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# LOWER CANADA AGRICULTURIST

MANUFACTURING, COMMERCIAL, AND COLONIZATION INTELLIGENCER

OFFICIAL SERIES OF THE AGRICULTURAL BOARD AND SOCIETIES.

PUBLISHED UNDER THE DIRECTION OF

M. J. PERRAULT,

*Member of the Provincial Parliament for the County of Richelieu.  
Pupil of the Royal Agricultural College of Cirencester, Gloucestershire, England,  
and of the Imperial Agricultural School of Grignon, Seine and Oise, France,  
Member of the Imperial Zoological Society of Paris, &c.*

MAY 1866.

Official Department.—An act to provide against the introduction and spreading of disorders affecting certain animals in Canada—An act to provide for the preservation of standing timber in Lower Canada—Report of Chateauguay Agricultural Society.—Report of Pontiac Agricultural Society—Megantic Agricultural Society, No. 2—Editorial Department.—Farming as a profession—Choosing a farm—Government action on the cattle plague—Mr. McLaur's farm—The present position of the veterinary profession in Canada—Science in Farming—The progress of the cane enterprise—Hints to young men—The cheese trade—Shall we sow largely of barley this year?—Farm Operations.—May on the farm—The Turnip Crop—Importance of manure—Broom corn, its cultivation—Plaster of Paris as a manure—The culture of turnips—The cultivation of live fences—Fixed facts in agriculture—Sorghum syrup making—Mills—Handling the juice—Evaporating pans and clarifying—The vetch as a forage crop.—Breeder's Department.—The Lambing Season—Horses in Kentucky—Horticultural Department.—Strawberry Culture—Farmers's Gardens—Commercial Department.—End of the Reciprocity Treaty.



SPARGERE COLLECTA.

OFFICE AT JOHN LOVELL'S PRINTING ESTABLISHMENT, ST. NICHOLAS STREET,  
MONTREAL.

# Official Dep't.

## AN ACT TO PROVIDE AGAINST THE INTRODUCTION AND SPREADING OF DISORDERS AFFECTING CERTAIN ANIMALS.

**W**HEREAS it is expedient that power should be given to the Governor in Council to take such measures as may appear to be necessary in order to prevent the introduction of contagious or infectious disorders affecting sheep, cattle, horses and other animals, and check such disorders from spreading, if introduced, and that other provision should be made for the same purpose: Therefore, Her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

### Governor in Council may prohibit importation of Cattle, &c.

1. It shall be lawful for the Governor, from time to time, by Order in Council, to prohibit the importation or introduction into this Province, or into any particular port or ports thereof, of cattle, sheep, horses, swine or other animals, either generally or from any place or places that may be named in such order, for such period or periods as he may deem to be necessary for the purpose of preventing the introduction of any contagious or infectious disorder among the sheep, cattle, horses, swine or other animals in this Province.

### May order infected cattle imported, or fodder, to be destroyed, &c.

2. It shall be lawful for the Governor, from time to time, by Order in Council, to make such regulations for subjecting sheep, cattle, horses, swine or other animals to quarantine, or for causing the same to be destroyed upon their arrival in this Province, or for destroying any hay, straw, fodder or other article whereby it appears to him that contagion or infection may be conveyed, and generally to make such regulations with respect to the importation or introduction into this Province, of sheep, cattle, horses, swine or other animals, as he may consider to be necessary in order to prevent the introduction of any contagious or infectious disorders into this Province.

### Cattle, &c., imported contrary to order in council to be forfeited.

3. If any sheep, cattle, horse, swine or other animal, be imported or introduced, or attempted to be imported or introduced into this Province, contrary to the provisions of

any Order in Council made in pursuance of this Act, the same shall be forfeited and forthwith destroyed; and every person importing or introducing, or attempting to import or introduce, any sheep, cattle, horse, swine or other animal into this Province, contrary to the provisions of any such Order in Council, shall be liable to a penalty of two hundred dollars for every sheep, head of cattle, horse, swine or other animal so imported or introduced, or attempted to be imported or introduced into this Province by him.

### May prohibit removal of cattle, &c., and direct how diseased animals, &c., shall be disposed of.

4. It shall be lawful for the Governor, from time to time, by Order in Council, to make such regulations as to him may seem necessary for the purpose of prohibiting or regulating the removal to or from such parts of or places in this Province, as he may designate in such order, of sheep, cattle, horses, swine or other animals, or of meat, skins, hides, horns, hoofs or other parts of any animals, or of hay, straw, fodder or other articles likely to propagate infection; and also for the purpose of purifying any yard, stable, outhouse or other place, or any waggons, carts, carriages, cars or other vehicles; and also for the purpose of directing how any animals dying in a diseased state, or any animals, parts of animals, or other things seized under the provisions of this Act, are to be destroyed or otherwise disposed of, and also for the purpose of causing notices to be given of the appearance of any disorder among sheep, cattle, horses, swine or other animals, and to make any other orders or regulations for the purpose of giving effect to the provisions of this Act, and again to revoke, alter or vary any such orders or regulations; and all provisions for any of the purposes aforesaid, in any such Order in Council contained, shall have the like force and effect as if the same had been inserted in this Act; and every person offending against the same shall for each and every offence, forfeit and pay such sum, not exceeding one hundred dollars, as the Governor in Council may, in any case, by any such order, direct to be forfeited and paid for contravention thereof.

5. Every Order in Council made under the authority of this Act, shall, within fourteen days after the issuing thereof, be twice published in the *Canada Gazette*;

and in case any such Order in Council, or any order or regulation in it applies to any particular part of or place in this Province, then such Order in Council shall also be twice published within fourteen days after the issuing thereof, in some newspaper or newspapers circulating in the county or counties within which each of such parts or places, or any portion or portions thereof respectively, is or are situate.

6. A copy of every Order in Council made under the authority of this Act, shall be laid before each House of the Parliament of this Province, within six weeks after the issuing thereof, if such Parliament be then sitting, and if such Parliament be not then sitting, then within six weeks after the commencement of the then next session of such Parliament.

**Infected animals exposed for sale at market, &c., to be reported and destroyed.**


7. In case any animal of any of the kinds mentioned in this Act, infected with or laboring under any contagious or infectious disorder, be exposed or offered for sale, or be brought or attempted to be brought for the purpose of being exposed or offered for sale in any market, fair or other open or public place where other animals are commonly exposed for sale, then, and in any such case, it shall be lawful for any clerk or inspector or other officer of such fair or market, or for any constable or policeman, or for any other person authorized by the mayor or reeve, or by any two Justices of the Peace having jurisdiction in the place, or for any person authorized or appointed by the Governor in Council, to seize the same, and to report the seizure to the mayor or reeve, or to any justice of the peace having jurisdiction in the place; and it shall be lawful for such mayor, reeve or justice, either to restore the same or to cause the same together with any pens, hurdles, troughs, litter, hay, straw or other articles which he may judge likely to have been infected thereby, to be forthwith destroyed or otherwise disposed, in such manner as he shall deem proper, or as may be directed, as hereinbefore provided; and any person bringing, or attempting to bring, any animal of any of the kinds mentioned in this Act, into any such market, fair or open or public place as aforesaid, knowing such animal to be infected with or laboring under any contagious or infectious disorder, shall, upon conviction thereof, forfeit and pay for each and every such offence, a sum not exceeding one hundred dollars.

**Penalty for turning out infected animals to pasture.**

8. If any person turn out, keep or depasture any animal of any of the kinds mentioned in this Act, infected with or laboring under any contagious or infectious disorders, in or upon any forest, wood, moor, breach, marsh, common, waste land, open field, roadside or other undivided or uninclosed land, such person shall, on conviction thereof, forfeit and pay a sum not exceeding one hundred dollars.

9. The Recorder of any city, and those officers having the jurisdiction of a Recorder in the summary administration of criminal justice, shall have power to hear, adjudge and determine upon any complaint made under this Act.

**AN ACT TO PROVIDE FOR THE PRESERVATION OF STANDING TIMBER.**

 HEREAS in most of the old Counties of Canada, the inhabitants experience serious difficulty in obtaining wood for fuel and building purposes, and whereas it is advisable to profit by past experience, and to adopt measures, while there is yet time, to prevent the inhabitants of new Townships from being subjected to similar inconveniences: Therefore, Her Majesty, by and with the advice and consent of the Legislative Council and Assembly of Canada, enacts as follows:

**Reserve of wood lands to be set apart in each new Township.**

1. Whenever it shall be considered expedient to erect into a Township, any certain extent of the waste lands of the Crown in this Province, it shall be the duty of the Commissioner of Crown Lands to set apart in such Township a reserve of wood land which shall form not more than one-tenth nor less than one-twentieth of the superficial area of such Township, and the limits whereof shall be fixed and defined at the time of the erection of such Township; and the Commissioner shall, whenever he deems it expedient, make a reserve for a like purpose in all townships already erected, and in which the Crown owns a sufficiency of wood land.

2. Such reserve may be in a single lot, or divided into several lots according to circumstances.

3. And to provide for the difficulties which might arise respecting the rights and duties as between neighbors (*droits de voisinage découverts*, fences, ditches, and all others,) which the inhabitants residing

on the lots contiguous to such reserve might claim, the patents of the lots so situated shall contain a condition binding the proprietors, tenants or occupants of such lots, to renounce for ever any claim to all rights and duties as between neighbors (*droits de voisinage*), and a reduction may be made in the selling price of such lots in consideration of the disadvantages which might result from the preceding provision, if the Commissioner of Crown Lands deems it advisable.


#### Management of reserve.

4. The Governor in Council may transfer the control and management of every such reserve to such municipal or other authorities willing to undertake the same, as he shall think proper to select, and under such conditions as he shall impose.

5. Nothing in this Act contained shall have the effect of restricting in any way whatsoever, the rights, powers and privileges conferred by chapter twenty-five of the Consolidated Statutes of Canada.

