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THE BRITISH AMERICAN



CULTIVATOR.

"AGRICULTURE NOT ONLY GIVES RICHES TO A NATION, BUT THE ONLY RICHES SHE CAN CALL HER OWN."—Dr. Johnson.

VOL. 2.

TORONTO, SEPTEMBER, 1843.

NO. 9.



THE CULTIVATOR.

"Agriculture is the great art which every government ought to protect, every proprietor of lands to practice, and every inquirer into nature improve.—Dr. Johnson.

TORONTO, SEPTEMBER, 1843.

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The weather during this month, has been remarkably fine, and very favourable to the early sown wheat; indeed much that was sown in the latter part of August, will be too gross if the weather, during the months of October and November, should prove as propitious in forwarding vegetation, as is frequently the case in this country. In our opinion, it is as dangerous to sow wheat before the 1st. of September, as it would be after the 20th of that month.

Prices have been gradually tending downwards, and we are apprehensive that when navigation closes it will fall to three shillings per bushel, at which price it will be apt to remain about stationary, through the winter and spring months up to the opening of navigation. Canadian farmers have no right to complain of the present low prices in the article of bread-stuffs, as every advantage is given them in their own, and the markets of their

mother country, but they should rather rejoice that their fellow-subjects in the British Isles have the inestimable advantage of procuring bread, made from wheaten-flour, at a price within their reach.

The policy which we would recommend the Canadian agriculturist to adopt in future, is to look upon his wheat crop—as a surplus crop—as one which would bread his family, and leave a balance of some few hundred bushels in his garner, which might, very appropriately, be styled a sort of bank deposit. At present, far too many are depending exclusively upon the profits of this one crop. They little think that there are other sources of wealth for Canadian husbandmen. Experience is the best teacher of wisdom, and we fear that many in Canada learn their wisdom by dear bought experience.

We feel morally certain that a system of managing lands, may be brought into successful practice, which will enable the Canadian wheat grower, in six cases out of ten, to afford his wheat for 3s. per bushel,—this being a desideratum, above all others, most desirable for the success of the Canadian farmer, we shall frequently recur to it, and give our views in detail on this important subject.

Since writing the above, the news by the steam-ship *Great Western*, makes mention of a rise of 2s. per quarter, on wheat. We anticipate, however, that the conclusions we have come to on the subject, will be pretty nearly realized. We are of opinion that, at the opening of navigation, in the spring, an important rise in the article of bread-stuffs will take place.

AGRICULTURAL AGENCY, AND COMMISSION OFFICE.

No. 18, Cornhill, London, Sept. 18, 1843.

DEAR SIR,

I take this opportunity to drop you a line, begging you will send me another copy or two of the *Cultivator*, as it is now much enquired after in England. I am glad to find it is making head so well. Put me down in your list of Agents; and also state, that it is regularly filed at my office. This may do some good; as it will inform parties where they can see it and order it.

Yours truly,

P. L. SIMMONDS.

It gives us much pleasure to notice that our magazine is so favourably received in England, and proves incontestably, that correct information regarding the natural and artificial character of this colony, is highly prized in that country. We intend, in future, to store our columns with information that will be highly conducive to give a healthy flow of emigration to our shores, and, at the same time, be useful and interesting to Canadian agriculturists.

If the circulation of the *Cultivator* were three times as great as at present, it would be worth, at least, six times as much to each person who read it. Those who doubt our word, would do well to make the experiment of exerting their influence in extending its circulation.

The best apology we have to offer for the disappointment, which we may have occasioned to many of our subscribers, in promising them this number by the 30th of September, is that the delay was not occasioned by any neglect on our part; but to causes over which we have no control. Our printer is pledged to publish the three remaining numbers of the current volume by the 10th of December next.

AUTUMN PLOUGHING.

Autumn Ploughing may be practised with much advantage on clay soils, or those of a retentive nature; but on light and sandy soils the effect produced is loss in the extreme to all who practise it. A very shrewd and experienced man in husbandry once remarked, that the science of agriculture is nothing more than an endeavour to discover and cure nature's defects; and the grand outlines of it are—*how to make heavy lands lighter, and light lands heavier, cold lands hotter, and hot lands colder.* He that knows these secrets is a farmer, and he that does not know them is no farmer. Many false notions have been propagated, by not attending to these general ideas, and in no instance more than in ploughing land. We see in some portions of our country where the principal features of the soil is a yellow or grey drifting sand, large fields undergoing what is termed the summer following operation, whereas such a practice is radically wrong, one good ploughing, if the land be clean from weeds and wild grasses, is better than a hundred for such soils. In no instance should such land be exposed in a naked state to the heavy winds, rains, and frosts which occur during the autumn and early spring months.—While we would deprecate the principle of stirring sandy land too much,—we would wish to be distinctly understood, that there are few instances where strong heavy land can be pulverized too much.

The proper depth for ploughing must necessarily depend upon the nature of the soils. In discussing the propriety of the extent to which the operation may be safely carried, it should be borne in mind, that there is a wide difference between the effects of ploughing deeply into land the stratum of subsoil of which is nearly as fertile as the surface soil, and that of augmenting a shallow surface of fertile soil by mixing it up with a subsoil of inferior quality. In such portions of the country where the land was originally covered with maple, beech, elm, basswood, and most other descriptions of hard wood, the subsoil is most generally porous, or of a crumbly nature, and the surface soil much deeper than those lands which had been originally covered with evergreen timber. The deeper the former description of soils are ploughed, the less liable will the wheat plant be apt to receive injury from blight or mildew. The intelligent British and Flemish husbandmen are aware of the superiority of deep ploughing over shallow, they have studied the wants of nature and have supplied those wants by artificial means. We read of the Flemish husbandmen stirring his ground to the depth of eighteen inches; and the English farmers have lately adopted the use of the subsoil plough, which although it does not bring any of the subsoil directly to the surface, it prepares it gradually for the surface by the action of the frost and air. We would not be surprised to hear of the English farmers very soon having their ploughs so constructed that they can plough from fifteen to eighteen inches deep, on soils of calcareous or permeable nature. Large tracts of fertile lands abound in Western Canada, which are generally too rich, or have too great a depth of vegetable mould for the proper maturity of the wheat plants. The stratum of subsoil, which lies directly under the surface soil, being of a rich chocolate colour, and composed of marly lime, gypsum, and potash, and which varies in depth from one to three feet, is the best possible description of land for the growth of wheat, or in fact any other crop which is suited to the climate

of the country. Strange as it might appear to those who have thought much on this subject, still it is not more strange than true, the very best lands in the country are now condemned as being unsuitable for the growth of wheat. The cause of the defect of the soil is obvious. The salts of ammonia and potash have been extracted from the soil by constant cropping,—besides much of the best food for maturing the plants have settled down in the subsoil, below the reach of the common depth of ploughing. By repeatedly ploughing land to a certain depth, a hard pan is thus created on the surface of the subsoil, which forms an impenetrable barrier to the roots of the plants.

It is obvious that this hard pan must be broken up—and the best season for doing so is the autumn. Although in many cases the subsoil would prove extremely fertile, and be very efficacious for the proper maturity of the wheat plant, still it would not be generally expedient to bring up a greater quantity than two inches at one ploughing, and the depth might be increased even on very heavy lands perhaps once in five or six years. Thus in the course of time a deep soil might be formed which would almost equal the celebrated Flemish husbandry.

When the farmer has a soil of the quality mentioned as likely to be benefited from deep ploughing, we would suggest that a single experiment would be worthy of trial. To perform the operation, it requires a strong pair of horses, a heavy plough and an expert ploughman. About three inches of the subsoil might, with advantage, be exposed with the first ploughing, and the whole surface of which should be covered with a heavy dressing of manure, as soon as ploughed. This layer of new earth, will thus imbibe its juices during the whole of the wet season of autumn and spring, and notwithstanding all the objections which might be urged against the evaporation of the dung, this process will not fail to produce a most striking effect on its amelioration. By repeating this plan a deep vegetable stratum of soil might be formed which would prove a very sensible improvement in the crops.

In the autumn of 1839, we dug a cellar, and as a subject for experiment, we exposed a quantity of subsoil to the action of the winter frosts, which was taken from the cellar, about two feet from the surface soil. In the following spring we planted a few potato sets, on this new made soil which gave an astonishing crop of haulm, and a fair average yield of potatoes.

One of the most remarkable instances that ever came under our notice, of the advantages of deep ploughing, took place about eighteen years since, on a farm lying near Newmarket, in the Township of Whitchurch. The farm in question had been let on a twenty-one years lease, on condition that the tenant would properly clear two-thirds of it,—he being an active man, soon cleared the proportion allotted him, and at once commenced a course of cropping, which quite exhausted the soil by the time that fourteen years of his lease had expired. Instead of resorting to the plan of making naked summer fallows, by cultivating alternate green and white crops, and carefully applying all the manure made on the premises, he chose rather to sell the remaining period of his lease, which enabled him readily to clear up another brush farm. The person who purchased his lease took possession of the farm in the autumn, and ploughed late in the fall, about forty acres, which averaged the depth of nine inches. The following summer, the whole of

the ground that was thus ploughed deep in the autumn, was properly summer-fallowed, and sown with winter wheat, the crop from which was carefully housed or stacked, which yielded sixteen hundred bushels of the best description of wheat. We have seen but one instance, on record, in the history of Canadian agriculture, which yielded the above given number of bushels from the same breadth of land. It appears that the above extraordinary result, created, or excited no curiosity among the inhabitants of the vicinity in question, as it was generally supposed that the season was more propitious than usual, for the maturing and ripening of the wheat crops. The profits arising from this large crop of wheat enabled its owner to purchase a bush farm, possessing the advantage of a mill privilege, and consequently, as is too common in this country, he fancied that he would shortly grow rich, by the profits of speculating in wild lands, &c., and, unfortunately for the country, his successful experiment was not carried farther than the one in question. To contrast the difference between shallow and deep ploughing, a very striking instance occurred only a few years since on the very farm in question, on which the above forty acres of wheat was raised. About eight years since, a number of Norfolk emigrants settled in the above mentioned neighbourhood, most of whom were considered most excellent ploughmen. A young man, rather clever in the management of horses and ploughing, was employed by the present holder of the property in question, at ploughing, during the season for that work, for four years in succession; and, as was usual on the light sandy and gravelly lands of Norfolk, set his plough to run about four inches and a half in depth. The last two years that he was employed the crops were much injured with blight and mildew, and a crust of moss would accumulate on the land sown with winter wheat, by the time that the crops would be secured, sufficient to allow of being removed in flakes of a foot in diameter. Since that period a deeper furrow has been ploughed, but the plan which produced the forty bushels per acre is quite forgotten.

In no country can a greater variety of soils be found than this, and, therefore, much injury might follow from the adoption of a system which is unsuitable to the particular soils, to be cultivated.—We would, consequently, beg to offer an apology to such of our readers, who are already proficient in this department of farming, if we should happen to be prolix in our remarks, before we close this subject,—the only object that we have in view, in dwelling on the details of this branch of farming, is to instruct such of our readers, who require instruction.

There are many deep soils, naturally of equal good quality, which rests upon a mixture of clay, sand, and gravel, devoid of vegetable matter, and impervious to water, subsoils of this nature should not be brought to the surface, as it would require a heavy dressing of both lime and dung, accompanied with a thorough summer fallowing, before it would be in a fit state for cropping. Soils of the latter description may be found in almost every district of the Province, and such are best adapted for grazing, and almost unsuited for fall sown wheat, unless they be thoroughly drained.

We noticed, while making a tour through the Talbot District, large tracts of land which had an average vegetable mould, equal to about four inches, which rested upon a porous or drifting sand. The cultivators of the land in question, were rather

above the mediocrity of Canadian farmers, in point of general skill and intelligence, and had early adopted the plan of cultivating alternate crops of clover and wheat. The crops on the ground were in a most flourishing state, and the whole face of the country bespoke an abundance of every thing which is calculated to cheer the heart of man.—As a mark of the good sense of the farmers of that part of the country, the ploughings have been always carried to one depth,—the depth of the surface soil forming the line of demarcation—and a pan or hard crust has thus been formed underneath, which both secures the manures from being carried down below that part which has been actually tilled, and also prevents the escape of humidity from the upper stratum. We mention this fact, to give our readers some idea of the importance of studying "nature's wants," and the cautiousness requisite to enable a man to successfully carry out experiments. If the farmers in the Long Point District, or in any other portion where sandy lands abound, should have tried the experiment of deep ploughing, upon the recommendation of the *Cultivator* and the result had proved unfavourable, instead of being beneficial, the blame would have been attached to us.

On many soils, and situations, much good would result from deep ploughing, especially for the wheat plant, and pease; and we are also of opinion, that peculiar soils cannot be stirred too deep, nor too often, for the benefit of the crop; but we conceive that the most judicious means for the untutored agriculturist to add to the depth of their soil, would be, to add little by little with each autumn ploughing, which will gradually tend to increase the depth of the vegetative mould by the mixture of small quantities of the virgin earth of the subsoil with the surface, and thus ultimately gain the desired object, without any risk or loss. If each farmer was qualified to practically analyze the qualities of the subsoil, he would at once know whether he could profitably bring it up to the surface or not. An experiment or two with a few square yards or rods, would determine the thing at once. Such of the Canadian farmers who desire to profit by their calling, would do well to look into this matter, and as a stimulus for such a laudable movement, we would mention one fact for their consideration. Much of the land which is called maple, beech, and elm land, has a deep black soil on the surface, and a remarkably rich chocolate-coloured greasy subsoil. If it were not for the abundance of potash, carbon, and sulphate of ammonia, which is present on all newly cleared lands from the forest, the wheat would not ripen, but would be a mass of useless straw. By constant and frequent cropping the vital principles of vegetation in the soil become exhausted, and the soil becomes as inactive, although of a deep black colour, as though it were a mass of rotten wood.—If it were possible to remove this from the surface, and by exposing the subsoil of the above description, to the action of frost and air, the produce from such land would be most certain and abundant. If the subsoil be thoroughly incorporated with the worn out surface soil, the two blended together will give a countenance to the soil, which will render it suitable for autumn and spring crops. For the want of a little discretion in this particular, the deepest and best lands in the country have grown more and more into disrepute, and the light soils have become celebrated for the growth of winter wheat. We are almost inclined to the opinion, that subsoil ploughing might answer a good purpose, unaccompanied with thorough draining,

providing the subsoil be of a permeable nature.—Our earnest attention shall be devoted to this subject, and as soon as circumstances will admit, we will purchase a subsoil plough, for the purpose of instituting a few experiments, to test its adaptation to the soil we cultivate.

There are many persons who are in the occupation of land in this country, who have been bred to professions, trades, and at daily labour in cities, who are not sufficiently well acquainted with the practice of agriculture, to know whether work be well done or not, to whom a few observations on the details of ploughing, might not be considered misapplied. While we attempt to treat on the subject, as though the reader really required instruction, we, at the same time, shall endeavour to communicate our ideas in such a style, as will both please and instruct, a class of readers for whom we have the highest regard, viz., the juvenile class, or the farmers' sons.

Every man was not born for a ploughman:—there are many who have much conceit of their capability of holding the plough in a masterly manner, but there are very few who deserve the appellation of good ploughmen. There is, in fact, a certain degree of taste in ploughing, as well as in every occupation a, kind of tact, which is difficult to be taught, and hardly to be acquired, unless the learner evince a great amount of ambition or desire to shine in that department; notwithstanding this, certain rules or broad principles may be laid down, which, if honestly acted up to, will enable the most un instructed to become able, at least, to do the work in a creditable style. The first care of a young beginner is to make the ridges straight, in which he will be much assisted if, instead of depending wholly on the accuracy of his sight, he, when ploughing with a pair of horses, puts a cross-bar between the cheeks of the bridles, so as to keep the horses precisely at the same distance from each other, and then setting up a pole at the end of the furrow, exactly measured to the same line as that from which he starts, fixes his eyes steadily upon it, and carries the plough in a direction precisely to that point. When the land is hilly, or so undulating that the ploughman cannot clearly see the stake from one end of the field to the other, a greater number of stakes will be required to be set in the line of direction, but, in all cases, where the stake can be distinctly seen throughout the entire length of the field, the most perfect plan is to sight at some object at a farther distance than the stake,—both shall be kept in a straight line with each other, and the furrow will most certainly be straight. Although ploughing the first furrow straight is a very important object, yet the regularity of the furrows, and the finishing of the ridge neatly, are of still more importance. An idea is generally entertained that the position in which the furrow sods are laid depends on the form of the mould-board, but, although this is partially the case, it depends more on the breadth and depth of the furrow. Ploughs of an ordinary form will lay the furrows on an angle of about forty-five or fifty degrees, if the land be ploughed in about the proportion of three to two, that is, if a furrow of nine inches in breadth be carried to six inches in depth.

