thousand pounds sterling for the advantage of holding the show at the place. The Lower Canada Agricultural Society may reasonably expect some aid from the citizens of Quebec towards the Cattle Show proposed to be held there next fall. If the show is anything like what it should be, a large assemblage of persons may be expected there that cannot fail to serve Quebec. We had an opportunity of ascertaining, from good authority, the great benefit derived by the citizens of Syracuse last September, from the great Cattle Show held at that place. We were also told that the receipts on the Railroad from Utica to Syracuse, a distance of about 50 miles, during the week of the great Fair, exceeded, by 10,000 dollars, the receipts on the same road for the same period of September, 1848, over and above paying all extra expenses caused by the increased number of passengers. What should prevent us from having a great Cattle Show, and exhibition of implements, and other products at Quebec?

The circulation of this Journal is much more extensive than any paper published in Lower Canada, particularly among the rural population, and would consequently be an excellent medium for advertising all articles likely to be required by farmers, or purchased from them. Insertions will be given on the usual terms charged by other papers. It is not desired to take advertisements from other journals; but we invite advertisements connected with lands, or referring to articles required by agriculturists, for insertion in this Journal. The circulation in both

languages has extended to between three and four thousand copies; although we regret we cannot add they are all to paying subscribers. We believe, however, that advertisements in this paper will be as widely and generally known as they would in any other paper published in Canada, and we hope encouragement in advertising during this year.

Mr. Fleck, the agricultural implement maker, has been very successful in the sale of some of his implements, his grubbers in particular, of which he has sold all he has made, and has orders now for many more before the spring. Mr. Fleck's implements have the strong recommendation of being exceedingly well made, as any we have ever seen. We have heard from a gentleman who has purchased and worked one of these grubbers, that it answered a very good purpose, and gave him perfect satisfaction. We are well pleased that Mr. Fleck's implements will bear comparison with any made on this continent, or imported. He has not a sufficient variety certainly, but is prepared to execute any orders he may receive for any implement required. He deserves encouragement, and we hope he will obtain it. He was awarded several prizes at the Provincial Show held at Kingston, last September; and is likely to be equally successful at the Exhibition at Quebec next fall.

In the last published Geological Survey of Canada, T. S. Hunt, Esq., Chemist and Mineralogist to the Provincial Geological Survey of Canada, reports having discovered, in the fourth lot of the eighth range of the Township of Burgess, (we believe not far from Perth,) phosphate of lime, of great value, for agricultural purposes. W. E. Logan, Esquire, Provincial Geologist, showed us a portion of this phosphate, and assured us that it was double the value of bone dust, as manure for crops. We do not pretend to be able to

form any idea of its value, but the report of Mr. Logan and Mr. Hunt is very encouraging, to try this phosphate in agriculture, and if it should prove of such value as these gentlemen suppose it to possess, it will be of great consequence to the agriculture of the country. The Royal English Agricultural Society, some time ago, sent out an eminent Chemist to Estremadura, in Spain, to examine a deposit of rich phosphate, said to exist in that country. We believe the gentleman who was sent found the phosphate to be fully equal to what it was previously represented, but that the expense of such a long carriage would prevent its being brought to England to be employed to advantage as a manure. There is much valuable information in the Reports of the Geological Survey of Canada, and we shall occasionally copy extracts from them. We give below a few lines from Mr. Hunt's report of the phosphate of lime discovered by him:—

“The attention of scientific agriculturists has within a few years been much directed to the important part sustained in the vegetable economy by phosphates, and the great fertilizing powers possessed by phosphate of lime, particularly in the form of bone manure, are universally recognized. With a view of obtaining some cheaper source of this substance, some enterprising Englishmen have lately been exploring a deposit of native phosphate of lime in Spain. Under these circumstances, the limestone thus described, which contains throughout it, a large supply of this important substance, is certainly well worthy of the attention of our agriculturists. The rock might be directly ground to a powder and applied to the soil, or previously burned to lime, when the united virtues of the phosphates and of quick lime would be rendered available to the soil. In two or three other places, the limestone has been observed to contain large quantities of this mineral disseminated, and doubtless in sufficient abundance to supply any demand. The phosphate of lime is largely contained in wheat; and the exhaustion of this ingredient is one great cause of the sterility of our worn-out wheat lands. In a grain-growing country like Canada, therefore, the existence of such deposits as these will prove of great importance.”