6. This Act shall apply only to Lower Canada.

#### COUNTY OF PONTIAC AGRICULTURAL SOCIETY.



T the annual meeting of the members of the County of Pontiac Agricultural Society, convened and held on the 21st day of December, 1865, in conformity with the acts of the Legislature in that behalf,—it was moved by George Hodgins, and seconded by Hugh Brownlee, that Mr. John Strutt do take the chair.

The following report was then read by the Secretary :

The Directors of the County of Pontiac Agricultural Society have now to make the ninth annual report, and in doing so have to congratulate the members on the continued satisfactory state of the Society. Notwithstanding that the two former past seasons having operated so much against the agricultural interest in the County, the Society at its exhibition in October proved that it kept its ground, and that the past season, with its bountiful produce, has been the means of keeping it not only in a comparatively healthy state, but it is to be hoped will be the means of causing an accession to the membership. However, your Directors must reiterate the surprise so often expressed by their predecessors, of the apathy still existing in the support of the Society by many respectable farmers

in the adjoining townships. The benefits scattered by the Society through a period of nine years in the diffusion of prizes, of agricultural knowledge, and of the properties of stock purchased by it, and stationed at different parts of the townships, ought, in the opinion of your Directors, to form a stimulus to those who have not yet joined the association.

The introduction of fresh stock during the past year has been a main feature of your Directors, which they hope will prove of much benefit to the Society. However, with the utmost caution, cases will arise in which animals may not turn out to expectation; but in general the stock heretofore purchased has answered well, and infused good blood into the stock of the members availing themselves thereof. Your Directors need hardly represent that the report of the judges of crops was extremely favorable, all sorts of produce being in abundance.

The number of members keeps up to an average, and the entries in detail of all kinds are as follows, viz :

Growing crops, 144; agricultural products, 131; horticultural, 22; dairy produce, 12; woollen goods, 40; implements and harness, 32; ladies' department, 52; live stock, 204; drawing, 4; fencing, 11; flax, 5. Thus there is an increase over the last year in class growing crops of 19; in agricultural products, 44; horticulture, 9; woollen goods, 13; ladies' department, same as last year; live stock, same as last year; while the minor departments all exceed those of the previous year.

There were 10 competitors at the ploughing matches, which went off with the usual harmony.

The names of the members are as follows, and are appended to this report; and the balance to the credit of the Society is \$———, account also hereto appended.

Your Directors cannot close this report without adverting to the fact of the Board of Agriculture having addressed a circular to the Society, desiring it to consider whether it would be expedient for the Society to purchase a quantity of flax seed, to be imported by the Government, subject only to cost and charges, when your Directors, after due discussion and consideration of the subject, came to the conclusion that in view of the want of machinery as yet in the County for its preparation, and that as sundry of the members have raised considerable flax, with no means of manufacture,

the introduction of machinery should be a preliminary consideration, and therefore that it was inexpedient at present to order any seed. Your directors are sanguine of private enterprise being directed to the erection of machinery of this nature during the ensuing year, when they would earnestly recommend the attention of the members to this very interesting subject.

Respectfully submitted.

ALEXANDER STUART, President.

The total amount of the receipts for the year has been \$1387, of which 342 are subscriptions. The expenditure comprises \$650 for prizes awarded at the annual exhibitions; \$60 for three rams belonging to the Society.

**REPORT OF THE OFFICERS AND DIRECTORS OF THE COUNTY OF CHATEAUGUAY AGRICULTURAL SOCIETY FOR THE YEAR 1865.**

YOUR Society have to report that during the year 1865, they held one fall show on the twenty-first day of September, at the village of Howick, for the exhibition of horses, cows, cattle, sheep, swine, dairy produce, domestic manufactures, fancy implements, ladies' work, &c. The number of entries being five hundred and forty-one.

The amount of prizes at the show.	\$454.00
Your Society also held one ploughing match, amount of prize paid	\$6.00
Your Society also held one winter show, for the exhibition of seed, animals, grain, and roots. The amount of prizes paid.....	231.00
Total amount of expenses including the Secretary Treasurer, per centage.....	166.91
Due to the Secretary Treasurer, in last year .....	18.34½
	<b>\$956.25½</b>

The income of the Society for the year 1865, as follows:

Government grant.....\$682.00  
Members' subscription... 285.75

**\$967.75**

Balance due Society..... 11.49½  
**\$967.75**

Your Society have to regret that the wheat imported for the use of the Society by the Agricultural Association for the District of Beauharnois, has proved a complete failure.

Your Society would report in favor of having the law so amended that the Directors of each Society shall have the right of fixing a central locality for the permanent holding of the Society shows.

(Signed,

THOS. GIBBIE,  
*President.*

JOHN McDUGALL,  
*Vice President.*

H. McEACHERN,  
*Sec. Treas.*

A true copy of the original report accepted at the annual meeting, in January, 1866.

H. McEACHERN,  
*A. S. C. of C.*

Durham Ormstown, 18th Jan., 1866.

**MEGANTIC AGRICULTURAL SOCIETY No. 2.**

SIR,—In the April number of the Lower Canada Agriculturist the statement of the receipts and disbursements of Megantic Agricultural Society No. 2 is not quite correct. Instead of \$224 paid in prizes at fall show, it should be \$323.75.

You will much oblige by having the goodness to cause the error to be corrected in the next issue of Agriculturist.

JOHN HUTCHISON,  
*Sec. Treas. M. A. S. No. 2.*

Leeds, Megantic, 5th April, 1866.

**EDITORIAL DEPARTMENT.**

**FARMING AS A PROFESSION.**



VERY farmer who wishes to stand high in his profession will find a "powerful auxiliary" in having a good wife. The wisest of men has left on the recorded page this testimony, "Whoso findeth a wife findeth a good thing." But how-

ever much it may aid and comfort him, I do not wish to be understood to say that a farmer cannot be successful without a wife. And here, although I may be obliged to plead guilty to the charge of telling the public what it was never intended the public, or, to be frank, myself either, should hear; I will, as the case is so well adapted

to the end I have in view, give a short conversation between two educated young ladies; and the one whose words I propose to comment upon was an entire stranger to me, I waive all ceremony and impress them into my service.

"Nell, if you had a friend who was a farmer, and who seemed to like farming, would you advise him to leave it for a city occupation?"

"No, indeed," was the reply of the young lady thus addressed. "If he likes farming, stick to it. Perhaps he could not get a good wife."

This last idea, that a farmer cannot get a good wife; that he must, if he ever marries, have an inferior woman, has taken firm possession of the minds of many educated young ladies, and also the minds of some, who, although neither educated nor remarkably smart themselves, feel decidedly *above* the position of a farmer's wife. How common the expression, when a young lady of anything more than decent acquirements consents to marry a farmer, that "she has thrown herself away," "married nothing but a farmer." Now, if the views I have presented in the preceding numbers on this subject are correct, if the farmers are the noblest, most useful class of mankind, who deserve a place in the first rank of professional men, the woman who marries a farmer does NOT throw herself away, nor accept a low position in society. The woman who is *above* marrying a farmer, because he is a farmer, has either received a bad education, has a proud heart or a contracted mind. God placed the first woman as a helpmeet for a tiller of the soil. Have her descendants grown wiser—can they choose a better position than He chose for her? Although, as I said before, I do not consider a wife absolutely necessary to a farmer's success, yet as most of my unmarried readers will probably some time change their state, and as some young ladies must marry farmers, if for no other reason, because they can get no one else, I will devote the remainder of this article to the especial benefit of the above mentioned unmarried readers, and endeavor to point out the qualifications necessary to constitute a good farmer's wife. I shall place them in the following order:—Industry, Energy and Sympathy. She should of course have a good education and be a good woman; but as our common school system affords an opportunity for every one to obtain a good common sense education, and

as all women are *supposed* to be good, the farmer need not miss the mark in any of these particulars. It requires no argument to prove that the good wife must be industrious. Nothing else can atone for deficiency in this respect. The wise man says, "She looketh well to the ways of her household, and eateth not of the bread of idleness."

I have laid it down as a settled principle that the farmer, in order to be successful, must work—must give his attention to his business. His wife should, in her own sphere, be willing to give him all the aid in her power. Energy is also a prominent characteristic of a good farmer's wife. Without this, everything will go at loose ends in the house—everything late, always behind time, the work undone, with a fair prospect that it will remain so until the end of time; and the farmer will gradually come down to this level, and his prospects will be ruined, because his wife had not the energy, the force of mind, to perform in a proper manner the duties incumbent upon her. A lifeless, feeble, slipshod, whining woman will drag a man down in this, or any other profession. The farmer might as well have a "mill stone hanged about his neck and be cast into the sea," as to attempt to succeed with such a woman for his wife. Sympathy with his calling is also an important element in the character of a good farmer's wife. By her sympathy she can give him encouragement, and he can feel that he is not working alone. It is almost impossible for a man to be *very* successful in any calling to which his wife is opposed. It will, I believe, be for the interest of the farmer whose wife is opposed to this calling to change it at once for some other business.

I will now proceed to reply to some objections which young ladies often make to becoming farmers' wives. First. It is too still and lonely in a country farm-house. To this it may be replied, that although there is less excitement than in the city or the town, yet true happiness can be found as well in the country as any where. A true woman who looks aright on the duties and responsibilities of life, can find happiness while faithfully performing the duties devolving upon her as a farmer's wife. Why should she be lonely amid all the beauties of the natural world, where the air is vocal with the music of the birds, and where she can ever look upon the glorious works of God? Second. "Farmers are

not intelligent and refined men, and they hold a low position in society." Having urged farmers to use their intellectual powers, and thereby elevate themselves and their profession, and having answered the last part of this objection in the preceding number of this article, I shall pass it by with the simple remark that the wife as often defines her husband's position as the man himself. No farmer can be in intimate relationship with a true, educated woman, without being elevated and ennobled thereby; and the farmer who has such a wife will never give her cause to complain of his want of intelligence or refinement. Third. And here we come to what is in many, perhaps in most cases, the real reason for the unwillingness of young ladies to share the farmer's lot. I fancy I hear some inactive, inefficient young lady whine out, "Farmers' wives have to work." Work, yes! What do you want to do? Did not God intend that you should work? Are you excused from obeying His command, "Six days shall thou labor?" Nothing valuable can be obtained without work. Labor is, and should be considered a blessing, and idleness a curse. No one has any right to the title of a true lady, who is unwilling to work, either with the hands or the mind, or both if it is necessary; and I would say to every unmarried farmer, if you wish to succeed in life—to stand high in your profession—marry no woman who is either too proud or too lazy to work.