Some ploughmen have imbibed a remarkably bad habit of leaning on the left stilt, which gives the bottom of the furrow a slope towards the land side,—a portion of the land is thus unstirred, or only ploughed to the depth of two or three inches, and consequently the tillage is imperfectly

performed. An instance of this kind of ploughing, was a subject of much remark at the last Home District Ploughing Match. The work in every other respect but this, was done most exquisitely, but the newly ploughed land instead of being compact, appeared to be spongy and very objectionable to the best judges on the ground.

The perfection of good ploughing can only be attained by practice, notwithstanding, certain rules may be laid down, as worthy of being observed by every one who means to become proficient in the performance of this work. The following will be found to be of much service to the beginner.

The horses should be harnessed as near to the plough as they can be placed, without impeding the freedom of their step; for the closer they are to the point of draught, the less exertion will be required to overcome the resistance. The most powerful horse should be worked in the furrow.—They should be kept going, when at work, at as regular and as good a pace as the nature of the work will permit. The desired breadth and depth of the furrow should be ascertained, and the plough should be held upright, bearing equally all along in a straight line without swerving to either side. The edge of the coulter should be set directly forward, so that the land side of it may run on a parallel line with the land side of the head, and in such a position that the cut of the land side of the shear and coulter may exactly correspond. The ploughman should walk with his body as nearly as possible upright, without leaning in a lounging manner on the stilts, and without using force to any part, further than may be absolutely necessary, to keep the implement steadily in a direct line. He should also be sparing of his voice, and not be constantly hollering which only disturbs the team.

The great importance of the subject under discussion, has caused us to extend the bounds of this article to a much greater length than we anticipated, when we commenced it; and we have only a few words more to add regarding the best method of carrying out the operation of ploughing.

The breadth and form of the ridge must depend both upon the nature of the soil, and the mode of culture to which it is subjected. The most common width, on land of ordinary quality and cultivation, is from 18 to 36 feet, each being intersected by a deep furrow, and they should be formed in a slightly convex shape, with the intention of draining the superabundant water from the surface.—This being less necessary on dry ground, than on that which lies wet, the ridges are in that case much broader, and laid proportionably level.—These remarks are, of course, intended to apply to autumn ploughing, as we have over and over stated, that the ridges for fall sown wheat should not be over four yards wide at the most, especially on close retentive soils.

If the land be at all grassy, it is essentially necessary before the crown of the ridge be formed, to open out a light furrow each way in the precise place for the crown; otherwise either the centre of the land or ridge must remain unploughed; it should however be observed that this practice is only followed by the very best farmers in the country; and those who have got good ploughmen under their employ.

We trust that what has been said will elicit a spirit of improvement among the farmers sufficient at least, to give countenance to an annual ploughing match, to be held in each township;—and the introduction of a better description of plough,

than those which are used in most portions of the province. Agricultural Societies, one and all, ought to encourage better ploughing and better implements, in their respective fields of operation.

We have penned the foregoing remarks in the hope that they would, in some measure, tend to arouse the lumbering multitude from their lethargy, and, at the same time, stimulate them to adopt a better system of farm management, especially as it regards the important branch of ploughing.

CANADIAN TARIFF.

As the publisher of the only Agricultural Journal in the province, much, no doubt, is expected from us on the popular subject of agricultural protection. We shall endeavour to dispose of this subject, as we do with all others, that are calculated to be a means of promoting the best interests of the country,—our advocacy on this, as well as all other agricultural topics, will, we trust, have for its end the advancement of agricultural skill and wealth which will assuredly advance every other interest in the province.

The view we take on the subject of protection to Canadian agriculture is this.—we maintain that the only way to establish a free trade with a neighbouring nation, which is protected and walled in on all sides, by an exorbitantly high Tariff, is to levy a scale of duties on all articles grown or manufactured in that country, entering our ports, equivalent to the scale of duties levied on similar articles, being the produce of our soil and workshop, entering the markets of that country. This is the only legitimate view that can be taken on this important subject: and we venture to say, that no true-hearted British Canadian could be found who would for a moment question the justness of the position here laid down.

Numerous petitions have been circulated through the agricultural districts of both sections of the province, praying for protective duties, which have been extensively signed by all classes, and which will shortly be submitted to the Provincial Parliament, now in session, at Kingston, for its approval. The amount of duties asked for, have been, in most cases, specified by the petitioners, and will range from fifteen to a hundred per cent. less, than similar articles are subject to, entering the markets of the United States. We have before us a petition to the Legislature on this subject, from the Eastern townships, in which the following duties are asked for.—on all Beef and other cattle of three years old and upwards, excepting Milch Cows, 50 per cent., on Steers, Heifers, Milch Cows, and all cattle under three years old, 10s. per head, fresh Meat, per cwt. 5s.; Store Pigs, per head, 5s., do. for slaughter, 5s. per cwt.; Oats, per bushel, 3d.; Rye, 6d., Sheep, per head, 1s. 3d., Indian Corn, per bushel, 6d.; Buckwheat, do. 6d.; Pease, do. 6d.; Barley or Malt, 6d.; all Meal and Flour, (other than Wheat flour), to be subject to a duty of one shilling per cwt. Biscuit and Crackers, per cwt., 5s.; Tallow 10s., per cwt.; Lard, 10s. do.; Hay and Straw per ton, 5s.; Hops, per cwt., 20s.; all Fruit and Vegetables,

20 per cent. *ad valorem*, Horser, 20 per cent. on their value.

We have ever entertained a high opinion of the Eastern townships for the production of cheese, butter, and wool, and by some cause unknown to us, no duties are considered necessary by the petitioners, on these articles. For the information of the petitioners, and our readers in general, and more especially for the people's representatives, in Provincial Parliament assembled, we select the following items from the American Tariff, which will show clearly how secure the farmers of the United States are, from all foreign competition. Bacon 3 cts. per lb., barley, 20 cts. per bushel; beeswax, 15 per cent.; bolt rope as cordage, 5 cts. per lb.; brooms of all kinds, 30 per cent.; butter, 5 cts. per lb.; canary seed, 20 per cent.; candles, tallow, 4 cts. per lb.; wax, 8 do.; caraway seed, 20 per cent., cheese, 9 cts. per lb., cloths, woollen, 10 per cent.; cordage, 5 cts. per lb.; flax, unmanufactured, or tow of flax, 20 dollars per ton; flour of wheat 70 cts. per 112 lbs.; hams, 3 cts. per lb.; hemp seed, 20 per cent.; hemp, unmanufactured, 40 dollars per ton; hops, 20 per cent.; malt, 20 do.; oats, 10 cts. per bushel; oatmeal, 20 per cent.; oil, hemp, lin, and rape seed, 25 per cent.; patent barley, 20 per cent.; pearl barley, 2 cts. per lb.; pease, 20 per cent.; pork, 2 cts. per lb.; potatoes, 10 cts. per bushel; putty, 1 1/2 cts. per lb.; tobacco, unmanufactured, other than snuff and cigars, 20 per cent., wheat, 25 cts. per bushel; wool unmanufactured, 30 per cent. and 3 cts. per lb. With this high tariff on agricultural produce, and one much more exorbitant, on foreign manufactured goods, the Americans will unquestionably very shortly be independent of foreign nations. As British manufactured goods, and British American agricultural produce is rejected and considered obnoxious by the citizens of the United States. We, as Canadians, should cultivate a trade with our parent country, which would be found to be more substantial and profitable, than trading with a foreign nation, who will take nothing in exchange for their goods, but bullion. This branch of the subject is now engaging the most sensible portion of the Canadian press, and we are happy to notice that the leading commercial and political papers are now of opinion, that it is extremely impolitic in Canadians any longer holding out a premium for the Illinois, Ohio, and other Western States' produce, by allowing the cultivators of the soil of these rich regions of country to enter our markets without any restrictions. The following is a specimen of the opinions entertained by commercial papers on this subject, which we extract from the *Montreal Transcript*, of the 28th ult.

“In the last number of the *Transcript*, we spoke of the improvement which, we are led to suppose, has taken place in the prospect of the agriculturist; we intend now to say a few words on the effect this improvement must have on the commercial interests of the country, and endeavour to show that it is the interest of the merchant to support such a system of protection for the farmer, as will place the latter in a situation to become a customer for the goods in which the merchant deals. At present, in con-

sequence of this unfair competition into which he is brought with the American producer, the Canadian farmer is left with scarcely a shilling to help him-self, and the amount of his yearly expenditure with the storekeeper—and through the storekeeper, with the merchant—is necessarily trifling. The clothes which he has on his back are of his own manufacture, and he is compelled to restrict himself in the use of those articles of foreign production which, were he better off, he would regard as necessaries. In fact, he goes as seldom to the storekeeper as can help, and then from his necessities, the price which he pays in produce, is so enormous as to increase his difficulties and distresses. The reason of this is obvious. The market which he should find for what he produces, is pre-occupied by an active rival, who from the advantages he possesses in a combination of labour, and his natural shrewdness, is enabled to under-sell him. As has been explained before—the American makes use of this market as a convenience. He wants money—hard cash to pay his taxes with; accordingly, he makes his calculation, and then sets off with a wagon-load of pigs—a hundred head of cattle—or whatever other stock or produce he may chance to have a surplus of, for Montreal. Here, he nearly always manages to sell a fraction below the Canadian dealer, who is compelled to calculate the chances of a long winter, and who must get a certain remunerating price, if he is to live at all. The latter, too, has no choice of markets, and if he cannot dispose of his produce in Montreal, is driven into the hands of the storekeeper, or compelled to make some still greater sacrifice. The American, on the contrary, has the choice of his and the Canadian markets, and whenever there is a glut at home, he comes here. All that he receives in payment, he takes back with him, to be spent in encouraging the trade of his own country. The merchant and the retail dealer are not a shilling the richer by his journey; but on the contrary, the effect of his presence here is to diminish the amount of imports, and so discourage their trades.

We refer to this matter because we think that it is important at the present time, when there is a prospect that the farmer will again be in a situation to be an extensive purchaser, that it should be understood. We feel satisfied, indeed, that the Legislature, at the approaching Session, will take up this question of protection in a proper spirit, and that, without prejudicing other interests—which it would be neither wise nor honest to do—they will endeavour to reconcile the reasonable claims of the agriculturist with the general prosperity of the country. If this is only done with wisdom and moderation, we believe that the best results will follow, and that the good effects of such a measure will be felt throughout the whole country, by the merchant as well as by the farmer himself; for, as we have observed, the interests of both are identical, and one cannot flourish without the other.”

Canada has attractions both natural and artificial, peculiarly her own, which we would not exchange for any situation in the ‘far west,’ notwithstanding our views on this subject, there are tens of thousands winding their way from the east and south, to these fertile regions, and when the boundless prairies become cultivated, it will be difficult indeed for the eastern farmers to compete with them. It is our humble opinion that wheat may be profitably grown in the Illinois for 2s. per bushel, corn for 1s. 3d. per bushel, and pork fed for 10s. per 100 lbs., as easily as similar articles could be produced in Canada for twice the money.

A late correspondent in the Boston *Advertiser* speaks thus of the prairies of Illinois:—"The articles of flax, hemp, and tobacco are extensively raised on the borders of the Rock River, and it is said that about two hundred tons will be exported, from that region, during the year. But by far the most important matter is, the very extensive introduction of sheep into this state—so extensive that it is now probable, that at the end of five years, there will be more wool raised in Illinois, than any other state of the union.

"The farmers from Western New York, are driving their flocks, and English farmers are going very largely into the business. I have now before me a wealthy farmer of Western New York, who has arranged to send out 2000 sheep this fall. The sheep run at large on the prairies in the summer, of course at no charge. He pays, he tells me, \$1 per ton for cutting and stacking 250 tons of prairie hay for winter. He buys a tract of 150 acres, and erects a small house. A shepherd with his dog takes the entire care of the sheep, and can do so of 3000 sheep, and 200 head of cattle. You can thus easily perceive that, if the farmer can procure the use of thousands of acres of meadow for nothing, and hay for \$1 per ton, it is vain for the wool growers of Western New York, or New England, to undertake long to compete with the West."

So far as Canada is concerned she has no right to legislate for the West, and in order that her sons may be prosperous and happy, she must, in every reasonable way, protect their interests. The wheat question has been amicably settled, and the most sensible portion of the Canadian husbandmen are now of opinion, that the distance which the fertile regions of the 'far west' lay from our markets,—the small impost duty of three shillings sterling, per quarter,—the differential imperial duties on Canadian over foreign corn,—and the advantage of grinding the flour and carrying it in Canadian and British bottoms, will be, on the whole, of greater advantage to the country, than if a reciprocal duty were levied on the article of wheat.

We have elsewhere remarked, that it is our firm opinion, that our neighbouring country—the United States—have got over the worst of their commercial and monetary difficulties—and that very shortly the attention of the over populated countries on the continent of Europe, will adopt means to transplant a portion of their redundant population, on the boundless prairies, which are situated between the Mississippi and Missouri rivers, and the Rocky mountains. Shall Canada lie dormant while the improvement are going on in the Illinois, which are intended to connect the great chain of lakes with the waters of the Mississippi? we trow not. We are confident that there is too much stamina in the majority of the Canadian population, to allow the Americans to excel them in any particular. With all the natural advantages that the territories of the United States may possess, it is possible to place the British American provinces on a more substantial footing, and in a more enviable position, than our neighbouring country. To accomplish such a gigantic scheme, the necessary plans to

be adopted would require more space than we have at present unoccupied; but while we are on the subject of the proposed Tariff, we would remark that, as the Americans show no inclination to trade with us on the very liberal terms that we have done with them during the past fifteen years, we, as cultivators of the soil, have a right to demand from our legislators equal justice.

The views we entertain regarding the Canadian Tariff are, we apprehend, in advance of public opinion, and will require a lapse of eight or ten years to accomplish, if we could form an opinion on the subject, from the ordinary course of Canadian legislation. It may not be out of place for us to mention, that the leading features of our plan, would be to levy a scale of duties on every article produced or manufactured in the United States equivalent to the scale of duties levied on foreign produce or goods entering the markets of that country; and the total repeal of all duties, now collected on British goods. We are aware that this scheme is very unpopular, and we are even willing to acknowledge that it is impracticable at this present period, but, notwithstanding, it will unquestionably become popular on both sides of the Atlantic, as soon as the attention of the leading statesmen of Britain and the colony can be attracted to its importance. We also feel confident that this scheme will be practicable in a much less period of time than most people imagine.

The advantages which we are already in possession of, and the attention which has lately been shown us, are sure indications that a new era, in Canadian prosperity, is at hand. When our land becomes densely populated with European cultivators of the soil, the difference between indirect and direct taxation will be better understood. The trade with Britain will then be unshackled, and the colonies will then enjoy all the advantages of English counties.

How insincere in the extreme will the British Government consider the attachment of the colonists to her laws and institutions, if while they admit, by words or promises, that the connection is an indissoluble one, and humbly pray to have all the advantages of that connection, that the circumstances of the parent country will afford; and by their acts and doings undermine the best interests of their fostering parent at the foundation, by covertly courting a trade with a foreign nation, whose interests and institutions are essentially different from their own. The Canadian Tariff, as it now stands, will open a field for an immense trade in American manufactured goods, for which nothing will be taken in exchange but gold and silver. The evil resulting from this description of trade, has already almost ruined this colony—it has sapped, stagnated and chilled the blood of her hardy and brave sons—and has in many instances, so far alienated their affections from her institutions and laws, that they have been willing to acknowledge that the cause of the slow advances of public improvements, and individual enterprise, in this country, may be attributed to no other cause than the con-

nection which we bear to Great Britain. We trust that the attention of the people's representatives will be devotedly and properly drawn to this important subject. We unscrupulously give it as our opinion, that no individual act of theirs would have a tendency to do one tithe of the practical good, as the passing of a prayer to the British Government, for the adoption of a reciprocal scale of duties on all American agricultural produce (excepting wheat), and manufactured goods. Our motives for asking favours would then be appreciated by British statesmen,—the colony would soon be placed in a healthy position, and capital and skill would flow here in abundance.

We are happy to see, by the late Kingston papers, that this subject is attracting the attention of some of the best statesmen in the colony,—members of the honourable the Legislative Council,—and as, no doubt, something tangible will be brought up before our next impression, we shall withhold, for the present, any other remarks on the subject.

FURTHER NOTICES OF THE BRITISH AMERICAN CULTIVATOR.

The British American Cultivator is now issued at *The Banner Office*, in this city, and published monthly, at the advance price of only one dollar per annum, by Mr. W. G. Edmondson, Editor and Proprietor, who is sparing no exertions or expense to make his very necessary and useful publication acceptable to the farmers of Canada; and they will, if they do not support it, show themselves possessed of little regard for their own interests, or a public spirit. Every one of them should take it, read it, and pay for it.—*Christian Guardian*.

If Canada is to progress, it can only be by a diligent application of its natural resources. We ought to consider agriculture as the sheet anchor of our hope. The time is past for remaining contented with our present attainments in agriculture; we must advance with the age, if we desire to compete with others. Every Canadian ought to be a subscriber to the *British American Cultivator*.—*Woodstock Monarch*.