We also have seen Mr. Logan's report of whet-stones and soap-stone, found in the

Eastern Townships, which might both be made available to considerable advantage, as the articles will ever be in demand. Mines of this description will be more valuable to work in Canada than perhaps any other we could discover. Mr. Logan says, the rough stone is taken from Canada by the neighbouring States—are dressed and made into shape there, and then brought back and sold in Canada. We certainly cannot understand why this should be the case, and are not aware that it can be attributed to any cause, except want of sufficient enterprize in the inhabitants of Canada. We hear much of the backward state of this country, while we neglect to improve the advantages that are at our feet.

In the Message of the President of the United States to Congress, the interests of Agriculture are not forgotten. We copy a short extract from that Message. There are many things in the United States which it would be advantageous to us to follow their example in, and in none more than what they do for the advancement of agriculture, its improvement and prosperity. The highest in rank in that country are disposed to estimate fully the importance of agriculture, and to consider it the most suitable employment when retiring from public life:—

“No direct aid has been given by the General Government to the improvement of agriculture, except by the expenditure of small sums for the collection and publication of agriculture statistics, and for some chemical analyses, which have been, thus far, paid for out of the patent fund. This aid is, in my opinion, wholly inadequate. To give to this leading branch of American industry the encouragement which it merits, I respectfully recommend the establishment of an Agricultural bureau, to be connected with the Department of the Interior. To elevate the social condition of the agriculturist, to increase his prosperity, and to extend his means of usefulness to his country, by multiplying his sources of information, should be the study of every statesman, and a primary object with every legislator.”

We copy the following article from the *Farmers' Herald*, published in Chester, England, and we recommend it to the attention of Canadian Agriculturists.

The extension of railways to almost every district in the United Kingdom, gives the farmer an opportunity of inspecting at a trifling expense, and a little loss of time, the various improvements in agriculture which have of late years been introduced into several counties; model farms, newly invented implements at work in the fields, improved breeds of cattle and stock, &c., may all be viewed with profit and advantage.

The agriculturists, as a class, are prejudiced, to a great extent, against novel and theoretical systems which may be advocated in works on farming, and, consequently, they oppose any innovation upon their practises and views, and continue in the same position in knowledge of agricultural matters as their forefathers. We would, therefore, urge upon them the desirableness of their taking advantage of the expedition and cheapness in travelling, which railways present, and beholding for themselves, the great advancement in agriculture which has been effected in those counties which are distinguished for good farming.

It is with pleasure we notice the following just observations of Mr. Hewitt Davis upon the subject, which appears in a contemporary:—"It has hitherto been a sad hindrance to advancement, that farmers have had little knowledge of the farming practised fifty miles from their homes; and hence it is that the traveller finds himself, in a few hours, transported, as it were, into a fresh country, so different are the stock, implements, and habits, and so conflicting are the principles which are to be found in English farming. But all Britain now lies open to the enquiring agriculturist, as an illustrated book of information, as an example farm for his improvement—and what a ready means is here for his acquiring improvement!—What a lesson might the raisers of stock in the west of Britain gain as to the finishing of stock and the value of root crops fed with oil-cake, by crossing and visiting the highly farmed districts in Norfolk and Suffolk! They might there see the

practise that enables the Norfolk farmer to pay 30s. an acre for comparatively poor sands, and that gives to them in six months the returns for their stock that the breeder scarcely realises in twice the period.

Farming, to be worth pursuit in these days, must be made a business, a business, too, conducted on sound principles, with the closest regard to economy, as well as of money, time and power. A farmer must consider himself to be a manufacturer, and his great aim must be to produce the largest possible quantity of his ware at the smallest possible cost, availing himself, to do this, of the best manures and the best machines which he can procure. Unquestionably, the application of scientific principles to agricultural operations is a distinguishing and important characteristic of the age. If science confers her blessings on agriculturists, art is not behind-hand in the distribution of its advantages. Every invention or improvement that tends to lessen manual labour, economise time, and introduce a better system of culture, ought to be hailed as a boon, first to the farmer himself, and through him to the public. Time and teaching are gradually unrooting old prejudices, and the efforts of science have happily, in our day, brought to bear upon the landed interest the acquaintance with many things which those of the past generation neglected or despised—have elevated agriculture into one of the most pleasing pursuits. A knowledge of chemistry is no longer despised by the farmer, as agricultural societies are now established in every part of the Empire; chemistry has become familiar to nearly all good farmers, who employ it in analyzing the various ingredients of soils and their combinations, and every science is greatly encouraged that can facilitate the cultivation and improvements of the soil.