**CHOOSING A FARM.**

**T**HERE is a constant buying and selling of farms going on every year in our country. This restlessness on the part of the farmer, and this desire to change a present location for another one hundreds of miles off, are so frequently witnessed in our day, that we cease to wonder at it. In the times of our forefathers, when a man was settled on a farm, he commonly continued on it through life, and then left it to his son. In New England the same farm was first occupied by the grandfather, and so on by the son and grandson. Then the good old homestead was reversed, and the occupancy of it was esteemed a great privilege. There was a satisfaction felt by the successor, that his predecessor was his relative, cultivated the same lands, traversed the same hills, and ate of the fruit of the same orchard. Then

there was home feeling—home associations and home attachments.

Now the farmer looks more to his pecuniary gains; and when offered a big price for his land, hesitates not to sell. He quits the lovely valley of the Connecticut, or of the Mohawk, and migrates with his family far to the West, into the interior of Wisconsin or Iowa. There he recommences farm life. He builds his humble cottage, fences his fields, and labors hard in the cultivation and improvement of his farm. But a few years only intervene, and a similar desire for a change of habitation prompts him to sell, and buy again in some other locality. This you may call a *roving habit*. It is a habit followed by thousands who leave the older States, and seek a home at the West. The choice of a farm is often made, not so much on account of its intrinsic value, as on account of its location near a village. Or, on the other hand, the choice is made because the land is *cheap*, and not because it is in the vicinity of schools and churches. If we were to give advice on this subject, we would say to every farmer who is the owner of a good farm, *remain where you are*, unless powerful reasons may prompt you to seek a new settlement in a distant region, where relatives reside.

There must be special reasons to justify a man to sell out his homestead, where he has passed through the most pleasant scenes of his life, and remove far away, and locate his family among strangers. But you may now ask, shall a man never sell his farm and buy another one? Certainly he may. The circumstances of his family may justify such a course. He may have a number of sons whom he desires to become farmers; he may, therefore, sell a small farm at the East, and remove where he can buy more acres for the accommodation of his sons. It is the restless, roving disposition of some farmers, which cannot be commended. They buy or sell, remove here or there, according as a capricious whim or desire of gain may impel them.

**GOVERNMENT ACTION ON THE CATTLE PLAGUE.**

**I**N the British Parliament, Feb. 12th, Sir Geo. Gray proposed a measure on the part of the Government, for the suppression of the Rinderpest. As to its general tenor, he gave a general outline, from which we make the following extract:



"It would be proposed to require the local authorities imperatively, and without any distinction, to give effect to the regulations to slaughter all affected cattle within the district; but with respect to animals not affected, but still in contact with those affected, he did not propose to make it imperative to order their slaughter; but steering a middle course, to give the local authorities the power to do so according to the state of the locality, and the danger of spreading the disease. We propose also that the principle of compensation should be admitted as regards both classes; but with a lower scale to the former classes; that in the first case it should not exceed two-thirds of the value, and in no case £12, and in the case of healthy animals not more than three-fourths of the value, and in no case more than £25. There are other provisions with respect to disinfection of the premises."

This compensation would two-thirds of it be drawn from the county rates, and the remaining one-third from a rate to be levied on all cattle more than one year old, provided it did not require more than five shillings sterling per head. As to the removal and transportation of stock, while not entirely prohibited, it could only be done by license granted upon sufficient evidence that the animals themselves are healthy, and that the neighborhood from which they came was free from the disease.

Power would be given to the local authorities to declare certain districts infected, in which the provisions of the bill would be obligatory. With respect to markets and fairs, it would be proposed to prohibit them for the sale of lean and stock cattle for a limited period, but that they might be held for the sale of fat cattle, with the license of the local authorities, subject to the imperative conditions that no cattle brought to the market should leave it alive; and in the small boroughs no market was to be held without the concurrence of the county magistrates.

Cattle from abroad coming into London should be slaughtered there, but healthy Irish cattle might be taken by rail from the ports of arrival to other markets. The act to remain in force to July 1, 1867, but subject in some of its provisions to termination on the 1st of April next, unless extended by an order in Council. In the course of debate on this Bill in committee, we note that an amendment was moved on the 15th, and carried by a large majority,

entirely prohibiting the transportation of cattle by rail previously to March 25th next:

#### MR. McLAURY'S FARM.



**W**HILE at New-Brunswick, last week, we had the opportunity of examining one as two examples of the scale on which the latter are cultivated and the profits obtained from them. On the farm of Mr. DANIEL McLAURY, for instance, there were raised last year about twenty-five acres of small fruits, fifty acres of cabbages, forty of oats, fifteen of Indian corn, and, as we understood, about twenty of turnips. The cabbage fields, one of them of twenty acres in a single enclosure, show, by the regularity of the standing stalks, the extent of the crop; put in three feet apart each way (which is much better than two and a half by three, as formerly practised by Mr. M.,) an acre would contain 4,840 plants, and out of this number not over three or four per cent. proved failures, or five per cent. at the outside, throughout the fifty acres. The total product was consequently not very far short of a quarter of a million head! The price at which they are sold will run in the neighbourhood of \$60 per 1000, although the crop of 1864 was disposed of in whole or in part at upwards of \$100 per 1000. In making the cabbage crop a specialty, the farmers about Bergen, who raise large quantities, generally follow it with potatoes,—then with rye, sown to clover, and lastly with clover, one year,—then going back to the cabbage again. Mr. M. prefers, however, a rotation of five years, consisting of—1, cabbages; 2, oats as a seeding crop; and 3. grass continued two or three years before again plowing for the cabbage. The scale on which he purchases manure may be inferred from the fact that he has paid a single boat captain nearly \$3,000 during the past year, for night-soil brought from the city of New-York. The land used is a clay loam, but intermingled quite largely in some parts with sand, and in others with gravel.

A large part of the cabbage crop is wintered in the following simple and expeditious manner: The heads are inverted in a furrow turned by the plow, and the soil then thrown on to the by them same implement; and this covering, perhaps three or four inches thick, with a little retouching by the shovel, keeps them finely; indeed

the heads that were put in a little green, came out whitened through and more solid.

In the berry season Mr. M. employs about 40 pickers, and they are engaged from the time that strawberries begin to ripen till the raspberry and blackberry crops are respectively over. The blackberry plants are set out five by eight feet, along a trellis consisting of a single wire stretched from top to top of good heavy posts at either end of the field, supported when necessary by lighter stakes. The mode of fastening the canes to the wire is by a bit of leather, two or three inches long, forming a loop, the ends of which are secured by a bit of fine wire twisted through them. The stems of last year's berries still remaining, showed the excellence of the crop, and Mr. M. pointed out, by way of contrast, another patch, on a farm lately purchased by him, where the blackberries were grown "in the ordinary way," that is most negligently; and where, as he said, the yield was about one-tenth that obtained under his own perfectly clean and thorough culture. The crop of berries actually produced upon eight acres one year, was *eight hundred bushels*! and, with good seasons, Mr. M. estimated his usual crop at about this figure. The plants are mainly the New Rochelle, but he thinks very highly of the *Wilson*; a variety introduced, we think, by Mr. Wm. Parry of Cinnaminson.

Near by Mr. McLaury's, we called at the place of GEO. LAMBERT, to inspect a fine looking strawberry patch of half an acre, the fruit of which, last season, we were told, netted \$600 above cost of picking and salesman's commissions. The whole acre and a half, under the strawberry, netted \$1,400, and Mr. L. is full of confidence that he can cultivate five or six acres so as to yield him \$1,000 each, per year. Although a new beginner, he has taken hold in earnest and succeeded well.

#### THE PRESENT POSITION OF THE VETERINARY PROFESSION IN CANADA.



THE growing importance of information regarding the management of farm stock in health and disease, consequent on the marked revolution which has taken place in the breeding of horses, cattle, and sheep in this Province within the last few years, has rendered the education of properly qualified Veterinary Surgeons a subject of much interest to our agriculturists. Since the comparative failure of

our great staple—wheat—more attention has been paid to the improvement of the different breeds of stock, and much credit is due to the enterprise of such gentlemen as Messrs. Christie, Stone, Snell, Miller, and others, who have done much in this direction, by importing animals of new and pure blood. Though we cannot boast much of the same advancement in the breeding of horses, yet they, too, are improving; and the great demand which has been experienced for all kinds of Canadian stock of late years has so raised their value, that farmers have seen the necessity of procuring educated Veterinary Surgeons to assist them in cases of accident or disease; for, as is well known, although every town and village in the Province contains two or three individuals who assume the title, yet in all Canada there are not a dozen who hold diplomas from any recognized school. This is not to be wondered at, when we come to consider the small prices which stock commanded until lately. The exorbitant charges which those unprincipled impostors exacted from those who were forced to employ them, and the bungling and often injurious remedies which they employed, drove farmers either to treat their own stock, directed by some books on the horse, or to solicit the assistance of some kind neighbour; or, as the last resource, let nature take her course rather than submit their animals to be tortured by these dissipated and unprincipled "Horse Farriers." Hence, when the genuine Veterinary did venture to introduce his profession, people had no confidence in him; and in nine cases out of ten, the empiric could get along as well, and sometimes better, with his boasted nostrums, than the man of education who practiced on scientific principles. We must not be understood to imply that we had no professional Veterinarians until the subject engaged the attention of the Board of Agriculture; but it cannot be denied that until the efforts of the Board were put forth, the profession had no name or place in the country as such.