The course which we have uniformly adopted in adhering closely to the advancement of agricultural knowledge and skill, has kept us in favour with the Canadian press, without an exception. The two very favourable notices which we have copied from the *Guardian* and *Monarch*, are evidence that our object is a good one, and that we have a claim on the public for their patronage. Many farmers have told us that they would prize our work more highly, were we to devote one or two pages to Foreign and Domestic news,—we invariably replied that such a course would be prejudicial to our interests, as the political and commercial papers would then feel indisposed to recommend our magazine, as it would have the effect of lessening their circulation. So long as we have the honour of conducting *The Cultivator*, we shall confine ourselves to agricultural and rural affairs, and we trust that the Canadian press in general will aid us in establishing a journal devoted ostensibly to the great interests of the country.

THE AMERICAN AGRICULTURIST'S ALMANAC FOR 1844 has been received at this office, and is highly creditable to the enterprise and talents of its Editor, A. B. Allen, Esquire. If the publisher thinks proper to forward a few dozen of his admirable work to our address, we shall, with much pleasure, dispose of them without any cost for our services.—Price, 7½d per copy.

NEW SOURCES OF WEALTH FOR CANADIAN HUSBANDMEN.

The period has now arrived, for establishing a character for the united provinces of Canada, which will enable her to benefit from the changes which have been lately effected, in her commercial relations with Britain. And the only thing that she requires to entitle her to the proud and enviable relations which she holds to the parent land, is that her sons, whether native or adopted, should engage their undivided attention to the cultivation of such products as the soil and climate of the country, as well as other favourable circumstances, are admirably adapted to afford.

If it were possible to induce the cultivators of the soil to read and think less about party and sectional questions, and study and inform their minds more on subjects directly connected with their own and their children's welfare, we would then hope that the instructions which are laid down through the columns of *The Cultivator*, would be productive of some benefit. As the abjectness and depravity, which we very much apprehend, have taken a deep root in the minds of many of the occupiers of the most fertile soils of the province, have been caused by influences, over which we have not the slightest controul, and which we have but little chance to redress,—under these circumstances we fear, that the task of effecting a radical change in the mode of managing the fertile soils of Canada, will be more than we can accomplish, unless the intelligent and patriotic engage their attention and influence with us, in placing the country in a healthy position.

Canada must either produce more articles for export or consume less of foreign manufactured goods,—the balance of trade, instead of being three to one against us, must be in our favour, or else we shall assuredly become bankrupt, and have to repudiate, which act alone should be sufficient to have our name struck out of the catalogue of civilized nations of the earth.

The course we would propose, would be to adopt, *seu ad our might*, the former method, and endeavour by every possible means to bring into requisition the vast and inexhaustible agricultural resources of the province.

The sooner Canada becomes densely populated, with a respectable class of English, Scotch, and Irish emigrants, the sooner will she become nationalized, and able to be of greater use to herself and her mother country.

To consummate so desirable an object, correct information relative to the capabilities of the country in providing the necessary accommodations for a population ten times as great as that which now occupies it, must be furnished through the leading journals of the province, which will most assuredly find its way to the firesides of the English peasant, farmer and landlord, and will tell more for the promotion of a healthy system of emigration, than all the laboured and far-fetched essays that could be published on the subject. The writer of this article, some months since, penned an article on the "growth and prosperity of Toronto," which made its appearance in one of the papers of this city, and as an evidence of the value that such information was prized, by the citizens who formerly emigrated from the British Isles, we would merely mention that the worthy Post Master of this city—Charles Derczy, Esq., assured us that between four and five hundred copies of the sheet, containing the article alluded to, had been mailed, in separate parcels, to persons residing in Europe.

Unfortunately, the kind of information which occupies the news and political Journals of the day, is of the wrong stamp to induce men to leave their quiet firesides, to settle in a country, which is "divided against itself."—And these very journals are the only public prints that find their way into the parent countries. This colony is yet too new, and the spirits of the people are too much estranged from the right path, to warrant an ambitious and talented publisher to establish a magazine adapted to the circumstances of the country, and one which would be greeted in Britain by that portion of the population as have had their attention favourably drawn to Canada. As a means of supplying the want of such a journal, we would earnestly recommend that portion of the Canadian press, who have earned a character for publishing plain and unsophisticated facts, to engage a portion of their attention in collecting and publishing information, which would tend to atone, in a measure, for the blemishes which have checkered the past history of Canada, and which have brought on us many of the evils that have operated against the prosperity of the colony. We have no desire to request others to do anything we would not be willing to perform ourselves, and shall therefore endeavour to collect a few ideas together, on subjects applicable for intending emigrants, which will occupy at least two pages in each future number, commencing with the one for October. Indeed much of the information that will, in future, make its appearance through the columns of the *Cultivator*, will be of such a description that it should be placed in the hands of that class of emigrants, who intend to settle on land, the moment they arrive on our shore.

New sources of wealth must be presented to the view of Canadian farmers and the new settlers, in order to make much advancement in improving the condition of Canadian agriculture. The articles which would bring heavy profits to the producer, providing that a reasonable share of skill and capital were expended in their production, are flax, hemp, hops, tobacco, cheese, and butter. Instead of Canada being an importer of all these articles, she should produce them in sufficient abundance for the wants of her own population, and some tens of thousands of pounds worth of each beside, for exportation to England.

Without further expatiating on what Canada should do, and might do, if her population would only study their best interests, we shall for the present confine ourselves to a few practical suggestions on the cultivation of the above three first mentioned articles, which we consider are eminently calculated to prove sources of great wealth to this fine colony.

CULTIVATION OF FLAX.

Flax may be raised on various soils, but the one most proper for this plant is a deep rich friable loam, neither too dry in summer, nor wet in autumn or spring—in short, the best soil that can be found, as the roots strike deep, and are said, by those who have had much experience, that they sink into the soil to a depth equal to half the length of the stem above ground. It is obvious then that flax requires not only a deep soil, but a porous subsoil as well, or one that is well drained. It is needless to add, after what has been said in former numbers of this journal, that large tracts of land in this country might be made to produce as much flax per acre, and of as good a quality, as the so much celebrated article grown in the neighbourhood of Courtray, in the Province of Belgium, without one-half of the cultivation which is expended in that country,—notwithstanding a less quantum of cultivation and care would be required in this, than in the country

just mentioned, owing to the virgin state of our soil, still the vast amount of labour that this crop would, in many cases, require, would tend to deter many from entering into the business. It would, therefore, be advisable for only those to engage, at present, in this branch of farming who have lands of the description just mentioned. On most farms there are certain fields that have been under grass for a number of years, and which have collected a great amount of vegetable and animal matter, which have become intimately mixed with the natural earth by absorption, and which is, in fact, an accumulation of humus. This is the best possible food to produce a good crop of flax. The most suitable period for ploughing such sward for this crop is in the early part of spring. The depth of the furrow should be proportioned to the depth of the soil, and the ground should be well ploughed, and the furrows so closely packed that there would be no possibility of the grass starting before the season for sowing the seed. Before the seed be sown, which should be about the first of May, or when the season would admit the twentieth of April would be preferable, the whole of the ground intended for flax should be so completely harrowed, that it would have the appearance of a well-prepared onion-bed. The seed is then sown at the rate of a bushel and a half per acre. Two bushels, in many cases, would not be too much, as the plants should be very abundant on the ground to prevent the fibre from becoming too coarse and grassy. The seed should be slightly covered with a bush-harrow, as more than an inch of earth over it would prevent its evenly vegetating.

An acre of good flax, in Flanders, is worth from £20 to £25, sterling, per acre, without including the seed, which is worth from £4 to £6 more, and the article is so much prized that merchants come out of France to buy it as it is pulled and tied in bundles. They have it steeped and dressed, at their own expense, by regular steepers and dressers. It should be remembered, however, that the article for which this high price is paid, is converted or manufactured into the finest qualities of bleached linens, and is worth, when prepared for the spinners, from £120 to £140, sterling, per ton.

It will require years of long experience for the Canadian population to arrive to the same degree of proficiency that the Flemish flax-grower has arrived to. The Canadian flax will therefore have to be converted into coarser fabrics. We have lately conversed with many of the German settlers residing in the Township of Markham and Vaughan, who are most willing to engage in the cultivation of flax and hemp, if a certain and profitable market could be established for the above article in their raw state. We shall do our utmost to open a market for the article, and shall give timely evidence of the success of our endeavours by advertisement through our columns.

The farmers in the township of Waterloo, Genesee county, State of New York, sowed last spring one thousand acres of flax, upon the recommendation of an individual who guaranteed to erect an oil mill, and pay one dollar a bushel for all the flax seed brought to his establishment, and eight dollars per ton for the flax, without any preparation, further than thrashing the seed; and we learn, by the *New Genesee Farmer*, that the business has proved a most profitable one to the farmers who engaged in it. Similar steps might be taken in this country, especially in such sections where the soil is too richly supplied with vegetable matter for autumn wheat,—and oil mills might be established, in a very short time, in every district of the province. The manufacturing of linseed oil is a branch of business that cannot

possibly over stock the market, as the English market is quite open to colonial oils, there being only a nominal duty of ten shillings per tun on colonial oil, whereas there is a heavy duty on all foreign oils, equal to *four pounds ten shillings* per tun. If Canadians were wise they would look to this matter. We trust every Agricultural Society in the province will look to it, and give that encouragement to the cultivation of flax, and the manufacturing of oils, as the subject justly deserves.

CULTIVATION OF HEMP.

In a late number of this Journal, the cultivation of hemp, as well as flax, was discussed, and a few general directions were given, which were noticed very favourably by a number of our most respectable contemporaries, and intimation was made by some that it would be advisable for us to continue the subject by giving general directions for the guidance of farmers, respecting the culture of these plants; the preparation of the soil, the method of sowing, reaping, and after preparation for the market.

Hemp might be made one of the most profitable articles that the soil of Canada could produce. We could point out sections in almost every District of Canada that would grow this plant to admiration. Probably the most extensive tracts in Western Canada that are naturally adapted for its growth are on the borders of the Thames in the Western District. The hemp which this soil would produce would be of a remarkably strong texture, and consequently well adapted for cables, cordage, and strong canvass for sails. Machinery might be erected for about twenty pounds, which would prepare it for market, in a most perfect manner and with much dispatch, and a market might be established at Quebec and Montreal, for the manufacturing of these articles, which would form a very profitable business both for producer and manufacturer, and be a saving of thousands of pounds to the country. A gentleman, of extensive capital, has lately arrived in this city, who intends to manufacture all kinds of cordage and twine, and intends to import the raw material of both hemp and flax from the Western States, as he cannot procure a sufficient quantity for a week's supply, of Canadian growth. Our readers, we think, will join with us in pronouncing this too bad. The gold and silver which this gentleman has brought with him from Britain should go to enrich this country, instead of that it will be sent in a few days to the Illinois market, to purchase an article which our own country could produce in any desired quantity if public attention could only be directed to it as a source of both an individual and public wealth.

The soil on which hemp is intended to be sown should be ploughed in autumn, and at least twice in spring. It should be manured in the autumn before the land be ploughed at the rate of about twenty waggon loads of barn-yard rotten dung per acre. If the hemp be desired for heavy cable ropes, a half-a-bushel of seed per acre would be found quite an abundant seeding, but if it be intended for finer work, from one to two bushels of seed would be required. When the blossoms begin to fall, which is from the 1st to the 10th of August, it should then be cut. The instrument for cutting, as we formerly remarked, is like a sharpening hook, used for reaping. It should be cut as close to the ground as possible, and the tops of the seed ends might be cut off, as they produce but a small portion of fibre, which is almost useless.

Hemp, less than five feet long, would be considered too short for the British market.

As there are no hemp growers in Canada, we

will reserve further direction on the management of this crop for the March number of the next volume of our Journal. In the meantime, we trust that the attention of the intelligent portion of Canadian farmers will be drawn to the business of growing hemp, as well as the other mentioned plants, which we conceive might be successfully cultivated in this country.

CULTIVATION OF HOPS.

The cultivation of this plant is latterly much esteemed by those who have engaged in the business, and it is even thought by many to be the most profitable branch of farming that is practiced in this country. Let this be as it may,—we have not heard of any who have ceased cultivating this plant, in consequence of it not paying them for the capital and time expended in the business.

The quantity of hops used in the country is not so great but that the market might in a very few years be over stocked, with an article, the growth of the country. It is, however, very clear that some years must transpire before the attention of the Canadian farmers will be sufficiently directed to the growth of this article, to supply the demand which the home consumption will give for it.

If we anticipated that no other demand but that given by the amount consumed in the country would be presented to the notice of the Canadian hop grower, we would unquestionably be very cautious in recommending too highly the cultivation of this plant, as we might, by so doing, lead our readers into a very serious error, by inducing them to engage too largely in a business, that was subject to serious fluctuations. But the case is otherwise—we are confident that if a proper and respectful representation were made by the Canadian Government to the Imperial Parliament for the introduction of Canadian hops, into the British markets, subjected to the same scale of duties as are levied on hops grown in the British Isles, that such a request would be granted.

In recommending the hop culture, it is necessary to premise, that the object above alluded to, will be attended to, at the proper time, by judicious representations, being made to the British Parliament by the authority aforesaid. We shall therefore recommend the business most strongly, and shall embrace every fit opportunity of treating the subject in a manner calculated to benefit those who may be engaged in its culture.

The soils best suited for hop plantations, are those of a deep, rich, loamy surface, with a subsoil of a loaming chocolate-coloured brick-earth. This sort of soil produces an article which has a remarkably strong aromatic bitter flavour, which renders it in the greatest request by the porter and beer brewers. Hops can be propagated by seeds, but they are more usually grown from slips taken from the stem, or from old roots, or from young nursery plants grown in beds. The duration of a hop plantation depends wholly on the nature of the land, and chiefly on its substrata, or subsoil, which should be of a rich calcareous nature. From eight to twelve profitable crops are all that might be calculated upon, unless the soil and base be of a remarkably rich and friable nature, in which case, it might remain unimpaired by careful cultivation and management for even half a century.

The preparation of land for the formation of a hop ground should be commenced either with a naked summer fallow, or with a well cultivated crop of potatoes. It should be very heavily manured with rotten dung, from the

barn-yard, which should equal, at least, thirty-two horse waggon loads per acre. The soil must be cultivated to the depth of at least twelve inches, which may be performed by trenching, or by the frequent use of the subsoil plough.

When the ground is got into perfect order, the general plan is to draw parallel lines each way across the grounds at about six feet square, to ascertain the precise position of the hills, in which the sets are to be planted. From eight hundred to a thousand hills are usual for an acre.

The usual time for planting is about the last of April or beginning of May. If sets be preferred from the stem to those taken from the crown of the root, they should be cut off the preceding spring from the lower part of the stem. The usual length of these cuttings is four or five inches, with three or four buds to each, they should be then planted by themselves in a nursery, and the strongest of them chosen the next year, for setting in the regular hop plantation. The most usual method, however, is to take the setts from the crown of the hill, at the period in the spring when the old hop is undergoing its dressing. If these setts be planted among potatoes, by reserving about one row in four for the young hop plant, the loss sustained by unoccupied ground will not be equal to the trouble of transplanting in nursery beds, and subsequently into hills.

When the spots for the intended hills have been marked out, the earth should be dug out of each to the depth of about two feet, and nearly the same width, and these should be filled up nearly even to the surface, with a compost of well rotted dung and fine mould. From two to three plants should then be planted on each hill, to the depth of about three inches below the surface, and covered about six inches deep with the fine surface soil.

The only object in the first year's management is to keep the intervals clean, and to furnish the young plant with an abundance of pulverized mould. As the strength of the plant will much depend upon the growth of the vine, it would be well to set up a short pole of about ten feet in length to each hill, and when the vines rise to about two feet, they should be twisted around each other. This trouble, however, is seldom taken in this country, and the short vines are most generally allowed to run over the ground—a system which should be discontinued, as the leaves of the plant fill the functions of lungs of the plant, and consequently a strong growth of leaves will invariably be accompanied with an healthy and vigorous plant.

The management for the second year consists in careful cultivation with a horse and hand hoe, in cutting the main vine and all the suckers to within an inch or two of the ground, and poling with poles about fifteen feet long, as soon as the vines shoot in the spring.

In the spring of the third year, the earth which had been mounded about the hills the year previous should be carefully removed, and the young suckers of the main vines pruned in the same manner as in the former year. The latter part of April, or the first of May, the whole plantation should be heavily manured at the rate of about thirty-two horse loads per acre. A shovel-plough is one of the most efficient implements that we have seen used in cultivating this plant. This should be used frequently during the summer months to prevent the growth of weeds. In every successive year, the process of pruning the crown of the plants should be practised, as already directed.