ON FOOD FOR PIGS.

There is perhaps no notion more popular than that anything is good enough for pigs: raw or boiled milk, meat, grease, grain, roots, leaves, acorns, &c.

That the pigs eat various kinds of food is a very important point in rural economy; but there are certain articles that require to be given with caution, and it is to these

that I beg leave to call your attention. I have dearly bought this piece of information by the loss of two pigs; and a neighbour of mine has lost a fine sow by the careless use of the same salt.

It is well known that saltpetre has the valuable property of removing the taint of turnip-taste from butter; and a small quantity put into the churn with the cream renders the butter sweet and pleasant. In one case, the butter from one cow was made twice a week; and to this quantity about a teaspoonful of saltpetre was added, and the buttermilk given to the pigs (about two months old), after drinking the buttermilk, were very uncomfortable, and as little notice was taken of the affair, they got over it as best they might; however, it was not so on the next day of churning, for both pigs were taken violently ill, vomiting and purging; and when all hopes of saving their lives were gone, they were put out of pain by killing.

A veterinary surgeon, to whom I mentioned the circumstance, seemed astonished at the effects produced by so small a dose.

My neighbour's sow was poisoned by the saltpetre in a solution of salt and water for pickling meat. He was advised to give the sow salt and water for some trifling ailment, and this brine being ready, he gave her that, and the effect was immediate death.

Therefore, through the medium of your valuable paper, you will do well to warn your readers against using saltpetre in either food or medicine for pigs.

There is another article of food that requires to be used with caution; it is the Jerusalem artichoke, a most valuable vegetable when properly grown and cooked, but it is necessary to cook it in a good supply of water, and do not use any of the water in which it is cooked in any way either for man or for beast; it is consequently, unsuited for soups, unless first boiled and strained, and if the liquor is given to pigs, it scours them and disorders the stomach. Common sense dictates that potatoes should never be put into any broth or soup in a raw state, but should first be cooked and dried, and then compounded with other articles of food as required, for the liquor in which potatoes are cooked is not altogether harmless; although weakened by dilution, still the poison pecu-

liar to the tribe of solanacea exists, for it is not so volatile as to be driven off by heat as many suppose, but may be readily discovered by the sight and by the smell without any complicated chemical tests.

An instance occurred of a person of my acquaintance, when potatoes were scarce, using Jerusalem artichokes plain boiled, and they answered so well as a dish that he determined to experiment upon them, and made hodge-podge with plenty of these fine white tubers in it, and it had nearly proved fatal to one young man who ate heartily of it.

However, when the surgeon was sent for, and had made enquiry into the dietary, he found that his patient was suffering from artichoke liquor; and as the surgeon's pig had only just recovered from a similar complaint, caused by the boy that fed it having given the liquor, as well as the boiled vegetable, to it, he said he knew the complaint, but did not state the name or the standing of the patient that he had prescribed for, whilst suffering from a similar illness.—*An Old Gardener, but a Young Farmer.*

NORMAL SCHOOLS FOR RURAL DISTRICTS.

A well-digested system of agricultural teaching, embracing a whole district. I do not allude to the higher and more refined branches of agricultural chemistry, as these would be out of place in such a rudimental state of society; but I mean the best method of cultivating small farms, the raising of green crops, the husbandry of manure, house-feeding cattle, and other points of rural economy, which are essential to the successful culture of a croft. These we can never hope to inculcate by mere precept; we must have an example before the eyes of the people, and in a locality subject to the same peculiarities of soil and climate as their own land.