Five years ago, at the suggestion of the late lamented Hon. Adam Fergusson, the Board of Agriculture were induced to take some steps in the matter, which resulted in the appointment of Mr. Andrew Smith (on the recommendation of Prof. Dick) as Veterinary Surgeon to the Board, to give a course of lectures in Toronto, on Veterinary Science, with a view ultimately to establish a

Veterinary School. The success which attended this course induced Mr. Smith, on behalf of the Board, to invite Mr. D. McEachran to Canada, to assist him in the establishment and management of the school.

For the last three winters, a regular systematic course of instruction has been given by these gentlemen, assisted by Dr. Bovell, Professor of Physiology in the Toronto School of Medicine, and Geo. Buckland, Professor of Agriculture in Toronto University, under the auspices of the Board of Agriculture, as the "Upper Canada Veterinary School." Pupils who attend the prescribed curriculum, and pass the necessary examination, receive a diploma, certifying that the holder thereof is qualified to practice in Canada. Provision is also made for Veterinary lectures to the pupils attending the Agricultural class in the University. Lectures on the subject of Veterinary Art and Science have been given from time to time throughout the country by the teachers of the School, and our own columns have been the medium of disseminating useful knowledge on the subject; so that even in a few years much has been done to place the profession in the position which its importance to agriculturists demand. Not only, educationally, has it made progress, but, in a practical point of view, the profession in Canada is of high standing. Within the last few years many surgical operations have been introduced for the relief of suffering and cure of disease in the lower animals, which hitherto had not been practiced in Canada; among which we may mention Neurotomy, or the division of the nerves supplying sensation to the foot, by which many noble animals are relieved from constant suffering and from incurable diseases of the foot, and restored to usefulness to their owners. Lithotomy, or the removal of stone from the bladder—a report of a successful operation of which appeared in our issue of January 1st, 1866, by Mr. McEachran—this is the first time we have any mention of this bold operation in Canada. Many other valuable improvements in the management and treatment of agricultural stock have taken place since the introduction of the profession amongst us, and we hope that the farmers of Canada will see it to their interest to foster and encourage it in a degree commensurate with its important relations to agriculture.

We would draw the attention of our

readers to an advertisement on our last page, calling upon all veterinary surgeons who hold diplomas from any recognized school to send in their names, addresses, the school they studied at—and the date of their diploma,—with a view to publish them at an early date, and thus place the present position of the veterinary profession in Canada fully before the public, and enable the owners of stock to know and distinguish the qualified veterinary surgeon from the impostor who assumes the title without the least just claim to it. We hope veterinary surgeons throughout the Province will respond immediately.

#### SCIENCE IN FARMING.

**N**EVER was there a greater mistake, than the commonly received opinion, that farming requires less brain work, than almost any other avocation. The qualifications requisite to make a successful tiller of the soil, are more numerous and varied, than those demanded by any other employment. Not, however, until the idea that farming is suited only for those who are unfit for anything else, is cast aside, and farming comes to be looked upon as an employment calling into exercise the highest faculties of the human mind, will it attain its just rank as a profession. Every other field of human investigation is narrow and circumscribed in comparison with that which has for its object the investigation of questions connected with agriculture. To the practical and enterprising farmer, no knowledge can come amiss. What farmer is there but would be better qualified to discharge the duties of his profession by understanding every natural and physical science? Philosophy and Mechanics, Geography, Chemistry, Botany, Physiology and Anatomy, both animal and vegetable, are each and all of immediate practical utility to the farmer, and it is to be hoped that the time will soon come when some knowledge of all these sciences will be regarded as indispensable to every farmer.

Agriculture being the most necessary, and therefore the most important pursuit of man, it would seem to be a logical inference, as well as an indisputable fact, that science should have more extensive application to agriculture than to any other pursuit. Other arts and professions may call to their aid and derive benefit from one, or at most two of the natural sciences, but agriculture, with its varied ramifications

alone of them all, makes every science tributary, and finds its fullest and most perfect development where its votaries make them all subservient to its interests.

By the aid of philosophy and mechanics the scientific agriculturist is enabled to determine in what manner he may achieve the greatest results with the least expenditure of force. Every labor-saving implement by which the labors of the farmer are lightened is an instance of the benefits accruing to the agriculturist from the application of the principles of Physiology and Mechanics in the business of agriculture. Every farmer realizes the advantages derived from the mowing and threshing machines, and perceives their superiority to the scythe and the flail, and yet, there are few who trace these things back to their source, and see in them merely the application of the principles of mechanics to the business of agriculture. If the benefits accruing to the farmer from the application of the principles of philosophy to the business of farming, seem to be greater than those arising from an application of any other science, it is merely because we have advanced farther in this direction than in any other. While philosophy and mechanics have engaged the attention of men from the earliest ages of the world, there are other branches of natural science, perhaps, equally important, which are as yet in their infancy. Scarcely any attempt worthy the name has yet been made to render the deductions of geology of practical utility to the cultivation of the soil, and yet there can be no doubt but that they are of the utmost practical importance to every man who has an acre of ground to till. The determination of the character of the soil, of its mineral constituents, of the material beneath it, and of the general dip or conformation of the strata, are all problems of geology, yet every one can see their application to agriculture. The geological features of a district will decide what mode of cultivation will be necessary, and the mineral composition will determine what crops are most adaptable to the soil.

Chemistry is of even yet greater practical importance in agriculture, and the enumeration of the different ways in which it is applicable to tilling the soil, and kindred avocations, would fill a volume. Indeed any farmer who attempts to carry on his business without some knowledge of chemistry, may well be compared to a man groping in the dark. The farmer who knows nothing of

chemistry will be unable to determine what manures are needed by his land, and thus while he may make a proper selection he will be far more likely to choose something which will be of little or no benefit.

Botany also, and both animal and vegetable Physiology and Anatomy, are almost indispensable branches in the education of a true farmer. By the aid of these he will be enabled to determine the proper food for plants; the conditions which conduce to health and disease; and whatever may be necessary to be known that he may direct his efforts in accordance with nature's laws, and thus secure the largest return from his labour. Even a hasty review of the physical sciences which may be employed for the benefit of the farmer, cannot fail to disclose their great importance to him.

The idea, that the profession of agriculture is suited only to those whose minds are incapable of cultivation is false, pernicious and degrading to this noble profession. The fact is, that the more a man knows, the better farmer he will make. Nothing could tend more to the advancement and improvement of agriculture than the prevalence of correct views as to the qualifications requisite to its successful practice. It should be the aim of every agricultural journal to show that boorishness and clodhopperism are no more necessary concomitants of agriculture than of any other profession, and by every means in their power to ennoble the profession and cause it to be looked upon as a field where there exists an opportunity for the application of every science, rather than as a mere dreary routine of manual toil. AGRICOLA.

Northville, L. T.

#### THE PROGRESS OF THE CANE ENTERPRISE.

**T**HE Chinese variety was first introduced into Europe by Count de Montigny, consul of France to Shanghai, in 1852. From the package of seed sent by this nobleman to the Geographical Society of Paris, but *one* seed germinated.

From this a small quantity of seed was matured, and the next year carefully cultivated. From this seed Messrs. Vilmorin, Andrieux & Co., seed merchants of Paris, procured eight hundred seeds, for which they paid eight hundred francs. The product of this seed, and of another portion of the same crop, cultivated by Count de Beauregard, furnished the Chinese Sorgo seed, which was distributed far and wide

over Europe, and afterward over this country.

Two years after the introduction of the Chinese seed, in April, 1857, Mr. Wray arrived in America with his African seed, and confided it to Governor Hammond, of South Carolina, Col. S. Peters, of Georgia, and Mr. D. Redmond, editor of the *Southern Cultivator*. Through many vicissitudes, which came near rendering the whole enterprise abortive, a small quantity of pure seed was secured, and this is the source of the African or Imphee varieties of cane now cultivated in America.


The promise, though at first vague, of securing a sugar-bearing plant adapted in our remote ultra-tropical latitude, was enough to attract the earnest attention of the northern farmer as soon as suggested, and the business of raising and working the cane was immediately commenced in many of the great western and middle States. The enterprise was, however, beset with many difficulties. It was an entirely new business. Not only were all the ordinary obstacles attending the naturalization of a new plant to be encountered, including the intricate questions of soil and cultivation, but it involved in the ultimate process of manufacturing the practice of art with which the producer was wholly unacquainted. The last obstacle became still more formidable when it shortly transpired that the process employed in the South was not applicable to the juice of the newly adopted plant. This, and the numerous reverses and disappointments of various kinds to which the pioneer workers were subjected, would have caused the abandonment of the enterprise by any class of men less versatile and less persistent than that peculiar race, the northern farmer mechanic. With him a cherished object is not willingly surrendered, and never until all the appliances of art and ingenuity, in both of which he abounds, are exhausted.

The work has now been prosecuted for nine years with a constant and regular increase in public increase in practical results. The number of producers has multiplied largely from year to year, while in the quality of the product the improvement has been such as to confirm the most sanguine expectations ever entertained with reference to it. It has been demonstrated the capacity of that immense and populous belt forming our middle zone to produce its own sweets, thereby adding a new product which, at a trifling cost, saves the ex-

penditure of millions in the purchase of a foreign commodity. Unaided by science, without experience, and under many discouragements, the northern planter has steadily prosecuted the work. In the absence of any intelligence from others to direct his labors, he has resorted to bold conjecture and wild experiment, until, by numerous experiments, and failures he has succeeded in establishing a tolerably complete system, without having, even now, any very definite notion of the philosophy upon which it is founded.