The length of the poles should be governed by the probable length that the vine will grow, and if any should exceed the length of the poles, an auxiliary pole may be added to prevent the vines from dropping down. The

poles should be placed inclining outwards, which will afford more room than if planted erect for the air and rays of the sun to reach the vine.

The cost of picking varies in sections of the country in proportion to the facility of obtaining labourers, but the usual price averages from 1½d to 2d. per pound, when the hops are dried, including board and lodging. It is of great consequence that the hops should be dried as soon as possible after they are picked, if not placed on the kiln within a few hours after being picked they are apt to heat and spoil. The operation of kiln drying is a matter of great nicety, for the strength and favour of the hop are extremely volatile. The kiln should be previously heated, and a uniform degree of temperature must be kept up, in order that the hops may not dry too fast, and as soon as the upper part of the heap appears to have felt the effect of the fire, the lower part being then considered dry, the heap is then turned. The thickness of the heap must invariably depend upon the state of the hops. The usual period for drying is about twelve hours. A fourteen feet kiln will dry about 100 bushels of hops from the vines, or about 170 lbs. of dry hops,—as the diers generally work all night in large plantations, a kiln of the above dimensions would dry about 350 lbs. of dry hops in a day of 24 hours. The fuel best for drying is charcoal, as it communicates no smell that would be injurious to the flower.

It would be advisable to delay the bagging of the hops until they had remained in the storage room for a number of days in a large heap, in which state they will acquire a degree of toughness and tenacity, caused by a moderate degree of sweating, which will add much to their value.

The mode of bagging is very simple, it consists in cutting a circular hole through the floor of the storage room, sufficiently large to admit the mouth of a hop bag—and a hoop, rather larger than the circumference of the hole, is used to stretch out the bag, when the bag is let down into the hole. The feeder throws down a few shovelfuls; and the packer descends into the bag and treads the hops regularly and carefully down. More hops are then thrown down and closely pressed, and the process repeated until the bag is filled.

The average amount of an acre of hops in this country may be set down at about 8 cwt. and in a few cases that, we have heard, of the quantity has even exceeded double that weight. The average price of the last seven years would equal about one shilling currency per lb., which price would pay one hundred per cent, for capital and labour invested in the business. The business of hop growing is comparatively in its infancy in Canada. We only know of two sections of the country that have devoted much attention to it—one is in the London, and the other in the Montreal Districts.

From the fact that Canada is henceforward to receive the fostering care of the Parent country, and that every advantage is to be given to her, that the relationship she bears to the British Empire entitles her to,—we are disposed to look upon the cultivation of the hop plant with no small degree of attention, as we conceive that this branch of business, in connection with a few others of a similar character, will shortly enrich the colony to such a degree that the Colonial Government will be warranted in repealing the duties which have been levied on British goods, for the purpose of augmenting the public revenue. If this colony is to enjoy the inestimable advantage of all the privileges of the British markets, we, in return should show ourselves worthy of the advantages by repealing the impost duties on British goods entering our sea port.

HOME DISTRICT AGRICULTURAL EXHIBITION.

The exhibition of the Home District Agricultural Society took place on the 11th of October, on the Agricultural Show Grounds, near the New Gaol, and owing to the badness of the roads, and inclemency of the weather, was not as well attended, by farmers at a distance, as is usually the case, on such occasions. Some specimens of improved stock on the ground, were worthy of high commendation. We noticed a number of sheep, which were of mammoth size, and bore as correct symmetry of form, as any we ever beheld. We were happy to hear, while on the ground, that there are two establishments now in progress, in the district, which can turn out second-rate woollen blankets, and that the enterprising proprietors of these factories do afford to pay one shilling and three pence per lb., for the coarsest description of long wool. This being the case we shall say less against the encouragement of the long woolled breeds of sheep.

A Herefordshire, and two grade Durham heifers, owned by Mr. Thomas Mairs, of the township of Vespra, were beautiful creatures, the former being one of the best grazing animals that was ever shown in this city.

A bag of Dantzic wheat, exhibited by Mr. Joseph Price, for pureness of sample, clearness and fullness of berry, and weight in the measure, could not well be excelled in any country. We believe Mr. Price has some hundreds of bushels of this admirable variety of wheat; and as he has tried it for three years in succession, feels satisfied that it is adapted to the soil and climate of the country.

Mr. John Ritson, of the township of Whitby, took the prize for the greatest quantity of hops. This gentleman raised between two and three tons of hops this season, and expects to enlarge his plantation the ensuing spring.

Owing to the very unsettled state of the weather, the stock was not in a proper state to show to advantage,—in consequence of this circumstance, we could not take that interest in the exhibition, that we otherwise would have done.

As soon as the judges had performed the several duties allotted them, the company repaired to Mr. Smith's, *Farmer's Arms*, where a very creditably served agricultural dinner was in readiness, which added much to the conviviality and good humour of the large and respectable party who partook of it.

The leading toasts having been drank, the Vice-President, W. B. Jarvis, Esquire, Sheriff, Home District, brought forward a petition for signatures, signed by thousands of farmers and other classes in the Home District, which prayed for a scale of duties to be levied on foreign agricultural produce entering the Canadian markets. The mover of the petition delivered a few leading remarks, which were quite appropo to the occasion, and, as a proof of the popularity of the protective duty ques-

tion, persons of all parties signed it, and expressed their unanimous opinion of the importance of the measure being forthwith earned through the two branches of the Legislature. The petition was entrusted to the care of the Vice-President, Mr. Jarvis, who was requested to submit it, as soon as possible, to the two branches of the Provincial Legislature.

The Secretary, George D. Wells, Esquire, announced the successful competitors. The Vice-President retired from the chair; and the Treasurer, William Atkinson, Esq., was called thereto. A very interesting discussion then took place on the importance of forthwith organizing a Board of Agriculture for the District, and the adoption of more vigorous means of encouraging agricultural improvement. In furtherance of that object, the following resolutions were proposed and carried unanimously:

Moved by Mr. W. G. Edmundson, and seconded by G. D. Wells, Esq.

Resolved—That this meeting are of opinion, that the establishment of a local Board of Agriculture for the Home District, would be a powerful engine in developing the great agricultural resources of the District;—they are therefore of opinion that efficient steps should be taken forthwith to consummate so desirable an object.—*Carried*.

Moved by Mr. R. Machell, and seconded by Mr. John Cade,

Resolved—That a Committee, composed of the officers of this Society, with the Presidents and Vice-Presidents of the Riding and Township Societies, be appointed, with a view of adopting the necessary measures for carrying into effect the establishment of a Board of Agriculture, and that they be empowered to frame a code of regulations for its management; and also that they be hereby empowered to call a meeting of the friends of agricultural improvement, from every portion of the district, with a view of concocting plans for organizing Township Clubs, so that each township may be legally and efficiently represented in the District Board.—*Carried*.

Moved by Mr. W. G. Edmundson, and seconded by Mr. Jonathan Dunn,

Resolved—That the President of the Home District Agricultural Society shall act as President *Ex-Officio* in the District Board.—*Carried*.

Moved by Mr. Jonathan Dunn, and seconded by Mr. John Ritson,

Resolved—That Mr. W. G. Edmundson be requested to act as Secretary for the Board.—*Carried*.

Resolved—That the Secretary be requested to communicate with the President of the Board, and request him to call a meeting of the Committee as soon as possible, for the purpose of carrying into effect the object of this meeting.—*Carried*.

The above Resolutions, emanating from the Parent Society of the Home District, together with the determination evinced on the part of the Officers and members of the Fourth Riding Agricultural Society, of adopting a more patriotic and effective method of advancing Agricultural knowledge and skill, are, in our humble opinion, sure indications of a new era of Agricultural prosperity. We trust that each township will vie with each other in the good work.

From the Montreal Gazette.

"That very useful publication,—*The Toronto Cultivator*,—a farmer's journal, of the best description, is, we see, to be continued. It is published at a very low price, not with a view to profit; and the labour bestowed upon it is highly creditable to the science as well as patriotism and practical knowledge of its Editor and Proprietor—Mr. W. G. Edmundson. It appears twelve times a-year, and the subscription (payable in advance) is one dollar per annum, including postage, but for the use of Agricultural Societies and Clubs, fifteen copies will be sold for ten dollars, and fifty for twenty-five. The Editor says he has two thousand files of the back numbers. We are glad to hear it, and hope he will not have them long, for they are a complete encyclopaedia of Canadian farming, and ought to be found in every farm house where the English language is read."

We feel ourselves highly flattered to be favourably noticed by the Canadian press in general; but when we see our exertions to benefit the great interests of this country lauded in the spirit breathed in the paragraph quoted from the *Montreal Gazette*,—a talented and respectable tri-weekly journal of fifty-one years standing,—we are constrained to suspect that our journal is not so highly prized as it should be by the class for whose particular benefit it has been published. Only a few months since, we about resolved to relinquish the enterprise, in consequence of the very limited support which we received; but, on mature consideration, we resolved to persevere until the end of the year, and, if possible, conduct our magazine with a spirit worthy of the cause we had so much at heart. We consider the present number as a fair sample of what we intend the remaining three shall be, and it our magazine gives evidence of more merit than formerly, the difference must not be attributed to an increased support, but to a determination, on our part, to convince the intelligent portion of the community that our motives in engaging so heartily, and with so much risk of loss, in establishing a journal devoted to the improvement of Canadian agriculture, emanate from a higher and purer source than merely selfish interests.

The Editor of the *Montreal Gazette* will please accept our sincere thanks for the encomiums he has so liberally bestowed to the fruits of our toils, and we earnestly hope with him that the demand for our magazine will be so great that the back numbers will soon be disposed of. If only the present subscribers would call on their neighbours and point out to them the advantages of such a work to themselves and their families, in less than six weeks the whole would be subscribed for, which would invigorate us with such spirits that each future number would be worth more than the small sum we ask for the complete volume.

As an evidence of what may be done, if energetic steps were taken by those who can appreciate the advantages which an ably conducted agricultural journal will afford to a family, we would mention that one gentleman who lately retired from the service of his country on half-pay, by dint of perseverance, procured at the commencement of the current volume between sixty and seventy subscribers. We hope others will follow this example. We would mention two other instances worthy of example:—An intelligent young man,—a farmer and miller in the Township of Etobicoke,—lately subscribed for fifteen copies, and said he would sell them to farmers for 3s. 4d. each,—the price which they cost him,—and hoped that he would very shortly be warranted in purchasing other fifteen copies on the same

terms. The Secretary of the Huron District Agricultural Society, under date of the 20th of July last, wrote as follows:—"Please insert the enclosed in your next number, and send your account for advertising the same. It is the intention of our Society to insert all their proceedings in your valuable columns, and I think they will increase the number of copies for which they subscribe." These instances are substantial evidences of the spirit in which our journal is prized in certain quarters.

The Canadian press in general will please accept of our thanks for the very favourable notices which they have taken of our journal.

A COMPARATIVE SCALE OF DIFFERENTIAL DUTIES IN THE BRITISH MARKETS.

The following is the scale of duties of customs, payable on agricultural produce entering the British markets, which may be found interesting to some of the readers of this journal:—

| | From Foreign Countries. | | | From British Possessions. | | |
|--|-------------------------|----|----|---------------------------|----|----|
| | £ | s. | d. | £ | s. | d. |
| Bacon, per cwt. | 0 | 14 | 0 | 0 | 3 | 6 |
| Beef, salted | 0 | 8 | 0 | 0 | 2 | 0 |
| Butter, per cwt. | 1 | 0 | 0 | 0 | 5 | 0 |
| Cheese, per cwt. | 0 | 10 | 0 | 0 | 2 | 6 |
| Hams, per cwt. | 0 | 14 | 0 | 0 | 3 | 6 |
| Hemp, dressed, per ton | 0 | 4 | 2 | 0 | 2 | 0 |
| Hops, per cwt. | 4 | 10 | 0 | 4 | 10 | 0 |
| Lard, per cwt. | 0 | 2 | 0 | 0 | 0 | 6 |
| Oil, from hemp, lin, or rape seed, per ton | 6 | 0 | 0 | 1 | 0 | 0 |
| Pork, salted (not hams), per ton | 0 | 8 | 0 | 0 | 2 | 0 |
| Tallow, per cwt. | 0 | 3 | 2 | 0 | 0 | 3 |
| Timber, or wood, per load | 1 | 10 | 0 | 0 | 1 | 0 |

WHEAT.—Whenever the average price of wheat (made up and published in the *London Gazette* for six weeks) shall be for every quarter of eight bushels of foreign wheat under 51s., the duty shall be for every quarter

| | |
|---------------------|--------|
| 51s. and under 52s. | £1 0 0 |
| 52 " 55 | 0 19 0 |
| 55 " 56 | 0 18 0 |
| 56 " 57 | 0 17 0 |
| 57 " 58 | 0 16 0 |
| 58 " 59 | 0 15 0 |
| 59 " 60 | 0 14 0 |
| 60 " 61 | 0 13 0 |
| 61 " 62 | 0 12 0 |
| 62 " 63 | 0 11 0 |
| 63 " 64 | 0 10 0 |
| 64 " 65 | 0 9 0 |
| 65 " 66 | 0 8 0 |
| 66s. and under 69s. | 0 7 0 |
| 69 " 70 | 0 6 0 |
| 70 " 71 | 0 5 0 |
| 71 " 72 | 0 4 0 |
| 72 " 73 | 0 3 0 |
| 73 and upwards, | 0 2 0 |
| | 0 1 0 |

The produce of and importations from any British possessions in North America, or elsewhere out of Europe, shall be subject to the following Scale of Duties, whenever the average price of wheat (made up and published in the manner aforesaid) shall be under 55s. for every quarter, the duty shall be for every quarter

| | |
|---------------------|--------|
| 55s. and under 56s. | £0 5 0 |
| 56s. and under 57s. | 0 4 0 |
| 57s. and under 58s. | 0 3 0 |
| 58s. and upwards, | 0 2 0 |
| | 0 1 0 |

The advantages which the colonists possess over foreigners in the British markets, is so

clearly demonstrated in the above scale of duties, that it should be sufficient encouragement of itself, to stimulate the former into renewed and vigorous action. It will be seen that the duty on foreign grain is reckoned from the average price of 51s. sterling per quarter and under, to 73s. and upwards,—and that the colonial is reckoned only between 55s. and under, to 58s. and upwards. Whenever the price averages 58s. and over, it is admitted at 1s. sterling per quarter from the colonies, while from foreign countries, at 58s. it is subject to a duty of 14s. With such decided advantages of the British markets, the Canadas must and unquestionably will prosper.

The great desideratum that this country wants to enable her to prosper, as an agricultural country, is an increase of capital and skill,—both of these the mother country has an abundant surplus. Every true-hearted Canadian should study to make his native or adopted country an asylum worthy of the attention of British subjects possessing both capital and skill; and if this principle were generally acted upon, we feel warranted in predicting that very shortly a most healthy flow of *volunteer emigrants* would select this Colony as a home for themselves and their children, instead of settling in the United States, as they have done during the last few years.

We notice in a late number of *The Toronto Colonist*, that the attention of our able and talented cotemporary will be in future considerably directed to the development of the natural and artificial advantages which this Colony so eminently and strikingly presents to the view of intending settlers. The subject certainly deserves the sincere attention of each Canadian journal, and we trust that the worthy example which will shortly be set them, will be adopted by each; and all the party bickerings and wranglings will be laid aside, and the peaceful and praiseworthy object of doing their country a little good and wholesome service, be substituted for the former selfish and narrow-minded course of conduct.

In no article could Canada avail herself of a greater advantage in the British market, than in oil. This country may profitably produce hemp and flax in a sufficient abundance to supply the demand for these articles in Britain, and, besides, manufacture their seeds into oil, which might be profitably exported thither in exchange for manufactured goods.

If Canadian legislators could only anticipate the advantages which the business of growing hemp and flax would produce to the country, they would, we feel confident, take proper steps to give every reasonable encouragement to the growth and manufacture of these plants. At all events, we shall lose no opportunity, nor spare no pains, in bringing this subject before the notice of all who favour us with a reading.

VETCHES.

The cultivation of vetches for soiling, is a branch of farming but little understood in this country. This crop is extensively cultivated in Britain, France and Germany, and is highly esteemed as food for horses, cows and calves, during the summer months, by the best farmers in these countries. The only farmers with whom we are acquainted, who have sown vetches in any quantity, are John Dawson and James Pearson, Esq of the vicinity of Newmarket. Both of these gentlemen are of opinion that this crop is unequalled for summer soiling. We shall embrace the first opportunity in laying before our readers a few plain and practical directions in the cultivation of this crop.

TOMATO OMELET.—Slice and stew your tomatoes. Beat up half a dozen fresh eggs, the yolk and white separate; when well beaten, mix them with the tomato—put them in a pan and fry them, and you will have a fine omelet.

CHESHIRE CHEESE.

From the Complete Utensar.