It has been objected that it is impolitic or impossible to teach children both book learning and practical agriculture by the same master, and that it would in consequence be useless to make parish schoolmasters agriculturists, for the purpose of instructing their boys in farming; but those who thus object do not know how well such combined teaching has already worked, nor do they consider that a change of occupation during

the day's instruction enables a boy to apply himself with much more vigour to each branch of knowledge.

I propose that a model farm, or normal school, for the instruction of such persons, shall consist of 45 acres, to be divided into three crofts, in the centre of which a residence for the superintendent and his pupils, might be erected. On each croft the necessary byre and houses should be built, tanks, and all other appliances for the most rigid economy of manure, and its best application to the land; means of house-feeding cattle, and other "desiderata," for the most economical farming, must be provided. The pupils should, with their own hands, cultivate these crofts, and a system of rewards be given to the distinguished of them. The cost of such an establishment, even at the first, would be small; and, in less than two years, it would become self-supporting, for the produce of the 45 acres, would not only feed the superintendent and his pupils, but would also contribute to, if not entirely defray, the expense of his salary.

The school should be in some central place easy of access.

DISEASED POTATOES.—A correspondent of the Agricultural Journal for Rhenish Prussia, recommends piercing the potatoes to be used for seed with a wooden instrument (the holes to be two or three in number and to reach the centre,) and then soaking them in water containing from two to three per cent. of sulphuric acid (oil of vitriol.) He supposes the infectious matter thus destroyed. He advises also plucking the blossoms to prevent infection from other fields, and planting deeper, inasmuch as it has been observed that the potatoes nearest the surface are generally most diseased. He professes thus to have raised potatoes, almost without exception, sound, while alternate hills, not thus treated, were very much diseased. John Flock, of Montabour, Nassau, has recently published the following method as a specific against the rot. He leaves rather larger intervals than is usual between the hills. When the plant has reached a convenient size, he hoes up the earth against it on one side, to one-half its height, then bends the plant over horizontally, and forms the hill so that an inch or two of the plant

projects from the middle of the slope. The plant on further growth makes an angle at this point. The object of the contrivance is to lead off the rain, which otherwise follows the stalk to the roots, and carries with it the matter which causes the disease in the tubers. This view of the progress of the disease, acquires probability from the fact that after rain, potatoes before sound often become diseased and rot rapidly—again, from the fact that the disease commences on the outside of the tuber, and is worse nearest the surface of the ground; further, from two observations of Mr. Flock, that suggested his method, namely, that there was always most disease in the hills whose plants grew straightest, and consequently, through the influence of the wind, formed a funnel-shaped opening about the roots, which gave the rain easy access; again, that where manure was applied in such a form and manner as to protect the roots in a degree from the rain, there was always least disease.

NEW CLEANSER FOR FLOURING MILLS.—Mr. E. R. Benton, a millwright of Millwaukie, has invented a highly ingenious machine, to which he gives the above name. It is for the purpose of taking the bran as it comes from the bolt, and cleaning it of the flour which adheres to it, and which, without the adoption of some such process, is wasted, and also for separating bran and shorts. The machine is in the form of an upright cylinder, about four feet high and two feet across, within which are two revolving cylinders, curiously fitted up with wire cloths of various fineness, perforated sheet-iron plates, &c. &c. The bran is brought by an elevator to the top of the cylinder, and passes through a shaken sieve, which throws out the large lumps, that might clog the machine, down among the revolving cylinders. A current of air is driven up from beneath into the centre of the cylinder, inside the revolving part, and, by the operation of this current of air and the revolving of the mechanism, the bran, shorts, and two kinds of flour are passed off into separate receivers. The coarser flour is passed back into the elevator to go through the machine again, and the fine passes down into the bolt. A hammer constantly raps on the top of the revolving sieves to keep

them clear from being clogged up. About one-eighth of the mixed stuff, as it comes from the bolt to the machine, is saved as fine flour; and that in the very best mills three and a half per cent. of the flour ground will be saved; more, of course, in mills less perfectly built.—*Buffalo Commercial Advertiser.*