The *sorghum* interest has now an importance which enables it to command the scientific aids which have hitherto been withheld. The production of sugar from any of its natural sources is necessarily an intricate and difficult art. Its production from the tropical cane and from the sugar-beet has engaged the attention and constant service of the ablest chemists in the world. Without their aid the business would have been comparatively unsuccessful. But until the work was undertaken by the department of Agriculture our northern cane received few favors from science. On the other hand, the enterprise has been treated in scientific circles with a species of indifference amounting practically to a stigma. This, however, the sturdy operators have been able to survive, and now they are permitted to enjoy the success of their undertaking; perhaps not the first triumph of unskilled art over the adverse auguries of the learned.

#### HINTS TO YOUNG MEN.

E take the following valuable hints from "Freedley's Treatise on Business:"

1. Be industrious and economical. Waste neither time nor money in *small* and *useless* pleasures and indulgences. If the young can be induced to *begin to save*, the moment they enter on the paths of life, the way will ever become easier before them, and they will not fail to attain a competency, and that without denying themselves any of the real necessities and comforts of life. Our people are certainly among the most improvident and extravagant on the face of the earth. It is enough to make the merchant of the old school who looks back and thinks what economy, prudence and discretion he had to bring to bear on his own business, (and which are in fact the bases of all successful enterprise,) start

back in astonishment to look at the ruthless waste and extravagance of the age and people. The highest test of respectability with men, is honest industry. Well-directed industry makes men happy. The really noble class—the class that was noble in patriarchal days—has preserved its nobility to this day, untarnished. This is the laborious and industrious class. Until men have learned industry, economy, and self-control, they cannot be safely entrusted with wealth.

2. To industry and economy, add self-reliance. Do not take *too much advice*. The business man must keep at the helm and steer his own ship. In early life, every one should be taught to think for himself. A man's talents are never brought out until he is thrown to some extent upon his own resources. If in every difficulty he has only to run to his principal, and then implicitly obey the directions he may receive, he will never acquire that aptitude of perception, and that promptness of decision, and that firmness of purpose, which are absolutely necessary to those who hold important stations. A certain degree of independent feeling is essential to the full development of the intellectual character.

3. Remember that punctuality is the mother of confidence. It is not enough that the merchant fulfils his engagements; he must do what he undertakes precisely *at the time*, as well as in the way he agrees to. The mutual dependence of merchants is so great, that their engagements, like a chain, which, according to the law of physics, is never stronger than its weakest link, are oftener broken through the weakness of others than their own. But a prompt fulfilment of engagements is not only of the utmost importance, because it enables others to meet their own engagements promptly. It is also the best evidence that the merchant has his affairs well ordered—his means at command, his forces marshalled, and everything ready for action—in short, that he knows his own strength. This it is which inspires confidence, as much perhaps as the meeting of the engagement.

4. Attend to the *minutiae* of the business, small things as well as great. See that the store is opened early, goods brushed up, twine and nails picked up, and all ready for action. A young man should consider capital, if he has it, or as he may acquire it, merely as tools with which he is to work, not as a substitute for the necessity

of labor. It is often the case that diligence in employments of less consequence is the most successful introduction to great enterprises. Those make the best officers who have served in the ranks. We may say of labor, as Coleridge said of poetry, it is its own sweetest reward. It is the best of physic.

5. Let the young merchant remember that selfishness is the meanest of vices, and it is the parent of a thousand more. It not only interferes both with the means and with the end of acquisition—not only makes money more difficult to get, and not worth having when it is got, but is narrowing to the mind and to the heart. Selfishness “keeps a shilling so close to the eye, that it cannot see a dollar beyond.” Never be narrow and contracted in your views. Life abounds in instances of the brilliant results of a generous policy.

Be frank. Say what you mean. Do what you say. So shall your friends know and take it for granted that you mean to do what is just and right.

6. Accustom yourself to think vigorously. Mental capital, like pecuniary, to be worth anything must be well invested—must be rightly adjusted and applied, and to this end, careful, deep and intense thought is necessary if great results are looked for.

7. Marry early. The man of business should marry as soon as possible, after twenty-two or twenty-three years of age. A woman of mind will conform to the necessities of the day of small beginnings; and, in choosing a wife, a man should look at, 1st. The heart; 2nd. The mind; 3rd. The person.

8. Everything, however remote, that has any bearing upon success, must be taken advantage of. The business man should be continually on the watch for information, and ideas will throw light on his path, and he should be an attentive reader of all practical books, especially those relating to business, trade, &c., as well as a patron of useful and ennobling literature.

9. Never forget a favor, for ingratitude is the basest trait of man's heart. Always honor your country, and remember that our country is the very best poor man's country in the world.

It is an easy thing to train a young evergreen into a handsome tree. It is simply by pinching out the points of the young growth after it has started in spring.

### THE CHEESE TRADE.



EW persons have any idea of the extent of this business, or the amount of capital represented by it. Your bit of cheese that you nibble occasionally is a very small thing, but a vast multitude of people are constantly nibbling away at similar bits, and "many a little makes a mickle." We know of no direction just now in which the farming population of Canada can more profitably direct their energies, than that of establishing factories for the wholesale manufacture of cheese. There is a sure and paying market for this dairy product,—a double market indeed,—home and foreign. Last year we imported, chiefly from the United States, 2,530,650 lbs. of cheese, at a cost of \$381,891. We might have made all this cheese ourselves, and kept this large sum of money circulating in Canada. There is no reason why we cannot make as good an article as our American neighbours. Our pastures are as rich, and our facilities as great as theirs. It would be no despicable addition to the proceeds of home industry, were we in time to come to supply the Canadian demand for this article. But there is also the British market, now largely supplied by American dairies, and in which we can most advantageously compete with them. It is estimated that during the year 1864, upwards of 50,000,000 lbs. of cheese were shipped for England from the port of New York. Seventy shillings per hundred was about the average for which it sold, being within ten shillings of the best English-made article. The amount realized by this one American export, was therefore no less than £1,750,000 sterling, or \$8,750,000.

Here, then, we have a wide and inviting channel of trade, and one for the use of which appeal must be made directly to the farmers of Canada. Unless they open their eyes to it, little or nothing can be done. For more than two years past, this subject has been most earnestly pressed on their attention, in these columns, and in those of the leading journals of this province, yet but little, comparatively speaking, has been done. We have scarcely half a dozen factories in operation, and these are all in a single county. Oxford is no better adapted for cheese-making than many other parts of the country. What is wanted is arousing up to the importance and practicability of the matter. Our farmers have

been so accustomed to have markets provided for them,—store-houses built for the grain they have raised, and drovers coming round to buy their fat stock,—that they do not readily take up enterprises of this description. But would it not do them good to put forth personal exertion, and become manufacturers as well as producers? Would not the intercourse—contact, and fiction of mind with mind—that would come out of the management of these concerns, be a great benefit? Does not every view of the subject urge energetic action in reference to it?

The present is at once a favourable and unfavourable time for these enterprises. It is favourable, inasmuch as from the cessation of reciprocity, we need to seek out new lines of profitable activity, and to render ourselves as independent as we can. But we are somewhat unfavourably situated, from the fact that our stock of dairy cattle has been greatly reduced by sale to American buyers. For some time past, everything in the shape of a cow has been eagerly bought up by drovers from the other side. Very high prices have been given for them, and the temptation was almost irresistible to sell all that could be spared. The result is that we are low in dairy stock, and indeed in cattle of all sorts. But there is scarcely a farming neighbourhood, where within a radius of from four to six miles, a cheese factory could not be sustained, and by saving the heifer calves, yearlings, &c., a very large addition to our dairy stock can quickly be made.

We move slowly, yet there is a little progress making. We hear of projected cheese factories in several parts of the country, and hope they will ripen into fixed facts. Once let our farmers find out the advantages they secure, and their quick multiplication is certain. They do not require a large amount of capital, while they are a sure source of profit both to factor and farmer.

### SHALL WE SOW LARGELY OF BARLEY THIS YEAR?



CORRESPONDENT of the *Globe* strongly cautions Canadian farmers against doing this, and urges that the high price obtained for the enormous crop of barley raised in this country last year, was "entirely owing" to the failure of the crop of barley in the United States, which was harvested in such bad condition as to be quite unmerchantable. He argues that

if a large breadth of barley be sown on both sides of the lines the present year, and the crop should turn out well, this grain would probably bring a lower price than it has done for ten years.

We do not concur with the advice and opinions above given, and will briefly assign some of the reasons which induce us to think it will be quite safe to sow pretty freely of barley the present season.

1. It we take the returns for 1864 as a basis, we find that we grew during that season half as much barley in this country as was grown in the United States. The crop that year was fully an average one in the United States, yet a ready market was found for upwards of four millions of bushels of Canadian barley. Unless, therefore, the American farmers make a special effort, and sow a much greater breadth of land than usual, we shall have no difficulty in disposing of our barley crop, even though it be a large one.

2. Last year's export of barley from this country is only estimated to have been about a fourth more than the preceding year. As long since as 1860, we exported nearly three million bushels of this grain. The demand for it is steady, and there is no reason why we should diminish our usual seeding.

3. We have some advantages in our favour with regard to the raising of barley, which are almost certain to secure us a market for all we grow. Our climate is pre-eminently favourable for it. Barley does best in a northern clime, and it is universally conceded by those engaged in grain-buying, that Canada furnishes the best sample grown on this continent. In 1864, notwithstanding our greater distance from Philadelphia—the great barley mart of the United States—our barley realized 76 cents per bushel, in gold,—within one cent of the price brought by the barley grown in the State of New York. Wisconsin and Northern Iowa grow good barley, but they are so far removed from market that their competition cannot injure us. In 1864, while Canadian barley brought 76 cents, Iowa barley only brought 53 cents. Moreover, New York, which is the greatest barley-growing State of the Union, raising more than one-third of the entire yield, has grown too much of this grain, and it is said that many farms are quite "barley-sick" through over-production of it. Hence, it is hardly likely New York farmers will grow more than usual of it the coming

season. Indeed, the probability is that they will grow less.