The evening milk is set apart until the following morning, when the cream is skimmed off; it is then poured into a brass pan heated with boiling water, in order to warm: one third part of that milk which is thus heated. The new milk, obtained early in the morning, and that of the preceding night, being thus prepared, are poured into a large tub, together with the cream. To this is put a piece of rennet, which had been kept in warm water since the preceding evening, and in which a little Spanish ansatto (the weight of a quarter of an ounce is enough for a cheese of six pounds) is dissolved.* The whole is now stirred together, and covered up warm for about half an hour, or until it becomes curdled; it is then turned over with a bowl, and broken very small. After standing a little time, the whey is drawn from it, and as soon as the curd becomes somewhat more solid, it is cut into slices and turned over repeatedly, the better to express the whey. The curd is again removed from the tub, broken by hand into small pieces, and put into a cheese-vat, where it is strongly pressed both by hand and with weights, in order to extract the remaining whey. After this it is transferred to another vat, or into the same, if it has in the mean time been well scalded, where a similar process of breaking and expressing is repeated, until all the whey is forced from it. The cheese is now turned into a third vat, previously warmed, with a cloth beneath it, and a tin hoop or bander put round the upper edge of the cheese, and within the sides of the vat, the former being previously inclosed in a clean cloth, and its edges placed within the vat. These various processes occupy about six hours, and eight more are requisite for pressing the cheese, under a weight of 14 or 15 cwt. The cheese during that time should be twice turned in the vat. There are several holes bored in the vat which contains the cheese, and also in the cover of it, through which long skewers pass in every direction, the pressure being still continued. The object of this is to extract every drop of whey. The pressure soon obliterates all these punctures, and the cheese is at length taken from the vat, a firm and solid mass.

The following morning and evening it must be again turned and pressed, and also on the third day, about the middle of which it is removed to the salting chamber, where the outside is well rubbed with salt, and a cloth bander passed round it, which serves as a lining to the vat, but is not turned over the upper surface. The cheese is then placed in brine, extending half-way up it in a salting tub, and the upper surface is thickly covered with salt. Here it remains for nearly a week, being turned out twice in the day. It is then left to dry for two or three days, during which period it is turned once, being well salted at each turning, and cleaned each day. When taken from the brine, it is put on the salting-benches, with a wooden girth round it of nearly the thickness of the cheese, where it stands about eight days, during which time it is again salted and turned every day. It is next washed and dried; and, after remaining on the drying-benches about seven days, it is again washed in warm water with a brush, and wiped dry. In a couple of hours after this it is scoured all over with sweet whey butter; which operation is afterwards frequently repeated. and, lastly, it is deposited in the cheese- or store room, (which ought to be moderately warm, and sheltered from the access of air, lest the cheese should crack.) and turned every day, until it has become sufficiently hard and firm. These cheeses require to be kept a long time; and if not forced by artificial means, will scarcely be sufficiently ripe under two or three years. The Dutch make their cheese nearly in the same manner, excepting that they substitute the

* Marigolds, boiled in milk, are also used for colouring cheese; to which they likewise impart a pleasant flavour. In winter, carrots scraped and boiled in milk, and afterwards strained, will produce a richer colour, but they should be used with moderation, on account of their taste.

† The cheese-rooms in Cheshire are generally placed over the cow-houses on a floor strewed with rushes. This is done, in order to afford them from the heat of the cattle below, that uniform and moderate degree of temperature, which is deemed essential to the proper ripening of cheese.

matino acid, or spirit of sea-salt, which imparts to Dutch Cheese the peculiarly sharp and salt flavour by which it has long been characterised. They also leave out the cream.

In making Gloucester cheese as well as the other kinds of thin, or loafing cheese known as the Trent side and Coltenham the milk is poured into the proper vessel, immediately after it has been drawn from the cow; but being thought too hot in the summer, it is lowered to the due degree of heat by the addition of skimmed milk; or, sometimes, by pouring in water. When the curd is come, it is broken with a double cheese knife, and also with the hand, in order to separate it from the whey, which is ladled off. The curd is then put into vats, which are submitted to the action of the press for ten minutes or a quarter of an hour, until the remaining whey is extracted. It is next removed into the cheese-tubs, again broken small, and scalded with a pailful of water lowered with whey in the proportion of three parts of water to one of whey, and the whole is briskly stirred. After standing a few minutes for the curd to settle, the liquor is strained off, and the curd collected into a vat; and when the latter is about half full, a little salt is sprinkled over and worked into the cheese. The vat is now filled up, and the whole mass of cheese turned twice or thrice in it, the edges being pared, and the middle rounded up at each turning. Lastly, the cheese is put into a cloth, and, after undergoing another pressure, it is carried to the shelves, where it is turned generally once a day, until it become sufficiently close and firm to admit of its being washed. The only material difference is, that Gloucester and Trent-side are rather thicker than the Coltenham, which is not more than an inch and a half in depth, and is therefore sooner ready for the table than the others; and that the latter is put together rather sooner than the two former.

In the manufacturing of these cheeses, the curd is not so often broken, as in the Cheshire—the cheese is not skewered while it is in the press, and part of the cream is usually taken away in order to make butter. The scalding is to wash out any remaining whey, or, perhaps, to dissolve any portion of butter that might have separated, before the rennet had coagulated the milk.

Much of what passes under the names of Double Gloucester and Cheddar cheese, is made in Somersetshire, by the following simple process:—

When the milk is brought home, it is immediately strained into a tub and the rennet is added, in the proportion of about three table-spoonfuls to a quantity sufficient for a cheese of twenty-eight pounds, after which it remains undisturbed for about two hours, when it becomes curdled and is then broken to pieces. That being done, three parts of the whey are warmed, and afterwards put into the tub for about twenty minutes; the whole whey is then again put over the fire, made nearly scalding hot, and returned into the tub, in order to scald the curd for about half an hour longer, after which, part of the whey is again taken out, and the remainder left with the curd until it is nearly cold. The whey is then poured off: the curd broken very small, put into the vat and pressed; remains there nearly an hour, and is then taken out, turned, and put under the press again until evening, when it is turned, and put in once more until the next morning. It is then taken out of the vat, salted, put into it again with a clean dry cloth round it, and remains in the press until the following evening when it is once more taken out, salted, put into the vat without a cloth, and pressed until the next morning: it then finally leaves the press, and is salted once a day for twelve days.

Silton cheese has only been introduced since about the middle of the last century. It was first made by Mrs. Paulet, who resided in the Melton quarter of Leicestershire, but who, being a relation of the landlord of the Bell Inn, at Silton, on the great North road, supplied his house with cheese of such a singularly superior quality, that it became in demand beyond the consumption of the house, and was then sold for as much as half-a-crown a pound. It thus acquired the name of Silton Cheese; but the mode of making it having been soon discovered, it is now generally manufactured through all the neighbouring counties. The sale is no longer confined to Silton, and much of what comes to market under that denomination is of a very inferior quality. Its richness depends, of course, both on the breed of cows employed, and

the quality of the pasture on which they are fed, as well as upon the quantity of cream used in the manufacture of it; for, unless a large portion of this is added to the milk, the cheese will be deficient in all the essential qualities for which it is celebrated.

It is commonly made by putting the night's cream to the milk of the following morning with the rennet, great care being taken that the milk and the cream are thoroughly mixed together, and that they both have the proper temperature. The rennet also should be very pure and sweet. As soon as the milk is curdled, the whole of the curd is taken out, and put into a sieve gradually to drain, and is moderately pressed. It is then put into a case or box, of the form that it is intended to be, for on account of its richness, it would separate and fall to pieces were not this precaution adopted. It is afterwards turned every day on dry boards, cloth binders being tied round it, and which are gradually tightened as occasion may require. After it is removed from the box or hoop, the cheese is closely bound with cloths, which are changed daily, until it becomes sufficiently compact to support itself. When these cloths are taken away, each cheese is rubbed over with a brush once every day, and if the weather is moist or damp, this is twice done for two or three months. It is occasionally powdered with flour, and plunged into hot water. This hardens the outer coat, and favours the internal fermentation, which produces what is called the ripening of cheese. Sometimes it is made in a net like a cabbage-net, which gives it the form of an acorn. Silton cheeses are not sufficiently mellowed for use, until they are two years old; and are not accounted to be in good order unless they are decayed, blue, and moist. It is said, but it is scarcely credible, that in order to accelerate their maturity, it is no uncommon thing to place them in buckets, and cover these over with horse-dung. There can be no doubt, however, that small pieces of a mouldy cheese are often inserted into them by means of a taster, and that wine or ale is frequently poured over them. Large caulking pins are also stuck into them to produce the requisite mouldiness. Much of this, however, is bad policy, for they are in the highest perfection, when the inside becomes almost as soft as butter and there is not any mouldiness.

In making Wiltshire cheese, the milk is used as soon as it is brought from the cow; or if it is of too high a temperature, it is lowered by the addition of a little skimmed milk. The curd is, in the first place, broken with the hand to various degrees of fineness according to the sort of cheese intended to be made. For thin cheese, it is not reduced so fine as in the county of Gloucester; for the thick kind, it is broken still finer; and for loaves it is almost crushed to atoms. In the first breaking of the curd, care is taken to let the whey run gradually off, lest it should carry away with it what is there called the "fat of the cow." As the whey rises, it is poured off, and the curd pressed down; after this it is pared or cut down, three or four times, in slices about an inch thick, in order that all the whey may be extracted. It is then scalded in the same manner as Gloucester cheese. In some dairies it is the practice, after the whey is separated, to re-break the curd, and salt it in the liquor; but in others, it is taken while warm, out of the liquor, and salted in the vat. The thin sorts are disposed, with a small handful of salt, in one layer; thick cheeses, with two handfuls of salt, in two layers; and loaves, with the same quantity in three or four layers; the salt being spread, and uniformly rubbed among the curd. In general, Wiltshire cheese is twice salted in the press, beneath which it continues, according to its thickness: the thin sorts three or four "meals"; the thicker ones four or five, and loaves five or six.

Dunlop cheese is made in the counties of Ayr, Renfrew, Lanark, and Galloway, of various sizes, from twenty to sixty pounds. After the milk is brought to a certain degree of heat, (about 160 degrees of the thermometer upon an average, though in summer ninety will be sufficient, and, on the contrary, during winter, a higher degree will be requisite,) it is mixed with the cream which had been previously skimmed, and kept cool. The milk is then poured into a large vessel, where the rennet is added to it, and the whole is closely covered up for ten or twelve minutes. If the rennet is good it will then have effected a coagulation of the milk, which is gently stirred; the whey then begins immediately to separate, and is taken off as

It gathers, until the curd becomes tolerably solid. It is now put into a *strainer*, the cover of which is pressed down with any convenient weight. After it has thus stood for some time, and is tolerably dry, it is returned into the first vessel or dish, where it is cut into very small pieces by means of a cheese-knife that is furnished with three or four blades, fixed on prongs from the handle, that cut in a horizontal direction. It is thus turned up and cut, every ten or fifteen minutes, and also pressed with the hand, until all the whey is extracted.—The curd is now once more cut as small as possible, and salted, care being taken to mix it minutely with the mass. Lastly, it is put into a *cheesitill* or *cheesart*, a stout dish with iron hoops, which has a cover that goes exactly into it: a cloth being placed between the curd and the vessel. In this state it is submitted to the action of the cheese-press, whence it is occasionally taken and wrapped in dry cloths, until it is supposed to have completely parted with the whey. It is then laid aside for one or two days, when it is again examined; and, if there is any appearance of whey remaining, the pressure and application of cloths are repeated. As soon as it is ascertained that the whey is extracted, the cheese is generally kept for a few days in the farmer's kitchen in order to dry it before it is placed in the store, where a smaller degree of heat is admitted. While there, it is turned three or four times a day until it begins to harden on the outside, when it is removed to the store, and turned twice a week afterwards. When the cheese is cured, various modes are adopted in publishing it for sale, which are rather injurious than beneficial; nothing further being requisite, besides turning it, than to rub it occasionally with a coarse cloth, especially after harvest, because at that time it has a tendency to breed mites.

In some dairies the cream is carefully separated from the milk, while in others, the milk is not allowed to cool, but thickened as taken from the cow; it being thought that, "if the milk is allowed to stand until the cream separates from it, the cream can never again be completely blended with it, or retained in the curd when set, and the cheese will seem to be considerably poorer.

We have given this long account, for the Ayrshire dairy people think that there is a great deal of mystery attending all these manipulations—but the only mystery consists in the cheese being honestly made of the milk, cream and all—in particular attention being paid to the temperature of the milk, when the rennet is added, and that most accurately ascertained by the dairy-maid's thermometer, the top of the finger, and, finally in the cheese being dried in a cool place, without any painting or sweating or rubbing with grease or oil.

Green cheese is made by steeping in milk two parts of sage with one of marigold leaves and a little parsley, all well bruised, and then mixing it with the curd which is preparing for the press. It may be mixed irregularly or fancifully, according to the pleasure of the maker. The management is in other respects the same as for common cheese. Green cheeses are chiefly made in Wiltshire.

Skim cheese is chiefly made in the county of Suffolk, whence it is sometimes called *Suffolk cheese*. The curd is broken in the whey, which is poured off as soon as the former has subsided: the remaining whey, together with the curd, being thrown into a coarse strainer, and exposed for cooling, is then pressed as closely as possible. It is afterwards put into a vat, and pressed for a few minutes, to extract the remaining whey. The curd being thus drained from the whey, is taken out again broken as finely as possible, salted, and submitted to the press. The other operations do not materially vary from those adopted in the cheese-making districts, but they are more easily performed on the curd of skim milk, as it is more readily coagulated and separated from the whey, and requires less subsequent care and pressing than that of milk and cream united. The Suffolk cheese forms, in general, part of every ship's stores, because it resists the effects of warm climates better than others; but it is characterised by "a horny hardness, and indigestible quality." A better kind is made in Dorsetshire, although the only perceptible difference in management consists in the rennet and the milk being put together cooler; for, by having the milk hot, and immediately applying the rennet, the whey drains so quickly as to impoverish the cheese, and render it tough.

Cream cheese is generally made in August or September, the milk being at that time richer and better than at other periods of the year. Cream cheeses are more liable than the poorer sorts to accidents, from their being chilled or frozen before they become hard. For when frost once penetrates a cheese, it destroys every good quality, and either makes it become insipid or ill tasted, or generates putrefaction. Hence this kind of cheese should always be kept in a warm situation, and be particularly preserved from the frost, until it has sweated well, otherwise all the advantage of its rich quality will be completely lost. Cream cheese is, however, in general only wanted for immediate use; and that kind commonly so called is, in fact, little else than thick sweet cream dried, and put into a small cheese-vat, about an inch and a half in depth, having holes in the bottom, to allow any whey that may exude, to pass, and having rushes, or the long grass of Indian corn, so disposed around the cheese as to admit of its being turned without being handled. It is thus, that the celebrated *Bath* and *York* cream cheeses are made, when genuine, but the greater part of those commonly sold are in part composed of milk.

New cheese, as it is usually termed in London, is an early summer cheese, which is made of new milk, and about one-third of warm water. When the whey is removed, the curd is carefully kept entire, and spread upon a cloth, to the thickness of less than an inch. It is then very gently pressed, for a few hours only, and when removed from the vat, is covered with a cloth, and placed in a warm situation, as it requires to be brought forward immediately.

These are the kinds of British cheese that are in most general esteem; the other sorts, together with foreign cheeses, are both too numerous and too uninteresting to the generality of dairy-men to admit of detail. The process of making cheese is much more difficult than that of making butter; and the quality depends as much perhaps on the mode of performing that operation as on the richness of the milk. The temperature at which the milk is kept before it is formed into cheese, and that at which it is coagulated, or turned into curds, are objects of the greatest importance in the management of a cheese dairy: the former ought not to exceed 55, nor to be under 50 degrees of Fahrenheit's thermometer; and for the latter it should be at 90 to 95. If the milk is kept warmer than 55 it will not throw up the cream so well as at the lower degree, it is also subject to get sour and give a bad taste to the cheese; and if it is allowed to be much colder than that, it becomes difficult to separate the curd from the whey, and the cheese made from it will be soft and insipid. If the curd is coagulated too hot it becomes tough; much of the butyraceous matter will go off with the whey; and the cheese will be hard and tasteless. The thermometer should, therefore be employed, in every dairy; and, although the servants may at first be prejudiced against it, yet its evident utility, and great simplicity, will eventually reconcile them to its use.

The greatest care should be taken thoroughly to extract every particle of whey from the curd; for no cheese will keep well while any whey remains, and if any part becomes sour, the whole will acquire a disagreeable flavour. Similar effects are produced by the use of an immoderate quantity of rennet. It is also apt to fill the cheese with small vesicles or holes; and this and imperfection of the cheese will also be produced if it is allowed to remain too long on one side.