BEST METHOD OF FATTENING LAMBS.—

Separate the lambs from their dams, and keep them in a clean, warm, and well-ventilated house; quietness and darkness are essential to quick fattening, except when the dams are admitted for suckling, when the light must be partially admitted, which is about three times a day, the ewes being left with them all night. Should the ewes not have a sufficient supply of milk, it must be made up by fresh cows' milk. Some feeders rear the lambs entirely on cows' milk, given fresh from the cow, and, at the mid-day feeds, warmed to blood heat. The best thing to litter them with is clean wheat straw, some of which should be put in a rack, with the ears hanging out, to amuse them, and keep them from sucking each other's wool, collections of which in the stomach destroy many lambs; place some dry chalk, in lumps and in powder, which they may lick to prevent looseness. Some feeders add fresh eggs and finely-ground oatmeal, but the flesh is not thought so fair if fed on anything but sheep's or cows' milk.

HOW TO DESTROY RATS AND MICE.—Melt hogs' lard in a bottle plunged in water, heated to about 150 degrees of Fahrenheit; introduce into it half an ounce of phosphorus for every pound of lard; then add a pint of proof spirit or whisky; cork the bottle firmly after its contents have been heated to 150 degrees, taking it at the same time out of the water, and agitate smartly till the phosphorus becomes uniformly diffused, forming a milky-looking liquid. This liquid, being cooled, will afford a white compound of phosphorus and lard, from which the spirit spontaneously separates, and may be poured off to be used again, for none of it enters into the combination, but it merely serves to comminute the phosphorus, and diffuse it in very fine particles through the

lard. This compound, on being warmed very gently, may be poured out into a mixture of wheat flour, and sugar incorporated therewith, and then flavoured with oil of rhodium, or not, at pleasure. The flavour may be varied with oil of anniseed, &c. This dough, being made into pellets, is to be laid in rat holes. By its luminousness in the dark, it attracts their notice, and being agreeable to their palates and noses, it is readily eaten, and proves certainly fatal. They soon are seen issuing from their lurking-places, to seek for water to quench their burning thirst and bowels, and they commonly die near the water. They continue to eat it as long as it is offered to them, without being deterred by the fate of their fellows, as is known to be the case with arsenical doses.

MODE OF TREATING THE STING OF THE BEE.—As a sting may, perhaps, at one time or other, be received, I will subjoin Mr. Payne's remedy, in his own words—one which I have tried with complete success:—I pull out the sting as soon as possible, and take a piece of iron and heat it, or, for want of that, a live coal (if of wood the better, because it lasts longer), and hold it as near to the place as I can possibly endure it for five minutes. If, from this application, a sensation of heat should be occasioned, a little oil of turpentine, or Goulard cerate must be applied. But another certain and more simple remedy consists in the immediate application of *liquor potassæ* to the spot, to neutralise the acid of the sting. It should be used in small quantity, on the point of a needle or fine-nibbed pen, introduced into the wound. In the absence of this, *pure liquid ammonia* is said, on good authority, to succeed, if properly applied. Keep it in a close-stopped, small-necked bottle, which should be turned bottom upwards, and held very tight over the part. But any remedy to be efficacious must be speedily resorted to; and particularly in the summer, for then the poison is much more active than in cold weather.—*Taylor's Bee-Keeper's Manual.*

TO CORRECT ACIDITY IN BEER OR CIDER.
—Take 4lbs. of calcined chalk, and put it into a 100 gallon cask; in a week the liquor will have become mild and pleasant.

AMOUNT OF MINERAL MATTER ASSIMILATED BY VARIOUS CROPS.—It is found, on analysis, that an acre of wheat, being an average crop, carries off with it no less than 210 lbs of inorganic elements, viz:—30 lbs in the grain, and 180 lbs in the straw—a striking proof of the importance of consuming the straw upon the land. Bailey takes off 213 lbs—53 in the grain, and 160 in the straw. Oats takes 326 lbs—32 in the grain, 30 in the husks, 54 in the chaff, and 200 in the straw.