4. In the opinion of those best qualified to judge in regard to this matter, we need not be afraid to sow this grain the present year. Though it is liable to a duty of 15 cents per bushel owing to the expiring of the Reciprocity Treaty, there is reason to think American buyers must have it even if they pay the tax themselves. Indeed, efforts are being made to get the duty taken off, wholly or in part.

An enterprising produce buyer of Brantford has received a letter from a Buffalo house, in a position to be well posted in such matters, from which the following is an extract:—"If your people will only sow Barley largely the present spring, we can assure them it will be wanted at good prices. We solicit your aid in inducing your farmers to raise their usual crop of Barley. A combined effort is being made to reduce the tariff on Barley to 5 cents per bushel, and we think it will be successful."

The *Trade Review* says:—"We have had communications from United States brewers by the score. They were among the most strenuous advocates—indeed for a time the only advocates—of a renewal of the Reciprocity Treaty, because they felt they must have our barley. And since the failure of the negotiations they declare they will have it, though they pay all the duty themselves. A Philadelphian, whose firm last year bought nearly 2,000,000 bushels, in great part Canadian, assured us that so determined were the great brewers of that city to maintain that pre-eminence in business they have acquired, that ensure success in the competition of beer with other beverages, and a continued return for the large capital they have invested in their gigantic breweries, that if the Canadian farmer gave up growing the fine barley of which they have almost the monopoly, they would send to England for as much as they could buy."

Properly speaking, we ought to have a steady market for barley independently of our United States neighbours. Canadian Barley, in large quantities, is malted on the other side, and then exported to England. This trade should be carried on by us with the mother country direct, so that Canada might have all the profit of it. It is one of a number of new commercial channels, which the abrogation of the Reciprocity Treaty will be likely to open up for us.

A promise given is a bond inviolable.



## FARM OPERATIONS.

### MAY ON THE FARM.

**F**ULL supply of manure is perhaps the most important requisite for comfort and satisfaction, at this season of the year. With plenty of manure the farmer seems to have command of the situation, so to speak. He can do what he wants. Manure will give him crops that will make the heart rejoice to look at. But don't try to make it go too far. Better manure one lot thoroughly than half manure the whole farm. Not that we would treat one lot to a bountiful supply to the neglect of other parts of the farm. Make your calculation to distribute it as judiciously as possible, allotting to each piece all that it needs, not only to carry the crop but to manure the land and prepare it as soon as possible to lay down in a proper manner, and do not attempt to lay down a piece that is not in a suitable condition. It will only have to come up again all the sooner.

We believe in spreading and ploughing in manures, not deeply but shallow, rather than to manure wholly in the hill. It is better for the land, better in the long run altogether. But if something is needed to start the crops into an early growth, we would use some concentrated fertilizer in the hill, or if you can't do this we would at least, use a large part of the manure on the broad-cast system, and put only a part of it in the hill. The roots of plants will wander and spread themselves through the soil in every direction, and be sure to find the manure without dumping it into the hill to bother about hoeing.

Suppose, for instance, you ploughed last fall, and you wish to plant corn on that land. If you want to plough deep so as to loosen up the soil, rather than spread the manure to be ploughed under deep, we should prefer to put in the plough, no matter how deep, then spread on the manure and turn under shallow, not more than four or five inches. To be sure there is the additional cost of a second ploughing, but you may do this last with a horse, and would'nt the extra tith and mellowness of the soil pay for this extra working?

Or if you are going to break up a piece now in grass what better way is there than to spread your greenest manure, late in the season, on the thick green sward, and turn in shallow, then chain out and use a little

concentrated manure to give the crop a good start, say ashes or bone meal, or rich compost of some kind. We believe in deep ploughing, but not in burying the manure too deep, especially if you want to hear from it or see it within a reasonable length of time.

When your manure is all out, and the cow yard well scraped, have a lot of muck to haul in. If this muck has been mellowed by frost, wintered in other words, you can put it in to the depth of two or three feet, and let it absorb the liquids of the barn and the droppings of the stock. The next spring you may take off the top for your cultivated crops, and use the bottom for top-dressing. To be sure this is considerable work but it is a grand thing for top-dressing, and will give you a heavy crop of grass.

Stock is scarce, and is going to command a high price for some years to come. If, therefore, you have any heifer calves from first rate cows and pure bred bulls, you may venture to raise them, even at considerable expense, and be sure they will pay well for raising. There never was a time in the history of our modern farming when it was so important to raise the best of your heifer calves. No farmer who gives his attention to this, in a proper manner, can fail to make it pay this season.

And so, too, now that meats of all kinds are enormously high, it cannot fail to pay to raise all the poultry you can. Indeed, we fully believe there is no kind of stock that pays so well, in a small way as the raising of poultry. In the summer the country is full of city visitors. They want poultry. They want your earliest and largest and fattest spring chickens, and they are willing to pay for them, too. You might as well cater a little to their delicate appetities. And you can make them pay better than you can your corn.

As to root crops, the onion, which pays so well, under good treatment, should be got in as early this month as possible. Put on ashes, if you can get them, and bone-flour, anything but organic or barn-yard manures full of the seeds of weeds. Soon after the little threadlike plants show themselves above ground, sow on a light coating of fine saw dust. The fumes of turpentine will keep off the fly. Then in a week or so, sow on another thin coating of the same. This costs but little, and the labor of apply-

ing is trifling, and it may save you from the devastations of the maggots.

As to carrots, there is a difference of opinion as to the best time to sow them, some taking the ground that they do as well sown late, and claim that the trouble of weeding is less. But no weedy land should be selected for carrots, anyhow. We go in for early sowing of carrots. We should say as soon after the middle of April as the ground is in readiness. We are then sure of a larger growth and a longer growing season. They come slow always and we give them more time.

We have a thousand other suggestions about special crops, but rather than to make too long a story at the present time, we will take another opportunity to offer them. Meantime, push forward the work with all energy, and get a good start. Trust the seed in hopeful confidence to the ground, and be sure you will reap, with the blessing of God, an abundant and joyful harvest.

#### THE TURNIP CROP.

It is my intention in this article to treat briefly on the turnip crop as it is raised in Britain, along with any other particulars regarding this very important crop, which I may deem to have an interest for the readers of your journal.

The turnip crop in Britain has within the last ten years, owing to an increasing demand for cattle, become of much more importance than it ever was before. Cattle have been steadily rising in price during the past ten years, and their value immediately before the outbreak of the present disastrous rinderpest, say eight months ago, was about 80 per cent. above what it was ten years ago. This enormous increase, accompanied as it was by every appearance of a continuance of the enhancement in value, naturally led stockowners to pay more attention to feeding substances than they had heretofore done.

The turnip all along, since its first introduction, some five centuries ago, has been regarded as one of the best foods for cattle; but until within the period above named has much real interest been shown in the qualities of the different members of the *brassica* tribe. Stimulated by the incentive of high prices (which by the way, allow me to remark, is one of the strongest incentives in existence), investigations were instituted into the nature, habits, and nutri-

tious qualities of the plant; and, thanks to these inquiries, we are now in possession of much valuable information on all these points.

The turnip family may be divided into three different kinds. I wish to avoid the use of botanical technicalities—as these terms, beyond the limited circle of professional and amateur botanists, are imperfectly, indeed I may say not at all, understood either by practical farmers here or in Britain, and their use would only tend to confuse and perplex—hence I say family and kinds. If these kinds are arranged according to the amount and quality of nutritious matter they contain, which I suppose is the most reasonable standard, they will be ranked thus:—Swedish, yellow, white. The Swedish, or as the variety is commonly termed in this country, the rutabaga, is the hardiest and most nutritious of all. Its seed is distinguished from other varieties by its being larger in size and darker in color, and perhaps in being more uniform in size. So great is the disparity between the size of this seed and others, that farmers who omit to procure properly perforated cylinders for their sowing machines, often commit the mistake of sowing one kind of seed too sparsely or another too profusely, both of which errors are to be avoided; as the former results in a thin crop, and the latter has the effect of producing a multitude of puny, sickly plants liable to be attacked by green fly, besides prolonging the time for soughing, by a few weeks. The way these mistakes occur is very simple. If the farmer uses a cylinder adapted to the size of the Swedish seed for sowing yellows or globes it will have the effect of producing the latter result above named, and *vice versa*. I do not know that the frequency of such mistakes warrant me in using so much of your valuable space in narrating them. However it is done.

Swedish turnips require to be sown some ten or fourteen days before any other kind. This advance is necessary, owing to their slowness of growth. This kind requires a strong soil and an abundant supply of manure. The description of soil in which they have been found to thrive best are loam, clayey and marly. Strong and well mixed farm yard manure, accompanied with dissolved bones are the manures usually used. Of the artificial manure, the quantity applied varies from 1½ cwt. to 3 cwt. per acre, never less than the one and seldom

more than the other, when compost is used at the same time; but when no compost is used the quantity goes up to four, five and even six cwt. per acre. In this latter case, four cwt. is a commonly used quantity, but the application of so much as six is rare. Very frequently the amount of bones is diminished to one-half of that stated above and as a corresponding quantity of superphosphate of lime, or an equal quantity in value of Peruvian or other guano is substituted. Superphosphate and guano have the effect of stimulating the growth of the plant to such a degree as will place it quickly beyond the danger of being attacked by any of the numerous parasites incident to, if in the first stages of, its growth.

The Swede being of a firmer consistency in fibre than any other turnip, remains sound for a much longer time, and is consequently retained for the last course of feeding, namely, after the white and yellow kinds are consumed. It is usually called into requisition between the month of February and the time when the young grass is so far advanced as to allow the cattle to be put out. Its dense consistency and other hardy qualities renders it all but impervious to the severest frost; and during unusually severe seasons when large portions of the other kinds of turnip are rendered useless by frost, this variety escapes with impunity. The leading kinds of this turnip in general use are called purple-top and green-top. There are many different varieties of each kind, but those most had in esteem are Skirving's purple,—top and plain or old (as it is variously distinguished) green-top.