Sometimes it happens that cheese will *hove* or swell, either from mere accident, or from inattention in some part of the process. Mr. Holland attributes it partly to the cows being fed on clover. He also thinks that the cracking of cheese is occasioned by the use of lime on the pasture; but these observations have not been corroborated by general experience. To prevent, and also to stop, this hoving, it has been recommended to lay the cheese in a moderately cool, dry place, and regularly to turn them. Whenever ever one becomes considerably swollen, it will be requisite to prick it deeply with a large awl or pin on both sides, and particularly where it is most elevated, and to repeat this as often as may be necessary.

A very experienced dairyman is of opinion, that from nine to twelve months are requisite to ripen cheese of any kind, if from fourteen to twenty

pounds weight; and he lays it down as a rule, in the process of making cheese, that the hotter it is put together, the sounder it will be, and the cooler, the richer, and more apt to decay. He also recommends the use of a small quantity of *loppered*, or sour milk, as a preventive of its hoving. It should be kept in an airy but not in a cold place, and if the moderately dried leaves of the tuisan, or park leaves (*hypericum androsaemum*, L.); or of the yellow star of Bethlehem, (*ornithogalum luteum*, L.); or, the young twigs of the common larch-tree are placed on the surface or sides of cheeses, they will—especially the latter—be found very serviceable in preventing the depredations of mites. It is a good practice to strew a little dry moss, or fine hay, upon the shelves on which the cheeses are laid, because when new, they sometimes adhere to the board, and communicate a dampness to it that is prejudicial to the other side of the cheese, when turned. It also promotes their drying. At a more advanced stage they may be laid upon straw; but at first it would sink into, and deface, the surface. To which we will add, as general maxims—that great cleanliness, sweet rennet, and attention to the heat of the milk and breaking the curd, are the chief requisites in cheese-making.

VENTILATION IN THE CHEESE ROOM.

Mr. Livesey, in the *Preston Chronicle*, contends strongly for a plentiful supply of pure air where cheese is kept. He says full one half of the cheese last summer, was very much faded and strong flavoured, and had to be sold at a reduced price; in many instances, so much as 10 per cent below the price of a good article. Although there are other causes which produce these effects, I have no doubt the chief cause was keeping them in close, small confined rooms. I scarcely ever go into a cheese room, but I find both the door and window closed; and when these rooms are filled with cheese, the air is so bad and polluted, as almost to be suffocating. My first effort is, generally, to get the window open; but in this I am often frustrated, for I find it either without any opening, or nailed up; and in many cases the cheese are crammed into a small room, without window or any means of ventilation whatever. Cheese being *animal matter*, cannot have too much air. I have noticed for some time, that those dairies that have been kept in a large well aired room, have been quite sound; and those kept in a close, sickly room, were either faded or very bad in the flavour. Though cheese should not be kept in too high a temperature, yet they will bear the summer heat tolerably well, provided they have a constant supply of good air. There is no objection to a little artificial heat in winter, from a stove or fire, but this should always be accompanied with a supply of pure air. The difficulty to contend with is twofold: first, the want, in many farm houses, of a suitable cheese room; and secondly, the prejudices of the dairymaids. They have a long cherished idea in favour of closed doors, and closed windows, and dark rooms. To prevent flies, they sometimes—any, is the reason for keeping the room dark and close; but this is the best plan for increasing them, by producing putrid matter in the cheese. And as for flies, a pennyworth of quassia chips boiled in a pint of water, well sweetened, and put on plates, will kill thousands directly. As I have this week seen several lots of new cheese, in close confined rooms, which, if they are kept for any length of time, are sure to rot, I am the more anxious to warn the cheese makers in time, now that hot weather is approaching, to open the doors and windows of their cheese rooms; and, in cases where there are no openings, either to set their husbands or the joiners at work immediately to make them.—*Am. Agriculturist*.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND. This Society has now 7,270 members, of which 101 are denominated life governors, who pay £250 each—206 annual governors, who pay £25 annually—399 life members who pay £50 each—6551 annual members, who pay £5 per annum. Its receipts in the three years of its existence have so far exceeded its expenses that the Society has invested about £35,000, the interest of which now forms a part of its permanent income. The Fair of this Society, for this year, is to be held at Derby, commencing on the 11th of this month.—*Cult.*

SHEEP HUSBANDRY.

The importance of sheep to our agriculture, is a matter of growing importance,—worn out farms, by judicious management, may be restored to their primitive excellence by a careful rotation of crops and sheep husbandry. We are decidedly a favourite of a well-bred flock of sheep, and shall therefore appreciate the opportunity here presented, of advancing a little friendly advice to our brother farmers. Much credit is due the many farmers in the Home District and other portions of the Province, who have expended large sums of money in exporting the modern improved breeds of sheep from the British Isles; but, still greater praise would have been meted to them, if they had selected breeds that would have been in every respect adapted to the circumstances of this country. We by no means wish to impugn the motives of the patriotic gentlemen above alluded to, in the wrong selections of sheep, which in many instances they have made, but we do most certainly wish to be emphatically understood, that a much greater benefit would have been produced to the country; if the quality of the wool had been as much an object of improvement with them, as the improvement of the bulk and quality of mutton. British America need never hope to be a large and profitable exporting country of wool, and consequently the only demand that can be expected for it is for domestic purposes. The average quality of short wool is worth one shilling and sixpence per pound for to be manufactured into the best quality of Canadian cloth; and the long combing wool appears, in the present state of our manufactures, to be worth very little more than one-half that sum per pound; and the latter makes an inferior description of cloth.

We believe it possible to combine the improvement of fleece and carcass with so much success, that wool of a medium degree of fineness can be produced from sheep of the largest size.

A well-bred South Down tup, crossed on Leicester ewes, would give the lambs half of the ram's blood, or 50 per cent.; the second cross would give 75 per cent.; and the third 87 ditto, and the fourth 93, at which period, if the ewes be judiciously selected, the difference of the wool of the original buck and the mixed breed would scarcely be discernible, and the size of the sheep considerably increased. When the improvement of the wool is an object, those lambs which have the least valuable coat should be selected for slaughter, and the male sheep which combine the best wool and mutton should be brought into the flock.

If this rule was carefully attended to, the improved Leicesters, crossed with the South Downs, might be made a most valuable sheep for the Canadian farmer. We noticed a pen of sheep at the last autumn exhibition of the Brock District, that had remarkably fine wool and large, well-proportioned carcasses. Altho' these sheep were called the improved Leicester breed, they evidently must have had a cross, at a period not long antecedent, with the Cheviot breed.

In our humble opinion, other importations of long-wooled sheep should be discouraged by Agricultural Societies, until woollen blanket manufactures were established in the Province, and every encouragement should be given to the improvement of the wool. The breed best adapted for the climate, and other circumstances of the country, are the most modern improved South Downs. The wool of this breed is thick, and rather inclined to be

curly, and with a depth of staple that will defend the sheep in bad weather, and will not admit the water to penetrate it, as it does on long, loose wool, and, better than all the other advantages, the wool will make an article of cloth suitable for the first agriculturist or mechanic in the land; and the quality of the mutton, when at the age of four or five years old, is worth a penny a pound more to the palate of an epicure than any other breed in the country.

The South Downs lately exhibited at Rochester were highly spoken of by disinterested gentlemen who were present. Three bucks were purchased by Canadian farmers, two of which have been brought into this District, and the other into the Gore District. We shall watch the progress of the improvement which a cross of the South Down tup and Leicester ewes will produce, with a great degree of interest. We have a very high opinion of the judiciousness of the cross, and shall be much disappointed if the result do not turn out most favourable.

In awarding prizes to new Leicesters, they should be given for those possessing the finest wool, and by that means the quality of the wool would be looked upon as a matter of more consequence by the breeders than has formerly been done. The period of the gestations of the ewe is usually estimated to last twenty-one weeks; but in many instances they will exceed that period, and in others go under it. The ewes, when put to the ram, should be in fine condition, but not what is generally denominated fat. Lambs should not come sooner than the first of May, in this country. Persons who have large flocks of ewes, would be amply repaid were they to sow a few acres of rape in the autumn, for food for the ewes during the latter part of April and month of May. The land might subsequently be subjected to a summer-fallowing operation.

The number of ewes to be put to a ram, should be regulated by his age and vigour. Generally speaking, sixty ewes are considered quite sufficient for a two years old tup, and thirty for a yearling.

If proper encouragement were given by Agricultural Societies for the improvement of the wool, an object would thus be gained that would alone doubly repay the few spirited gentlemen who have so laudably exerted themselves in keeping up the character of the Canadian Agricultural Associations.

While on this subject, we cannot withhold from embracing the golden opportunity here presented of urging the officers of Agricultural Societies to adopt efficient means to encourage the establishment of a woollen blanket manufactory. They have encouraged the introduction of long-wooled sheep, and the husbandmen have a right to expect that steps will be taken to establish a market for their wool,—which, in many instances, is so coarse that it comparatively ruins the machinery, or cards in use in the country. We shall recur to this subject in some future number of our work, and trust, in the mean time, that some spirited individual will commence the business in question, and by that means establish a market for long wool, which would be of great advantage to the farmers who have large flocks of long-wooled sheep.

In conclusion we would remark that the symmetry of the carcass should be as much an object of attention as the quality of the wool, and as some of our readers may not be perfect judges of the points which a well-bred sheep should possess, or in other words which would give the animal a hardness of constitution, and the least possible amount of oil, we would beg to select the following description of a tup, given by that eminent breeder of sheep, the

late Mr. George Culley, which will be found to contain useful hints to the breeder; for the nearer the animal comes to that appearance, the more generally perfect will be his form:

“His head should be fine and small; his nostrils wide and expanded; his eyes prominent, and rather bold or daring; ears thin; his collar full from the breast and shoulders, but tapering gradually all the way to where the head and neck join, which should be very fine and graceful, being perfectly free from any coarse leather hanging down, the shoulders broad and full, which must, at the same time, join so easy to the collar forward and chine backward, as to leave not the least hollow in either place; the mutton upon his arm or forethigh must come quite to the knee; his legs upright, with a clean fine bone, being equally clear from superfluous skin and coarse hairy wool from the knee and hough downward, the breast broad and well formed, which will keep his forelegs at a proper wideness, his grith or chest full and deep, and, instead of a hollow behind the shoulders, that part, by some called the fore flank, should be quite full; the back and loins broad, flat, and straight, from the waist; the ribs must rise with a fine circular arch; his belly straight; the quarters long and full, with the mutton quite down to the hough, which should stand neither in nor out; his twist deep, wide and full, which, with the broad breast, will keep his four legs open and upright; the whole body covered with a thin pelt, and that fine bright soft wool.”

MANAGEMENT OF FRUIT TREES.

The best season for transplanting apple trees is the autumn, although by many the spring is preferred. The writer has tried both autumn and spring for planting fruit trees, and has conversed with the most experienced nurserymen in the country, who have invariably given the preference to the autumn. From the fifteenth to the thirtieth of October, would be the most proper period, on an average of seasons, for performing this work. The trees should be planted in rows about thirty-five feet apart, and the same distance apart in the rows, and the rows should be in perfect right angles, to give the orchard an uniform appearance. It is a more difficult task to plant trees in right angular rows, than an inexperienced person would imagine. Any person acquainted with the use of the square and carpenter's compass, could give directions for executing this branch of business, with a degree of precision that could not be misunderstood.

On clay soils a hole should be dug for the tree about two feet square and eighteen inches deep, which should be filled with a compost of rotten dung and surface soil, and a proportion of lime, if added, would be an improvement, which would give the fibrous roots of the young tree an opportunity to strike deep in the early part of the following summer, and thereby prevent the loss of a single tree. Much care will necessarily have to be observed the following spring in ploughing the ground, or else many trees will be barked or injured with the double-trees or harness on the horses. The ground should be seeded down with cultivated grasses, and allowed to remain in that state until the trees are five or six inches through. We are aware that this is contrary to the ordinary practice, but we feel certain that it is

the most rational mode of managing young orchards. To prevent grass and weeds from growing about the young trees, which are sure to form a harbour for mice and other vermin, the ground should be carefully stirred around, a distance of three feet from the tree, with a spade, and this plan should be strictly followed every summer, until they become large, and able to withstand the attacks of mice and other casualties.

We should have remarked that, in planting the trees, great care should be observed in packing the finely pulverised soil about the roots, which should be raised a few inches above the common level of the ground, in a conical position, so that the heavy autumn rains would not settle under the roots of the trees, which would form cakes of ice and increase the risk of loss.

The difference in price between warranted or approved cultivated varieties of fruit and the natural sorts is so trifling, that no one, we trust, would be guilty of purchasing natural fruit. Fruit, of every description, at all times, commands remunerating prices in the Canadian markets, and we hope our readers will look to their own interests, sufficient at least to provide themselves with a good orchard.

NEWMARKET AGRICULTURAL EXHIBITION.

The Cattle Show and Fair of the Fourth Riding Agricultural Society, took place on the 5th of October, and was the best exhibition ever held in that part of the country. We were delighted in noticing that a strong determination existed in the breasts of the best farmers in the riding, in henceforward exerting their utmost ability and influence, in extending their field of usefulness.

The plan which they have in contemplation, is one which we most highly approve, and which, we trust will be acted upon by every agricultural association in the province. It would be premature to enter into the detail of their proposed mode of operation, and we would merely mention, for the present, that the leading features of it are, the discussion of agricultural topics,—the circulation of agricultural information,—and the encouragement to be given to the cultivation of new plants. They have our best wishes for the success of their movements, and our columns shall be thrown open for all the useful information that the intelligent and enterprising husbandmen of the fourth riding may bring before the public, in their monthly discussions and through the periodical reports, which they anticipate publishing.

Much of the stock on the ground was worthy of praise. A cow, owned by Colonel Carthew, possessed some of the finest points, and, on the whole, was the prettiest animal we ever saw. She bore a resemblance of a cross of the improved Durham and Davenport breed. A four years' old bull owned by Mr. Thomas Cosford, and a two years' old heifer, owned by Mr. Thomas Mairs, of Vespra, both of which were bred by the latter gentleman, would have even done credit to the exhibition lately held at Rochester, by the New York State Agricultural Society. The pens of long woolled sheep could scarcely be surpassed, in point of mutton, in America, but the quality of the wool was in many instances very defective. There were a few very honourable exceptions, however, two of which we would mention: Mr. George Simpson, who is well known in almost every portion of Western Canada, as being a most successful breeder of improved Leicester Sheep, exhibited a ram, which came the nearest to the description given, on another page of this number, under "Sheep Husbandry," of any sheep that has come under our notice, and the wool was as fine as the wool of the South Down. A South Down ram, owned by the hon. Amielus Irving, president of the institution, was also worthy of high commendation. A cross of the South

Downs and pure Leicesters, will, no doubt, be highly prized by all who adopt this mode of improving their sheep.

The pigs were principally of the best description—being improved Durhams, Berkshire, and Grade-Berkshire. A sow, owned by Mr. George Playter, of the improved Durham breed, was a handsome large animal, and, from the description that that gentleman gave us of his success of feeding swine, we would conclude that the breed in question could not be surpassed in the country. He informed us that he slaughtered, last autumn, three pigs, being only eight months old, which weighed, each, 266 lbs., net weight. Messrs. Millers, of the tenth concession of Markham, imported, direct from England, the breed from whom Mr. Playter purchased his original stock.

A communication was received from their worthy president, who was unavoidably absent, at Kingston, and read to the society, after the cloth being removed, in which he expressed much regret in not being able to fill his official chair, and gave powerful evidence that he took a deep interest in the prosperity of the society, and the cause of Canadian agriculture in general. The communication appeared to give general satisfaction to the gentlemen present, and showed most conclusively, that they felt proud in having the honour of the honourable gentleman's service and influence being exerted so powerfully in behalf of their society, as certain clauses of his letter evidently indicated.

LLOYD'S IMPROVED CANADIAN PLOUGH

The proprietor of the above plough has lately made considerable improvements in the mould board and bridle of his justly admired implement, and we now feel warranted in recommending it to the notice of all admirers of good ploughing. Farmers who have been in the habit of using the common patent plough, would scarcely credit the advantage they would derive from the introduction of the plough in question.—Price £3 5s.

FARMERS CABINET.—The two first numbers of the 8th volume of this admirable magazine is now before us, and we rank it among the leading agricultural journals of our neighbouring Republic. *The Cabinet* contains 32 pages on a sheet a trifle larger than our own, and is afforded to subscribers for one dollar a year, exclusive of postage.

To the Editor of *The British American Cultivator.*

SIR,—No candid individual, I think, upon enquiry, will refuse to acknowledge that the position which the farmers of Canada have hitherto occupied, in relation to the mercantile classes of the Province, has been very unfair, as respects fiscal regulations. And although the import duties have lately been considerably modified, yet a glance at them will show that they are not yet made to affect the great interests of the Province in an equal manner.