HEALTH.—A FEW WORDS OF COMMON SENSE.—Take, for example a young girl, bred delicately in town, shut up in a nursery in her childhood—in a boarding-school through her youth—never accustomed to either air or exercise, two things that the law of God makes essential to health. She marries; her strength is inadequate to the demands upon it. Her beauty fades early. She languishes through the hard offices of giving birth to children, suckling, and watching over them, and dies early; and her acquaintances lamentingly exclaim, "What a strange Providence that a mother should be taken in the midst of life from her children!" Was it Providence? No. Providence has assigned her three score years and ten—a term long enough to rear her children, and see her children's children; but she did not obey the laws on which life depends, and, of course, she lost it. A father, too, is cut off in the midst of his days. He is a useful and distinguished citizen, and eminent in his profession. A general buzz rizes on every side of "What a striking Providence!" This man has been in the habit of studying half the night, of passing his days in his office and in the courts, of eating luxurious dinners, and drinking various wines. He has every day violated the laws on which health depends. Did Providence cut him off? The evil rarely ends here. The diseases of the father are often transmitted; and a feeble mother rarely leaves behind her vigorous children. It has been customary, in some cities, for young ladies to walk in thin shoes and delicate stockings in mid-winter. A healthy blooming young girl, thus dressed in violation of Heaven's laws, pays the penalty; a checked circulation, cold, fever, and death. "What a sad Providence!" exclaim her friends. Was it Providence, or her own folly? A beautiful young bride goes, night after night, to parties made in honour of her marriage. She has a slightly sore throat, perhaps, and the weather is inclement; but she must wear her neck and arms bare, for who ever saw a bride with a close evening dress? She is seized with in-

flammation of the lungs, and dies before her bridal days are over. "What a Providence!" exclaims the world, "cut off in the midst of happiness and hope!" Alas! did she not cut the thread of life herself?" A girl in the country, exposed to our changeful climate, gets a new bonnet, instead of getting a flannel garment. A rheumatism is the consequence. Should the girl sit down tranquilly with the idea that Providence has sent the rheumatism upon her, or should she charge it on her vanity, and avoid the folly in future? Look, my friends, at the mass of diseases that are incurred by intemperance in eating or drinking, or in study, or in business; by neglect of exercise, cleanliness, pure air; by indiscreet dressing, tight lacing, &c.; and all is quietly imputed to Providence. Is there not impiety, as well as ignorance, in this? Were the physical laws strictly observed from generation to generation, there would be an end to the frightful diseases that cut short life, and of long maladies that make life a torment or a trial. It is the opinion of those who best understand the physical system, that this wonderful machine, the body, this "goodly temple," would gradually decay, and men would die, as a few now do die, as if falling to sleep.—*Mrs. Sedgwick.*

We extract the following from the second edition of Stephen's Book of the Farm, who, in turn, quotes from Mr. M'Turk, of Hastingshall, Dumfriesshire:—"When intended for bratting hogs, the cloth should be three-quarters wide, and two feet will be sufficient to cover one black-faced hogg. When intended for old sheep of the best description, the brats may be made larger by applying the cloth the long way, and we have then 27 inches in width to cover the back and sides instead of 24, and it can be cut off as long as the largest sheep requires. The brat should come so far down the sides as to cover the widest part of the ribs and all the back, from the tail to the back of the neck. Instead of fitting the cloth to every sheep, the best plan is to select a sheep of the average size of the class, and measure and cut the quantity of cloth required. When the cloth has been applied to the animal, and its proper dimensions ascertained, the parts should then be marked to which the different straps and strings are to be sewed, to hold it in its proper place. A strap is fixed to one of the front corners, in a direction to pass beneath the throat, and be sewed to the other corner; and other straps are intended to pass under the belly. These straps are only sewed at first at one end, and the other end is sewed after the brat is fitted on, so as to keep it tight in its place. The straps should be of a soft material, that they may not chafe or injure the skin when the

sheep is moving about. When made, the brats are dipped in coal tar, the better to resist the wet and rotting, and if taken care of will last, thus prepared, for five seasons. They ought to be made early in summer, to have time to be dried before November, when they are used. They remain on the sheep, but not longer than the beginning or middle of April, according to the state of the weather, and the condition of the flock. A person accustomed to the use of the needle, can make a brat in five minutes, and fit it on in less than other five." Mr. Stephens suggests the propriety of rendering the woollen cloth waterproof, and making the strings of vulcanized Indian-rubber, which, by yielding to the motions of the animal, will keep the brat always secure, and, at the same time, will not chafe or injure its skin. Tar and soap, or linseed oil and soap boiled, will suit for calico, and render it impervious for a time. These materials are to be had in all wholesale or retail druggists, and general country shops; but we may remark here that the cloth should be prepared during the summer, as the preparation takes a long time to dry.