The former kind is by far the greater favorite; and since, the green-top has been allowed to deteriorate, through want of proper attention to its cultivation, the preference is deservedly in favor of the of the former. Before dismissing this kind we may mention that the quantity of seed sown per acre varies from  $\frac{1}{2}$  lb. to 3 lbs.; average, say 2 $\frac{1}{2}$ . The matters which determine the amount of seed to be given per acre are various. Former practice is the principal guide, and the seedsman's advice is often adopted; but it often happens that such an adventitious matter as the size of the sowing machine cylinder determines the question.

The next kind in importance for feeding purposes is, as already indicated, the yellow. This is an excellent kind of turnip, very nutritious, and is an equal favorite with

horses, black cattle, and sheep. Standing as it does between the hard Swede and the soft globe, it possesses a large share of the substantiality of the one and of the juiciness and flavor of the other. Its seed is less in size and less in solidness than that of the Swede and also lighter in color, being of a reddish brown shade.

This kind of turnip thrives best upon good soil, but also does well on soils of medium quality, and require less manure than the Swede. It is treated in the latter respect as is the Swede, the quantity only being less. The quantity of this kind of turnip grown is considerably more than the other kinds put together—a fact which shows at once its superiority. As in the case of the Swede, there are two leading varieties of this kind, green and purple-top; but here the consumption of green-top exceeds the demand for purple nearly in the same degree as purple-top Swede exceeds that of green-top. There are some eight or ten varieties of yellows as well as a few hybrids. Of the hybrids, those most worthy of mention are Dale's and Fosterton's—both very excellent bulbs, and better adapted for some kinds of ground than any of the pure sorts. The leading green and purple varieties are distinguished respectively by the names of Aberdeen green-top-yellow and Skirving's purple-top-yellow. In different localities however different names prevail; for example, yellow bullock for green-and, red-top yellow for purple. Many farmers adopt the plan of sowing an equal quantity of each description of seed; they have thus an assurance that if one kind proves inferior, either as to vegetating powers or as regards the stocks from which it had been raised, that the other will take its place.

I come now to notice the last named sort of this bulb, namely, white or globe, as it is commonly called. This is the softest, largest, and most luscious of the turnip family. It reaches maturity sooner than either of the others, and is consequently the latest sown, and the first ready for use. The seed is larger and darker than that of the yellow, but in neither respect does it come up to that of the Swede. This variety does well in light soils, often attaining a great size in very poor ground. It does not possess the feeding qualities of either of the others, nor is it at all adapted for storing. Its principal use in the economy of farming seems to be early and temporary feeding, keeping the place of the other kinds, as it were, till they are fit for use.

There are two leading kinds in general use, distinguished by the names of green-top globe and white or Pomararian globe, and these enjoy about an equal share of esteem.

The first named is pretty hardy, and in mild seasons will remain in a good state of preservation, but the other requires to be consumed early.

#### IMPORTANCE OF MANURE.

**T**HE importance of manure to the practical farmer can hardly be over estimated. With its use, good farming begins, and in the neglect to use it, good farming ends. By cropping a farm without manuring it, the crops are soon diminished in quantity, and the land in value. If this process is long continued, the crops will be hardly worth gathering, and the land becomes a barren waste. To have a good farm, without manuring it, is an utter impossibility. There is no such thing as successful farming, for any great length of time, without the use of manure. This is not theory alone; but it is a fact that has often been demonstrated.

Now, it would seem that an article of such importance, of such prime necessity, would be carefully saved by every farmer; but this is far from being the case; vast quantities of manure are annually wasted, and to make what is already bad much worse, a great amount of capital is expended every year for imported fertilizers. It is easier to save what we have than to buy what we have not; and although guano may sometimes be profitably used, yet it should be a question with every farmer, certainly with every one who owns a farm, if manure cannot be manufactured at home *cheaper* than fertilizers can be brought from foreign lands? Every farmer is supposed to have cattle, hogs, and horses; these, if furnished with the proper materials, will produce large quantities of manure.

Although any way to manufacture manure is better than no way at all, yet it is always desirable to take the best way to attain the desired result. I once knew a farmer who had plenty of muck on his farm, but as he lived near a shop where a planing machine was used, he preferred to cart shavings into his barnyard, rather than use the muck. It was, as he said, "a great deal easier" than it was to draw muck. This was several years ago; but an exhausted farm bears witness to this day, that ease obtained in this manner

was far from being profitable. The farmer who has muck on his farm ought to use it; it will cost some labor, but it will pay well in the end.

Which is the best method of applying manure is still a contested point. Some farmers bury it in the soil with the plow or harrow, while others prefer spreading it on the surface of the ground. I believe it will depend largely on the kind of manure used, and the nature of the soil to which it is applied, which method will give the best results. It is a point of interest to every farmer, and each ought to experiment for himself. I believe that those who use guano, and other imported fertilizers, would do a kindness to farmers in general if they would give, through the columns of the agricultural papers, the result of their use. If it is profitable to use them, every farmer ought to know it, while if it is not profitable, the experience of those who have used them may save some trouble and loss to those who have not. I presume the editors would gladly give the result of any well conducted experiment in this department of farming; and certainly farmers ought to "do good *and communicate*."

A NEW ENGLAND FARMER.

#### BROOM CORN.

**I**HAVE cultivated it for the past four years to some extent, and am of the opinion that I understand how it should be treated. The first thing necessary is to have your ground in good order. This is done by plowing pretty deep, "if old ground," and immediately after plowing give it a good rolling so as to make the ground perfectly smooth. You should plant it about the 1st of May, or as soon as you can after getting your Indian corn in. I always planted it after I had got my Indian corn all planted, for this reason: I did not wish to commence cultivating it until after I had got through with my Indian corn; then I was ready to give it my undivided attention.

When you get ready to plant it, procure a good "broom corn drill," and then drill it in. The rows should be about four feet apart, (however, you can use your own opinion about this,) and plant as close together as you choose, if it is on *rich* ground. When it commences to peep out of the ground give it a good harrowing or brushing; then as soon as you can after it gets up a little, give it a thorough plowing, and this should be kept up as long as weeds appear. If this

is not done you will have more *pine* than broom corn. Now, after you have laid by, as we farmers call it, then build your drying and scraping sheds. I build mine in this manner: Set forks in the ground twelve feet apart each way, and my shed was 100 feet long and 8 feet high. This is large enough for twenty acres of good broom corn. I then covered the shed with slew-grass, so as to turn off the rain. I then nailed strips up the sides of my posts, one foot apart, to rest my drying boards on. I procured 14 feet fencing for drying boards. These boards are laid on the strips, and then you have your drying house complete. Now you must build a shed for your broom corn "huller." This shed can be covered as the drying shed is covered; but it must be boarded up on both sides and on one end; this is done for the purpose of excluding the dust from those who pick over the broom corn while it is being threshed or hulled. It is necessary to have shelves all around this shed to lay the broom corn on.


Now, after your sheds are all built, you must procure a broom corn thresher or huller. When your corn is ripe procure some shoemaker's knives, and then you are ready to commence the harvesting of your corn. The corn must first be bent down sufficiently low to be easily reached by the cutters; after this is done, cut it and throw it in such a way as to be easily reached by the teamster, who hauls it to the threshing room. It is then laid on the tables, and should be immediately picked over, and all the crooked brush should be picked out and laid one side, and threshed by themselves, for if they are allowed to be threshed and dried with the straight brush they spoil the sale of the broom corn. After you have threshed it, then take it and place it in the drying shed on the drying boards. Do not spread it over two layers deep, or it will mould. After it is perfectly dry, then it is ready for the press, and after being pressed it is ready for market.

If any further information is wanted, make it known through the RURAL.

"PECULIAR."

Cambridge, Ill.

#### PLASTER OF PARIS.

HE Maryland Farmer and Mechanic publishes an interesting article (editorial) on plaster of Paris, as follows: Ever since the German workman in a gypsum quarry first discovered the fertilizing effects of plaster, from the

ranker herbage which had been sprinkled with plaster dust as he walked across the field to his daily labours, the *modus operandi* has been a subject of dispute among agricultural chemists. Sir Humphrey Davy ascribed its fertilizing qualities to the sulphur which it contains. Chaptal, to its regulating the solubility of salts in the soil. Liebig to the fact that it possesses the property of fixing the ammonia in rain water, whilst Dr. Muse, of Maryland, many years ago stated the theory that the chief efficacy of plaster arose from its tendency to produce phosphoric acid. All of these investigators were right, as far as they went, but all were wrong in ascribing to plaster a single property, when its action, as far as we have reason to believe, is complex. Plaster, in our opinion, possesses two distinct and separate functions, and whilst it acts directly as nutriment to a certain class of plants, it also acts indirectly by fixing the ammonia contained in the atmosphere, and in the dew and rain and snow which are thence derived, and thus furnishes additional food of a stimulating nature to the same plants. In an article which we had occasion to write upon this very subject some five years ago, we took occasion to say that "when the physiology of plants comes to be better understood, it will be found that their leaves play a much more important part in the vegetable economy than is generally ascribed to them, and that they serve not merely as lungs, but as mouths also, absorbing the food supplied by the atmosphere, just as the fine fibrous roots collect the food supplied by the soil. How else can we account for the fact that plaster acts more beneficially upon clover when its leaves have fairly expanded, and with the least advantage when applied directly to the soil?"