Furniture, castings, earthenware, machinery (if not hardware), medicines, leather, salt, and tinware are subject to an import duty of 9 per cent. Cotton, linen, and wool manufactures, hardware, harness, and books, 12 per cent., glassware 20 per cent. I have selected the above articles as being those that are of most consequence to the farmer; but there is not a single article that he may require upon which an import duty is not charged varying from 5 to 20 per cent. Now, how are the productions of the farmer's industry affected by import duties? Up to the present period they were, without the exception of a single article worth mentioning, admissible into the Province without the slightest restriction. A duty of 14d. sterling, per bushel, is shortly to be levied on wheat; but every other important article of agricultural produce can be imported free of duty. All that the farmer, or any other member of the industrial community, has a right to ask

is *fair play*; and upon this ground the farmer may, with perfect propriety, demand an equalization of the duties on importation. Whether they are levied for revenue, or for "protection to native industry," or for both, justice requires a fair distribution of them. The produce of the Canadian farmer is placed in open competition with American produce in the markets of the Province. And, in order that he may bear up with this competition, he is obliged to use every means to facilitate his farming operations, in order to reduce the cost of production; and in furtherance of this view, it is necessary that his implements should be of the best construction. He knows that those implements are to be had of a better description, and at a much lower price, on the American side, than he can get them here, but in introducing them he is met by a duty of 12 per cent., while, perhaps, the Canadian manufacturer of such implements finds his own workmen with provisions (as is often the case), and is in the habit of obtaining his supply of such provisions direct from Cleveland or elsewhere, without paying any duty whatever. This is but one instance out of many that might be adduced to show with what partiality these restrictive duties are imposed. One is constrained to think that the agricultural interest has been powerless in Canada, and that the farmers (as a Correspondent in your July number observes) have been too prone to choose for their parliamentary representatives men whose pursuits are wide apart from agriculture, and who have never had its welfare at heart. Meantime Free Trade agitation moves a pace in England, and appearances denote that the preference which our raw produce meets with at present in the markets of the mother country, will soon be extinguished. And, anticipating such a consummation to have arrived, can it be supposed that we will quietly submit to a monopoly of British manufactures in Canada? Such a supposition is inconsistent with the avowed fundamental principle of Free Trade, that of "equal privileges." The probability is, that we shall purchase chiefly the manufactures of Britain, because we can get them cheaper than elsewhere; but here we must exercise our discretion, for since we shall experience no partiality in her markets, she must stand in the same relation to our's. We shall have to search for the dearest market in which to sell, and the political economist would tell us to inquire for the cheapest wherem to buy.

WILLIAM ELLIOT.

London, Canada West,
Sept. 2, 1813.

NEW GRAIN FORK.

At a farm near Buffalo we saw a new grain-fork, the best adapted for pitching sheaves of grain, of any thing of the kind we ever before noticed.

Its construction is perfectly simple, and it can be made by any skillful blacksmith accustomed to forge pitchforks. It consists of two tines, nine inches long, which are spread two inches at the shank, and two and a half at the ends. The shank has a sudden curve at the end, of about two inches, so as to bring the points of the fork nearly in a line with the direction of the handle and shank. The naked part of the shank is eight inches long, one inch wide, by one-third of an inch thick, and enters the handle, which has a ferule on the end five inches, secured to the shank by a strong rivet. The tines and shank are made of the best of German steel, and possesses great elasticity, which very much lessens the labour of pitching. The handle may be of any desired length, but should possess as much elasticity as possible. Mr. A. Raynor informed us, he could easily throw a sheaf over his barn from the load, and that he never pitched so easily with any instrument as this. The sheaf leaves the tines with an elastic spring, and the fork, at the same time, utters a musical sound, like the tuning fork, when struck, of a music master.—*Am. Agriculturist.*

LEIBIG'S AGRICULTURAL CHEMISTRY

From the (Halifax N. S.) Colonial Farmer.

No person hitherto appears to have discovered in what manner Gypsum operates as manure. It is well known that upon some soils a spoonful in a hill of corn will increase the crop at least one third, while near the sea it has no visible effect. Leibig, whose works on Agricultural Chemistry and Physiology are at present engaging considerable attention, thinks that it attracts and decomposes the Carbonate of Ammonia which falls in rain water, thus forming soluble Sulphate of Ammonia and Carbonate of Lime. Mr Partridge, a Chemist at New York, has denied the possibility of such a combination at a common temperature; and Dr. Bond, of Yarmouth, has also stated that no decomposition would follow if Gypsum were added to Carbonate of Ammonia, but that if Sulphate of Ammonia and Limestone were brought in contact, Gypsum and Carbonate of Ammonia would be formed; and the Doctor is supported in his reasonings by all the Tables of Chemical affinity which we have seen. We are not, however, prepared to say that Leibig is certainly in error as we know from experience that the relative attractions of certain substances differ considerably at different temperatures, but in his works we find many paradoxical assertions, so intermixed with demonstrated facts, that the person who has no knowledge of Chemistry would, we think, be liable to go astray if he took Leibig for a guide, notwithstanding the great quantity of real Chemical knowledge he possesses. A Chemical work, to be useful to the farmer, should teach what has been discovered, rather than what has been conjectured. We think the following extracts from a sensible Agricultural Chemist much to the purpose:—"The farmer is too anxious that the Chemist should at once show him what can be done to improve the present state of agriculture, and cannot well understand why Chemists are not at least as far advanced as he is on the road to improvement. It is evident very little reflection is necessary to point out the incorrectness of such a conclusion. It is calculated that two hundred millions of individuals spend their daily toil in the practice of agriculture, and that this state of things has continued for thousands of years; whereas, as regards the science of agriculture, it has never yet occupied exclusively the attention of even twenty individuals in the whole civilized world, and even then during scarcely more than the present century. How then is it possible that a science so recent and so sparingly cultivated, should be capable at once to keep pace with a practice the most ancient, and the most extensively pursued, of all the varied arts with which man is acquainted?"

"I have noticed with regret, that almost all the popular works hitherto written upon agricultural science, have fallen into one common error of endeavouring to make a Chemist of the practical farmer: the authors all seem to think it necessary that in order to the improvement of agriculture, every farmer must study Chemistry. In this respect, however, I hold a totally different opinion. It appears to me that it would be a precisely analogous case, if writers on climate had said, that in order to preserve health, it were absolutely necessary that every individual should study Medicine. It is not an extended knowledge of Chemistry that is required—it is only a confidence in the results obtained by Chemists that is absolutely necessary. If the farmer becomes acquainted with the facts as they apply to his practice, and if he has such confidence in these facts, that he is willing to act in accordance to them, there is not the least necessity that he should occupy his time and burden his mind with all the abstruse processes of reasoning and experimental proof by which the Chemist has been enabled to trace out their connection with the complex phenomena which they serve to illustrate.

"I admit that it is requisite, in the first instance to enter just so far into chemical detail as to convince the farmer of its accuracy, but still I believe that this can in general be much better accomplished, by merely pointing out the connection which subsists between various phenomena, and their mutual dependence on each other, than by attempting to follow out, step by step, the chemical reasonings which form the ground work of these opinions." "If a person satisfies himself with book knowledge for his practice, and contents

himself with sitting in his closet, and drawing up codes of agriculture according to his preconceived opinion of what is right, he will never be able to render any real service to the practical farmer. He may indeed, by his scientific investigations, throw such light upon some abstruse question as to be essential in guiding others, who understand both theory and practice, into the right path of enquiry; but still I feel confident that the farmer cannot be too cautious in receiving the advice of the purely scientific, of those who consider it essential to make Chemists of every farmer who comes to them for advice: by those he may frequently be misled, but seldom will he be essentially benefited. The man of science who would devote himself to the improvement of agriculture must himself become acquainted with all the minutiae of practice"—Dr. Henry H. Madden, "On the state the soil should be in, when the seed is deposited in it;" Published in the 53th Number of the Quarterly Journal of Agriculture."

"The opinion that the substance called humus is extracted from the soil by the roots of plants, and that the Carbon entering into its composition serves, in some form or other, to nourish their tissues, is considered by many so firmly established that any new argument in its favour has been deemed unnecessary; the obvious difference in the growth of plants according to the known abundance or scarcity of humus in the soil, seemed to afford incontestible proof of its correctness. Yet this position, when submitted to a strict examination, is found to be untenable, and it becomes evident from most conclusive proofs, that humus, in the form in which it exists in the soil, does not yield the smallest nourishment to plants.

"The facts which we have stated in the preceding pages prove that the Carbon of plants must be derived exclusively from the atmosphere."—Leibig's Agricultural Chemistry.

Notwithstanding all these 'facts' adduced, we still believe that the plants which we cultivate derive most of their nutriment from the mould of humus. We know that houseleek, and some kinds of Cactus, (Prickly Pear,) and also many Lichens draw most of their food from air and water, and we are convinced that every plant which we cultivate derives a part (but we think the smallest part) of its nutriment from the same sources. We have often seen new land which had a proportion of mould, cultivated without manure, the mould and the fertility of the soil constantly decreasing, till at the end of ten years no mould could be seen, and the land was no longer worth cultivating. Of this humus or mould it should be observed there are endless variations, from the peat and coarse turf produced by the decay of the productions of the most barren soils, to the fine soapy moulds formed from the plants which grow on the richest. When the farmer finds a very thick layer of this last on his new land, he expects that it will produce large crops for a long time, not is he ever disappointed in his expectations.

Among the "facts" adduced, we find some very philosophical assertions. "Let us now enquire whence the grass in the meadow, or the wood in the forest, receives its Carbon, since there is no manure—no Carbon has been given it for nourishment? and how it happens, that the soil thus exhausted, instead of becoming poorer becomes every year richer in this element? A certain quantity of Carbon is taken every year from the forest or meadow in the form of wood or hay, and in spite of this, the quantity of Carbon in the soil augments; it becomes richer in humus."—Leibig. The Chemist is here in error,—his "facts" are not as he has stated; a natural meadow which has never been mowed or grazed, but on which all the

"Some virgin soils, such as those of America, contain vegetable matter in large proportion; and as these have been found eminently adapted for the cultivation of most plants, the organic matter contained in them has naturally been recognized as the cause of their fertility. To this matter the term "vegetable mould" or humus, has been applied. Indeed this peculiar substance appears to play such an important part in the phenomena of vegetation, that vegetable physiologists have been induced to ascribe the fertility of every soil to its presence. It is believed by many, to be the principal nutriment of plants, and it is supposed to be extracted by them from the soil in which they grew.

grass falls and decays, holds its own, and in some cases improves, but when it is mowed and the hay removed from it, it has in every instance that we have seen, grown poorer, except it was annually flooded by water, which brought a considerable portion of alluvial soil upon it. Mowing soon destroys the big joint grass, which is replaced by a much inferior sedge, and on many meadows constant mowing reduces the sedge, so much that it is found best to allow the grass to rot on the ground every alternate year. The soil also in the old forest, which has never been disturbed by the axe, is found to be more fertile than on tracts where part of the wood has been carried away for a considerable number of years. "It is not denied that manure exercises an influence upon the development of plants; but it may be affirmed with positive certainty, that it neither serves for the production of Carbon, nor has any influence upon it, because we find that the quantity of Carbon produced by manured lands is not greater than that yielded by lands that are not manured."—Leibig. Every farmer knows that manure will greatly increase a crop of hay, and consequently the quantity of Carbon. "2755 lbs of hay contain 1111lb. of Carbon."

"It is universally admitted that humus arises from the decay of plants. No primitive humus, therefore, can have existed—for plants must have preceded the humus.—Leibig.

Where is the proof? Is it more difficult to create humus than plants?

"Large forests are often found growing in the soils absolutely destitute of carbonaceous matter."

We have spent years in "forests," but have always found the poor soils covered with turf, and he rich with fine mould. In seeming contradiction to these assertions, Leibig states that when plants first begin to grow, they are nourished by carbonic acid gas formed from the union of a portion of the mould with the oxygen of the air. After the leaves are grown, he thinks that plants take all their food from the atmosphere. Agricultural Chemistry is a new science, and the most that has been published upon it, has been written by men who had very little knowledge of practical farming. It is not strange, that in this stage of the science, opinions should be advanced that will be hereafter abandoned as more knowledge is acquired. We would wish that Dr. Bond, or some other person would ascertain by experiment, whether Carbonate of Ammonia can be decomposed by Gypsum at a common temperature. Leibig says that it is slowly effected, but he repeats it with such confidence, that he ought to have more than conjecture for it. Any cheap material to mix with heaps of manure that would prevent the escape of Ammonia would be useful.

TO PRESERVE BEEF AND HAMS.—Take 12 lbs. of common salt, 4 oz saltpetre, 1½ gallons molasses or 12 lbs. coarse sugar, and six gallons of water—mix intimately, and apply cold to one barrel of Beef or Hams.

HOW TO BE RICH.—The secret is not in earning but in saving. Almost any man can earn money, but few can keep it.—A small sum is disregarded, yet a large one is only several small ones united; unless little sums are laid together, how can there ever be a great one?

Suppose a person saves a cent a day—at the end of the year he has \$3,65—at the end of 20 years he has about \$100 including interest. How easy it is for a man to save a cent a day; how many can save 10 cents a day—or \$36.50 a year—or about a thousand dollars in 20 years, including interest.

He who spends 7 cents a day upon some idle fancy—for instance in drink, cigars, fruit, &c.—should at the same time reflect that he throws away the interest of a dollar for a year. Are there not often occasions in the course of a day, when a person spends 1 cent, 2 cents, or 3 cents, which he might avoid without feeling the worse for it? Then goes his ten cents a day—his one thousand dollars in 20 years—the very interest of which would afford him and his heirs a clear profit of \$70 a year. Many grow rich by saving, but with little faculty for earning; some old men who have always lived well, are very rich from mere saving, who do not earn so much daily as their poor neighbors.—N. Y. Farmer.

ECONOMY.

To the Editors of the Central N. Y. Farmer.

Gentlemen,—Will you give place in your columns to a few desultory thoughts on Economy? I suppose you are not much troubled with communications from the ladies on this important subject—for I believe that we (as a class) have paid less attention to it, than gentlemen of small and reduced fortunes could desire. Dr. Johnson thought it was the duty of every individual to make some improvement in the chart of life; to point out the rocks and quicksands where he has suffered loss himself; and I suppose it is equally the duty of him who has sailed on a smooth sea, to leave his compass and his wake for the direction of future travellers.

Observation is worth something as well as experience; and when we see a poor debtor surrounded by a set of clamorous creditors, grasping the last cent which the law allows, we may realize all the evils of mismanagement and extravagance, without partaking of their bitter suit. My attention has been called to this subject, by the failure of several farmers, and as (in such cases,) whole families are involved in the general wreck, I trust I shall be pardoned if I offer a few suggestions to those wives and daughters who share proportionally in the weal or woe of the farmers' life.

First, if debts have been contracted, it is for you to save the means and help lay in store sufficient to meet those dues. I have always noticed that there was a better state of feeling in those families in which the woman knew something of business matters, than in those in which she is entirely ignorant of the extent of her husband's resources. In the latter case, it is not uncommon for her to desire and expect a supply of means which it is impossible for him to furnish. The short and decisive refusal, without the why's and wherefore's, is the end of the matter with him; but not so with her.—She thinks it over, the denial rankles deeper and deeper, till she half believes it was the result of unkindness alone—Now very likely if she knew all the circumstances of the case, she would not have expected or even asked for what she knew it was impracticable to purchase; for it must be remembered that we (a majority of us at least,) are reasonable beings, and of the majority, I know there is a class (though I acknowledge it with shame,) who are determined to gratify the suggestions of a giddy fancy, whether they are able or not. Many a farmer is injured if not positively ruined by the amount of his store bills. The silk dresses and satin shawls, the fine kid gloves and expensive bonnets, with all the corresponding things for table, parlour and chamber, create a style of things too expensive for the man who has no income but the products of a small farm. This passion for dress and fine living is owing altogether to a perverted taste, a false estimate which we place upon appearances. Rustic attire renders us none the worse, nor gaudy trappings none the better.

I have noticed also, that the plain farmer's fare, is giving place to the luxuries of the more opulent. Instead of the products of the farm alone, they feed you with the products of other climes.—Expensive tarts and pies, rich cake and sweatsmeats, with the mackerel, salad and steak, which are often bought, create debts to the butcher, larger than a farmer (unless he is a very wealthy one,) ever ought to pay. My plan is to live plain myself, and give my company the same sort of living. Better indeed to give them the plainest food, and furnish nought but cold water, "sparkling and bright," than present them with choicest viands, fine Java, and the best of Old Hyson, at the expense of our creditors. Let us not feel willing that others should suffer loss by our excesses. Let us not say their gains were obtained by fraud and oppression, and no matter if they do lose. It is enough for us to see that their demands, as far as we are concerned, are promptly met. Let us become like the women of the Old School, simple in our diet, economical in our dress, cheerful in our labor, and patient in our suffering. Ours is indeed a life of care and labor, but it is one favorable to the enjoyment of true happiness, and the cultivation of our moral nature. We may not sigh for the ease and indolence of the fine lady, for could we but feel the languor and ennui that oppresses her, we should sigh again for that healthful labor that calls us up at the rising of the sun, and gives us but little respite till the going down of the same. Now in recommending strict economy and labor, I do not

propose to abridge the comforts of life, but on the other hand to enhance all its joys. An active employment and simple diet give vigor and elasticity to the whole system. In fact they are the essential conditions of its regular and healthful action. Freedom from debt, and a consciousness of integrity, give satisfaction to the mind, such as the fraudulent debtor can never know.