THE BOTTLE TRICK PERFORMED BEFORE THE QUEEN.—On Monday (Prince Albert's birthday), during the festivities at Balmoral, the Wizard of the North (Professor Anderson) was present, and was asked if he would perform the feat they had heard so much of his having done so successfully—"The Inexhaustible Bottle." On receiving the royal command to perform it, he called for a champagne bottle, and handed a large number of glasses round, and asked Lord Portman what he would drink. His lordship replied "Whisky." Whisky was poured out. Mr. Anson preferred brandy, which he got. Several demanded wine, which passed freely; and one of the proprietors of the royal distillery, Mr. Begg, thinking to baffle the Professor, asked him if he could give him a glass of his best Lochnagar whisky. No sooner said than done; and the Lochnagar whisky became in great demand. A large number of additional glasses were distributed, and some called for Irish whisky, numbers brandy—the Highlanders patronised Mr. Begg; when Lord J. Russell, perhaps like Mr. Begg, wishing to try the Wizard's skill, asked for a glass of rum, which was immediately supplied, and his lordship pronounced it excellent. The London portion of the domestics and police called for gin, which was freely poured out of this extraordinary bottle; and the Wizard was returning to his state, when his Royal Highness, anxious to test the bottle—presuming, as he was returning, that it was exhausted—asked if more could be poured out. Glasses were brought for her Majesty and Prince Albert, and on being asked what they preferred,

requested Begg's best Lochnagar, which immediately ran forth, and her Majesty and the Prince tasting it, acknowledged its purity; and the Wizard gave the bottle to the Prince, and asked him to look if it was empty; it was Mr. Anderson brought some water, and in the Prince's hand, filled it, ordered glasses, and asked the Prince what wine he preferred. Port was selected. The Prince poured port, and then sherry, then milk, then champagne, then broke the bottle, and in it was discovered a beautiful turtle dove.

NORWEGIAN WINTER TRAVELLING DRESS.—As there had been much frost, during the night, we were, on the following morning, advised not to continue our travel in a cabriolet, but in sledges. We were assured that there had been sufficient snow and frost on the table-land to admit of this manner of travelling safely, which was much better adapted for the road than wheeled vehicles. The frost had continued for several days, and the ice on the lakes and water-courses was said to be strong enough to bear the horses and sledge. Having consented to this change, an addition to our clothing was next proposed; our dress being observed not to be of such a description as to protect us sufficiently against the inclemency of the weather, which, at this season, prevails on the table-land. Our experience of yesterday gave weight to the arguments of our landlord, but the equipment proposed appeared to us at first so strange, that it was only after some hesitation that we were induced to adopt it.—We had to put over our boots another pair made of sheepskin, and over our heads a large cap made of the same material; the latter was provided with two lappets, of which one was tied under the chin, and the other under the nose, and extended over our foreheads to the eye-brows, so that nothing was uncovered except the eyes themselves. Our hands were not forgotten. We were obliged to put on a pair of gloves of immense size. They were also made of sheepskin, and so large that they reached over the elbows nearly to the shoulders, and they were tied together by a thong on our backs. Having in this way secured the extremities from the effects of the cold, the whole equipment was completed by a large wolfskin tied round our bodies.—When we were thus fully arrayed, we could not help laughing at each other, for we appeared to have entirely lost the shape of human beings. We certainly much more resembled the Esquimaux, in the full Winter dress, than any person living on our happy island.—*Wittich's Visit to the Western Coast of Norway.*

The communication of "A New Subscriber" in our next.

I'M OF THE BAND THAT TILL THE LAND.

BY JAMES STARKEY.

I'm of the band that till the land,
 And draw from the earth her store;
 Right happy indeed's the life we lead,
 While our days are passing o'er.
 Many there are, in riches far
 Surpassing the farmer's purse,
 While other pursuits may yield more fruits,
 Yet often bring forth much worse.