Let it not be understood that we would encourage a mean and avaricious disposition, for this we consider still more reprehensible than a careless and prodigal one. But between two extremes, there is always a mean, and this is as true in household operations, as in the problem of Euclid. We may have all the real wants of life at a small expense, and in a simple way. We are surrounded by everything in nature to render our situation pleasing, comfortable and happy. Heaven smiles propitiously on our labors, for we have the bright sun and refreshing showers, without the asking—we have orchards and groves for the planting—and clustering roses and honeysuckles for the cultivation. I recollect that we were told in an Agricultural Address last year, that we must not cultivate flowers in old broken teapots and pitchers. Now as we are upon the principles of economy, and "pay as we go," we think this depends upon circumstances. If it is not convenient to pay a mechanic for a day's labor in making boxes, we had better use something else. Who would relinquish some cherished exotic, because she had nothing but an old broken pitcher to plant it in? I would rear some lovely plant or fragrant rose, if I had to beg the dust of the earth to nourish it, and the dews of heaven to water it. If I had nought but a hovel to shelter me, I should want a vine to creep over it, and sweet flowers to breathe their fragrance about it. It is the love of nature, the love of flowers, that gives us pleasure, and not the love of painted boxes, earthen jars, and china vases.

In relation to funds expended for the education of children, we have only to say, let them be expended judiciously.—Look well to it, that you get the worth of your money, for the country is filled with teachers who care as little for the improvement of their children, as the unfaithful hireling for the improvement of your farm. When we combine our efforts to educate aright the young, and overcome in them that repugnance to labor, which is so prevalent in our country, the condition of the farmer will be truly desirable. And it is for us to render it pleasing, not we who write, nor we who lecture about it, but for us who work. Habits of industry are formed far earlier by example than by precept, for the child who sees a whole household rise with the dawn and perform their allotted work with cheerfulness and pleasure, will naturally catch the spirit and copy the example of those around him. But he who dislikes labor may prate about industry, and lecture daily upon its advantages, but the child, so long as he remains a child, will wonder (if it is desirable,) why father don't work and mother too. A drone placed in a community where labor was universal, where it was considered honorable, and rendered profitable, would cease to be a drone; how much easier then, to learn the child whose habits are all unformed.

There have been foolish fathers among the farmers, who thought their sons must obtain some learned profession, instead of a knowledge of their own noble occupation—and there have been foolish mothers who have brought up their daughters in idleness and ignorance (at least of household affairs), hoping that they would marry wealthy tradesmen or fortune hunters. But we believe this ridiculous burlesque upon common sense, is giving place to more rational views and expectations. But we are digressing from the subject upon which we proposed to write, and also verifying the old proverb, that when a woman begins to talk she never knows when to stop. So I will add no more, for fear of wearying you and taxing the courtesy of our Editors with so long a communication.

ECONOMIST.

Oneida Castle, June, 1843.

IRISH AGRICULTURAL SOCIETY.—Following the example of England, a National Agricultural Society was formed in Ireland in 1841, since which no less than eighty-three auxiliary or district Societies have been organized, all of which appear to be in a prosperous condition, and exerting a highly salutary influence upon the agricultural interest of that country.—*L.*

BLACKBERRY SYRUP.—The following directions for preparing this article, pleasant for the taste, and the best remedy for the summer complaint among children, we find in the *Maine Cultivator*. To 2 quarts of the juice of blackberries, add 1 lb. of loaf sugar, half an ounce of nutmeg, half an ounce of cinnamon, pulverized. To this add half an ounce of cloves, and quarter of an ounce of allspice, pulverized. Boil altogether for a short time, and when cold, add a pint of proof brandy. Bottle carefully, and keep in a cool place for use.

FRENCH SAVORY SAUCE.—To 4 lbs. of veal fat from the kidney, cut small, add 1½ lb. ham, 1½ lb. rasped bacon, 5 or 6 chopped carrots, 8 small onions, a large bunch of parsley, 3 cloves, 2 bay leaves, some thyme, basil, mace, 3 lemons, (sliced without peel or seed,) and 1 lb. butter; boil them in any weak broth; skim; simmer for five or six hours; strain and keep the liquor for use.

FRENCH MODE OF COOKING POTATOES.—When the potatoes are boiled, cut them in slices and put them in a sauce pan, pour some onion broth over them; then add a piece of butter and keep the potatoes hot without boiling. Slice eight onions, and set them on the fire; when they are tender, take a large spoonful of flour which is to be well mixed with them, add salt, coarse pepper, a small table spoonful of broth or water, and a dash of vinegar. Let the onions gently simmer for a quarter of an hour, place them on the potatoes, and keep them hot till served.

CONSUMPTION OF FOOD IN LONDON.—The editor of the *Albany Evening Journal*, now abroad, in a recent letter from London, says:—"I was wondering this morning how much 'provant' was required to furnish this army of people with rations. An inquiry shows that 12,000,000 bushels of wheat are required annually to supply London with bread; that 120,000 tons of fish are caught here annually; the annual consumption of butter is estimated at 40,000,000 lbs., and the price varies from 25 to 37½ cents. Of meats I can get no estimate, but there is brought annually to Smithfield Market alone, 130,000 oxen, 450,000 hogs or pigs, 1,350,000 sheep or lambs, and 25,000 calves. Of milk, it is said that 11,000 cows supply the metropolis with 8,030,000 gallons annually, at an average price of 1s. 10d. per 8 quarts, (about five cents per quart.)"

TRAVELLING AGENTS WANTED.

THE EDITOR OF THE BRITISH AMERICAN CULTIVATOR is desirous of procuring the services of several competent persons to canvass the Province in the capacity of TRAVELLING AGENTS for that Journal. None need make application but those who can give unquestionable references.

☞ A very liberal rate of discount will be given.

August, 1843.

CARDING MACHINES.

THE SUBSCRIBER begs leave to acquaint his friends and the public in general, that in addition to his Foundry and French Burr Mill Stone Factory, he has engaged Archelaus Tupper, who is an experienced Mechanist, to make all kinds of CARDING MACHINES, of the latest and most approved construction; he has been engaged for twenty years in the United States, and also in Canada, and has a thorough knowledge of all kinds of Machinery, namely:—Double and Single Carding Machines, Pickers, Condensers, Jacks, Billeys and Jinney. Also, Broad and Narrow Looms, Shearing Machines, and Giggs, Napping and Teazling; Stoves for heating Press Plates; Press Screws. Also, Grinding Shearing Machine Blades; Fulling Mill Cranks, &c., and all kinds of Grist and Saw Mill Castings made to order; Wrought and Cast Iron Cooking and Plate Stoves; Fancy Stoves of all kinds; Also, Ploughs of different patterns; Mill Screws of all kinds; and Damsel Irons; Bolting Cloths, of the best Dutch Anker Brand, warranted of the best quality; Mill Stones of all sizes, always on hand and to order. Also, all the other herein-mentioned articles always on hand and for sale by the Subscriber, at his *FOUNDRY, on Yonge Street*, as cheap as they can be obtained at any other place.

CHRISTOPHER ELLIOT.

Toronto, August 7, 1843.

From the Hereford Times.

IMPROVED DIRECTIONS TO MAKE CIDER, PERRY, AND WINES, FROM RECENT CHEMICAL DISCOVERIES.

The apples being ripe and laid in a heap a fortnight, uncovered, about eighteen inches deep,—but pears should be taken ripe from the tree,—they are then ground in the cider mill, which consists of a circular stone in the form of a solid broad wheel, about 4½ feet in diameter, 14 inches wide, and weighs about 9 feet 3 inches diameter, and about the depth of 12 inches, including the wooden rim upon it, and similar to a bark mill. In this trough two bushels of apples are ground at a time, with a handful of wood charcoal strowed amongst them, until the kernels and rinds are broken small, as much of the goodness of the cider depends upon it, and this fact was communicated in the agricultural Report of the Rev. John Duncomb in 1813. By an experiment made by Dr Symonds, of Hereford. "He made an hog-head entirely from the rinds and cores of apples, and another from the pulps of the same fruit, the former was of the most unusual strength and high flavoured, the latter was watery and possessed not one recommendation." And last year I made two hog-heads of cider from the same fruit—one had the apples as above directed, the other was half ground. The cider of the latter was weak but pleasant, the former rich and high flavoured of the fruit, and both were alike preserved.

A horse, with a man and boy, will grind sufficient pomege to make nearly two hog-heads of cider in a day, which is put into open tubs until the next morning: it is then pressed through several hair cloths, and the liquor is taken to the fining house, and to put into a vessel to ferment from seven to nine days, with one pound of charcoal in it, in lumps, and four good eggs, unbroken, in a hog-head, to liberate the oxygen from the carbon of the carbonic gas.* It is then drawn off into tubs, and about one pound of pulverised charcoal is stirred into it, and left until the next day, when it is put into thin calico dropping bags to fine. One dozen of these bags, similar to jelly bags, suspended from frames, the cider is passed through, being previously dredged inside with pulverised charcoal. For a short time it will run muddy,—by continuing to fill them it will soon be clear. The muddy cider in the tubs is then removed. An egg unbroken in each bag improves the dropping. One hog-head a day will use by this process, but some fruit fines sooner than others, and it is quite mellow it requires a longer time to ferment before it will pass clear through the charcoaled bags than the juice of apples not so mellow; and the juices of fruit diluted with an equal or greater quantity of water, such as raspberries, currants, green gooseberries, cherries, should be fermented as cider, putting an unbroken egg into each bag in fining it.

A mixture of apples with yellow pulps, and red and yellow, commonly make the best cider. The Kingston black apple, and the hang down, make very good.

The dropping bags must be replaced by clean ones the next morning, to filter the cider remaining.

The cider being now fine, and retaining the flavour of the fruit, to preserve it so consists the discovery.

Fill the cask to two or three inches of the bung-hole, and put into a hog-head one pound of wood charcoal, in lumps, and from eight to ten unbroken good eggs. Bung it then close to exclude the air. The diluted juices of currants, raspberries, and green gooseberries require from 1 1/2 lbs. to 2 lbs. of loaf sugar to each gallon, after it be fine, but the quantity will depend on the water added, and the ripeness of the fruit—taste, therefore, must direct. This process retains the flavour of the fruit, and the liquor will be sweeter at the end of a year than when put into the cask, and free from alcohol. Every vessel

* That the oxygen is liberated from the carbon of the carbonic gas in this state is proved by the must or scum being very acid, whilst the liquor remains sweet. To inhale it by standing near, increases the circulation of the blood, and acts powerfully on the urinary passages. The scum or must should be taken off, or the vessel should be full for it to run off.

must be quite clean and well seasoned, or the whole will be spoiled.

By the above process the fermentation of cider, perry, and wines is arrested, which preserves the flavour of the fruit, and prevents the saccharine constituents of the juice being converted into alcohol, and this is effected by the charcoal as humus liberating the oxygen from the carbonic gas, and the constituents of the eggs supply the nourishment to the liquid with the fruit; for the cider made the previous year in the same manner, having only charcoal in it, at the end of nine months its sweetness was gone by a new fermentation, and had intoxicating qualities from alcohol, but with eggs and charcoal another cask of cider was sweeter in a year after than when put into the cask, and apparently free from alcohol. From this evidence I conclude that the charcoal in liberating the oxygen of the carbonic acid is, in part, converted into sugar by a new combination with the carbon and hydrogen of the water, and constituents of the eggs and fruit. One fourth part of the eggs and charcoal preserves all malt liquors mild.

By the analysis of eggs, compared with that of the gluten of wheat-flour, vegetable fibrine, vegetable caseine, and vegetable albumen are nearly the same; also isinglass, and the tendons of calves feet; but having used only eggs and isinglass, with charcoal as humus, I prefer the former—but some of both I have used together, with good effect.

But charcoal and fresh eggs, unbroken, are equally useful in the dairy. The difficulty of making good butter in summer arises by making it, in many farm houses, only once a week to be sent to market; the consequence is, the cream becomes sour and rancid, and the butter indifferant. To preserve the cream sweet, I directed my servant to put into each four-gallon cream vessel weekly a fresh unbroken egg and half an ounce of charcoal in lumps. Since then the cream has been sweet, and the butter good. In very warm weather two eggs have been used. J. R.

Dumblaton, 1843.

NITRATE OF SODA ON STRAWBERRIES.—The proportion in which nitrate of soda has been successfully applied to strawberries, is three ounces to the square yard, sprinkled regularly over the surface of the bed just as the plants are beginning to grow. Although it may injure the foremost leaves, the succeeding one will soon put forth with redoubled vigour.

THE MISSISSIPPI VALLEY FARMER.—We have received No. 1 and two of a new paper under the above title. It is published and conducted at St. Louis, Missouri, by J. Libby, formerly of *The Farmer's Cabinet*.

TORONTO MARKETS.

October 11, 1843.

| | per | unit | price | price | price | price |
|----------|------|----------|---------|-------|-------|-------|
| Flour | per | bbl. | 196 lb. | 17 | 6 | 20 0 |
| Wheat | per | bush. | 60 lb. | 3 | 3 | 4 0 |
| Barley | per | bush. | 48 lb. | 1 | 9 | 2 2 |
| Rye | per | bush. | 56 lb. | 2 | 3 | 3 0 |
| Oats | per | bush. | 34 lb. | 0 | 8 | 0 10 |
| Oatmeal | per | bbl. | 196 lb. | 15 | 0 | 18 9 |
| Peas | per | bush. | 60 lb. | 1 | 6 | 2 0 |
| Timothy | per | bush. | 60 lb. | 3 | 0 | 3 9 |
| Potatoes | per | bushel | | 0 | 10 | 1 2 |
| Hay | per | ton | | 40 | 0 | 45 0 |
| Straw | per | ton | | 20 | 0 | 25 0 |
| Hides | per | 100 lb. | | 0 | 0 | 0 0 |
| Salt | per | barrel | | 12 | 6 | 15 0 |
| Beef | per | 100 lbs. | | 10 | 9 | 15 0 |
| Beef | per | lb. | | 0 | 2 | 0 5 |
| Mutton | per | lb. | | 0 | 2 | 0 4 |
| Veal | per | lb. | | 0 | 2 | 0 4 |
| Pork | per | 100 lbs. | | 15 | 0 | 17 6 |
| Pork | per | lb. | | 0 | 2 | 0 4 |
| Turkeys | each | | | 3 | 6 | 4 0 |
| Geese | each | | | 1 | 6 | 2 6 |
| Ducks | per | couple | | 1 | 8 | 2 0 |
| Fowls | per | couple | | 1 | 3 | 1 8 |
| Chickens | per | couple | | 0 | 10 | 1 3 |
| Butter | per | lb. | | 0 | 6 | 0 7½ |
| Eggs | per | dozen | | 0 | 5 | 0 6 |

P. L. SIMMONDS, Agricultural Agent & Commission Merchant, 18 Cornhill, London, England.

SUPPLIES to order, Stock, Seeds, Implements, &c., and undertakes the Sale of Consignments of Goods. See his Advertisements in any of the leading papers of Canada East and West. September, 1843.

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THE SUBSCRIBER feels grateful for the patronage extended to him since he commenced business, and would respectfully inform his friends and the public, that he has removed from King Street to Yonge Street, immediately opposite the Stores of ROSS MITCHELL & Co., where he will carry on the business of NURSERY and SEEDSMAN. Having twenty Acres in the liberties of the city, in course of breaking in, as a Nursery and Seed Garden, he can now supply the public with Fruit and Ornamental Trees, Shrubs, Roses, Herbaceous Flowering Plants, &c., at a cheaper rate than they can be got from New-York or Rochester.

Trees and Seeds packed carefully to order, and sent to any part of the country.

GEO. LESSLIE.

Toronto, September, 1843.

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THE SUBSCRIBER begs to acquaint the Farmers of the Home District, that he has commenced the business of ROPE and TWINE MAKING, on Yonge Street, near No. 1 Toll-gate, where he has constantly on hand Rope and Twine, and purposes to make to order.

CASH paid for Flax, Hemp, and Horse-hair.

E. BENBOW,

No. 1 Toll-Gate.

Yonge Street, Toronto, Sept., 1843.

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Mr. ENOS FOLSON is now on a tour through the Gore, Niagara, and Brock Districts; and is authorised to collect Subscriptions for *The British American Cultivator*.

Published Monthly. W. G. EDMUNDSON, Editor and Proprietor, to whom all Orders and Communications must be addressed (post-paid). TERMS:—One Dollar, per annum, payable invariably in advance. TERMS to AGENTS—15 copies for \$10, 50 copies for \$25.

PRINTED AT THE BANNER OFFICE, No. 142, King Street.