We envy not the statesman's lot,
 Still clamouring for his class;
 Nor his that fights for glory's rights,
 At some redoubted Pass.
 No risks have we on boisterous sea,
 Nor fears lest tempests whelm
 All we possess, without redress,
 While labouring at the helm.

The fruitful field its bounties yield
 A rich reward for toil;
 Be ours the trade to ply the spade,
 And deeply plough the soil.
 We walk abroad o'er carpet sod,
 And flowrets kiss our feet,
 Whose odours rise to scent the skies—
 A tribute pure and meet.

To all we give the means to live,
 As brother shares with brother,
 And thus fulfil the holy will
 That bids us "love each other."
 Oh! life secure from guile, and pure!
 To thee my soul clings ever,
 With all its might, in fond delight,
 To change from thee, no, never.

CANADIAN GLASS MANUFACTORY,

NEAR SNYDER'S LANDING, VAUDREUIL,

Erected and carried on by Messrs. Boden & Le Bert.

THE Proprietors of this establishment are prepared to Manufacture LOOKING GLASS PLATE and WINDOW GLASS, of every size, coloured and fancy, according to patterns or orders. Shades for Oil and Gas Lamps, plain, tinted, or coloured, in the richest hues—Coloured Glass of any pattern for Churches, similar to those of European Churches; also, for Cottages, Gardens, Houses, and Steamers—Bottles and Vials for Druggists made to order.

—ALSO,—

SODA, GINGER, and ROOT BEER BOTTLES, with or without the maker's name.

—AND,—

MILK PANS, of suitable sizes.

All these articles shall be of the very best quality, and disposed of on reasonable terms; and the Proprietors solicit a share of Public patronage, and the examination of their Manufactures.

For orders or further particulars enquire of the Proprietor, at the People's Hotel, No. 205 and 207 Notre Dame Street, Montréal.
 Vaudreuil, January, 1850.

FARMING IMPLEMENTS.

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

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

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

AUCTION SALE OF FRUIT TREES, &c.

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

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

TOGETHER WITH

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

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

JOHN DOUGALL,

Montreal Witness Office....

Agent for Rosebank Nursery.

Montreal, November 30, 1849.

REAPING MACHINES.

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

MATTHEW MOODY, Manufacturer.

Terrebonne, July, 1848.

FLOWERS AND FLOWERING SHRUBS.

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

JAMES DOUGALL.

November 30, 1849.

ROSEBANK NUSERIES.

NEAR AMHERSTBURGH, CANADA WEST,

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

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

Pears on Quince and free
Stocks,..... a 2s 6d. ea., or \$40 per 100
Peaches, an unrivalled
assortment a 1s 3d ea., or \$20 do
Plums, 74 varieties, a 2s 6d ea., or \$40 do
Cherries..... a 2s 6d ea., or \$40 do
Necterines..... a 1s 10½d each
Apricots on Plum and Apricot

Stocks,..... 2s 6d each.
Quinces,..... 1s 3d to 1s 10½d each.
Foreign Grapes,..... 2s 6d ea, 22s.6d per doz
Native do, 1s 10½d ea., 15s do
Gooseberries,..... 1s each, 10s do
utsCrran and Raspberries, Strawberries, Almdnos
Chesnuts, Filberts, Mulberries, &c., of all the best
kinds, and at very reduced rates.

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

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

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

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

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

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

JAMES DOUGALL, Proprietor.

Rosebank Nurseries, near Amherstburgh,
20th November, 1849.

NEW SEED STORE.

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

At No. 25, *Notre Dame Street*, Opposite the *City Hall*, Where he will keep an extensive assortment of AGRICULTURAL and GARDEN SEEDS and PLANTS of the best quality, which he will dispose of on as favourable terms as any person in the Trade. From his obtaining a large portion of his Seeds from Lawson & Sons, of Edinburgh, who are Seedsmen to the Highland and Agricultural Society of Scotland, he expects to be able to give general satisfaction to his Patrons and Customers. He has also made arrangements for the exhibition of samples of Grain, &c., for Members of the Society, on much the same principle as the Corn Exchanges in the British Isles. He has a large variety of Cabbage Plants, raised from French seed, which he will dispose of to Members of the Society, at one fourth less than to other customers.

GEORGE SHEPHERD.

Montreal, April, 1849.

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

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