Sir Humphrey Davy established the fact that the measure of absorption in any given soil was the measure of its fertility—that the richest soils possessed this capacity in the highest degree, and the poorest soils in the lowest. By analogy of reasoning the same rule will apply to plants and animals. "A feeble and sickly plant can no more collect and assimilate from the atmosphere the large share of nutriment that it contains, than the feeble and sickly animal can digest the food that is offered it. Stimulants and tonics are required in both cases to restore the system to its natural vigor," and only such a class of stimulants and tonics as the peculiarities of each case

may seem to demand. A large amount of salt, for instance, is excellent for the production of beets and asparagus; but the same quantity applied to other plants would be very apt to destroy them altogether. And these are the effects of plaster, so far as clover and the leguminous plants are concerned. "Now when Dr. Muse attributed the efficacy of plaster to its tendency to become phosphoric by exposure to the atmosphere, he was perfectly correct so far as his statement went." So was Davy, in ascribing its fertilizing properties to the sulphur which it contained, although the lime should also have been taken into consideration. So also was Chaptal, in saying that plaster regulated and controlled the too rapid action of soluble salts—and so was Liebig, when he pointed out that it fixed that ammonia and conserved it for the uses of the growing plant, which, by its volatility, would otherwise have escaped again into the atmosphere. They were nevertheless all of them wrong in ascribing its virtue to a single property or to a single function.

"Plaster acts principally upon the leaves of plants, increasing the stem and foliage, and is therefore much better adapted to certain forage crops than to the cereals." It produces but little effect when buried in the soil, except when spread upon a clover ley before it is turned down; when, by arresting the volatile ammonia—regulating the action of the salts, as Chaptal has it—it exerts a remarkable influence upon the succeeding wheat crop, especially as the constituents of wheat and clover are very similar, as chemists have frequently shown by analysis of the ashes of those plants respectively.

There is no sensible difference in the action of white or blue plaster where both are pure. A field once plastered with from 250 to 400 lbs. per acre will not need a similar top dressing for four years.

**THE CULTURE OF TURNIPS.**



THE old system of broadcast sowing of turnip seed, in most cases, has given way to the seed-sower, which does the work in a much better manner, and saves a great deal of seed.

The large varieties, as the Swedes, should be sown, generally, from the 1st to the 15th of June; but in high latitudes, as in Maine, Northern New York, &c., some farmers sow the seed earlier with

good success; but with the disadvantage of having more weeds to remove. No longer time should be given for turnips to grow than is necessary, as the sooner they mature the better is their quality for the table.

In regard to the width of the drills, there is some difference in the practice of farmers. On light soils, they may be 18 inches, while on rich, strong lands 24 inches is as near together as the rows should be. In some cases, where the land is ridged, and heavily manured in the ridge furrow, the rows may be 30 inches apart, which will admit a cultivator between them.

Care should be taken not to cover the seed too deep, as it requires but the slightest covering of soil, with moisture, to germinate freely. The best time to sow is just before a rain.

**THE CULTIVATION OF LIVE FENCES.**

To the Editor of THE CANADA FARMER:

SIR,—Your suggestion that the mode of cultivating live fences, adopted by me, might be interesting and instructive to the readers of THE CANADA FARMER, and at the same time be an inducement to some parties to adopt the same method, before the material for fencing in common use shall have become exhausted, I cheerfully comply, and shall endeavor to give my experience in as clear and lucid a manner as the nature of the subject will admit. The principle which I have adopted in setting the plants, may be termed the ditch and mound process; the ditch serves a double purpose, the first, to furnish material for making the mound, or covering for the plants, as well as for their protection; in the second place, it supplies an open drain for taking the waters from the adjoining land. The first object in making a fence is to have it straight, and as level as the face of the ground will admit. After setting stakes on the line on which you intend your hedge to grow, you will place a cord four inches from the stakes, and another eighteen or twenty inches from the first; these cords will show the width of your drain; then cut the turf with a spade along each inside the cords, at an angle of thirty degrees, or more, according to the nature of the soil. You will next proceed to make a bed or flat, upon which to lay your sets, by taking a spit off the turf and lay it in line with your stakes, sloping back to preserve the angle as indicated above, and one foot wide, and show-

ing a level surface. You are now prepared to place the sets which should be laid flat, and but six inches from each other. The sets should be cut six inches from the root, and laid so as to project one inch from the face of the mound, and then take another spit of turf and lay grass side down, upon the sits; still preserving the same angle. Care should be taken that the covering be made compact, so that the plants may not suffer from draught. You are now ready to complete the mound, which should be two and a half feet on the base, and at least one foot deep on the sets. The bottom of the ditch should be made on an incline, that the water may run freely from the drain. Although the hawthorn is a hardy plant, it does not relish cold feet, or a surplus of drink. The soil on which my hedge is planted, is a stiff clay, which is not so favourable for a rapid growth of plants, as a more sandy or gravelly soil; yet I have not lost one plant in every hundred that I have planted. I omitted to state that the turf left between the edge of the ditch and the sets should be shorn off the grass of sufficient depth to prevent it growing. The ledge thus formed will serve to catch the earth that may be washed or crumble from the face of the mound, and being deposited in the ditch. As this letter is somewhat lengthy, I will at some future time, give some remarks regarding the treatment which is necessary, and its cost.

C. YALE.

St. Catharines, Feb. 27, 1866.

#### FIXED FACTS IN AGRICULTURE.

**T**HESE may be assumed as fixed facts in Agriculture:

1. All lands on which clover, or the grasses are grown, must either have lime in them, naturally, or it must be artificially supplied. It matters but little, whether it be supplied in the form of stone lime, oyster-shell lime, or marl.

2. All permanent improvement of lands must look to lime as its basis.

3. Lands which have been long in culture, will be benefitted by applications in the form of bone-dust, guano, native phosphate of lime, composts of fish, ashes—or in oyster-shell lime—or marl—if the land needs liming, also.

4. No lands can be preserved in a high state of fertility, unless clover and the grasses are cultivated in the course of rotation.

5. *Mould* is indispensable in every soil, and a healthy supply can alone be preserved through the cultivation of clover, and the grasses, the turning in of green crops, or by the application of composts rich in the elements of mould.

6. All highly concentrated animal manures are increased in value, and their benefit prolonged, by admixture with plaster, or pulverized charcoal.

7. *Deep Ploughing* greatly improves the productive powers of a variety of soil, that is not wet.

8. Subsoiling sound land, that is, land that is not wet, is eminently conducive to increased production.

9. All wet land should be drained.

10. All *grain crops* should be harvested several days before the grain is thoroughly ripe.

11. Clover, as well as other grasses, intended for hay, should be mowed when in bloom.

12. Sandy lands can be most effectually improved by clay. When such lands require liming, or marling, the lime or marl is most beneficially applied, when made into compost with clay. In slacking lime, salt brine is better than water.

13. The chopping or grinding of grain, to be fed to stock, operates as a saving of at least twenty-five per cent.

14. Draining of wet lands and marshes adds to their value, by making them produce more and better crops—by producing them earlier,—and by improving the health of neighbourhoods.

15. To manure or lime wet lands, is to throw manure, lime, and labor away.

16. Shallow ploughing operates to impoverish the soil, while decreasing production.

17. By stabling and shedding stock during the winter, a saving of one-fourth of the food may be effected—that is, one-fourth less food will answer, than when such stock may be exposed to the inclemencies of the weather.

18. A bushel of plaster per acre, sown broadcast over clover, will add one hundred per cent. to its produce.

19. Periodical applications of ashes tend to keep up the integrity of soils, by supplying most, if not all, of the inorganic substances.

20. Thorough preparation of land is absolutely necessary to the successful and luxuriant growth of crops.

21. Abundant crops cannot be grown for

a succession, unless care be taken to provide and apply an equivalent for the substances carried off the land in the products grown thereon.

22. To preserve meadows in their productiveness, it is necessary to harrow them every second autumn, apply top-dressings, and roll them.—*North Carolina Farmer.*

### SORGHUM SYRUP-MAKING.

#### Mills.

**A** GOOD mill, in this business, is a thing of great importance; for if that breaks down or stops, the work in all its departments must stop; but when that goes and performs well its part, then all other parts of the work must move briskly forward. The mill, therefore, needs to be well and thoroughly made in all its parts, for no time should be lost in mending or repairing after the work has been once commenced. Its capacity should be graded, according to the extent of the crop. If one has twenty-five or thirty acres of cane, he needs a mill capable of expressing 150 gallons of juice per hour, unless he expects to run both night and day. We have heretofore used a mill manufactured in Cincinnati, but consider it susceptible of improvement, and shall endeavor to improve on it hereafter. A mill that will express 250 gallons of juice per hour, may cost a little more at the outset, but as it costs no more to attend it, and as the same number of hands can run it that would be required to run one that would express only fifty gallons per hour, we believe it would really be a saving of expense before the season was over, to lay out a little more money in the beginning. While a small mill would only make about forty gallons of syrup per day, a large one, with a very little more expense, would make 150 gallons per day.

#### Handling the juice.

A tunnel sieve may be used for conducting the juice from the spout of the mill to the filterers over the pan, and this renders handling unnecessary until it is passed over the evaporator, where it should be concentrated to fifteen degrees Baume. It being then thoroughly defecated, it is passed, while hot, through three tub filterers, set directly over each other, and which may be of the following dimensions, viz: three feet deep, three feet square at the top, and two feet square at the bottom, which is perforated, with flannel over it upon bars, then filled with bone-black or animal coal. These filterers should be so placed that, by turn-

ing the cock, the liquid can be run off into the last concentrating pan; then drive the fire until the saccharometer indicates forty while hot; then run it off into a large flat cooler, which will hold the labors of the day, without having the syrup more than two inches deep in the cooler when hot, lest it should scorch, as there is more danger here than over the hot fire, where the boiling and commotion give it no time to burn.

#### Evaporating Pans and Clarifying.

If Cook's evaporator is used, it clarifies and makes the sugar without the aid of another pan, or the assistance of any chemical agents, and this is preferable, for a small business, to almost any other pan with which we are acquainted. If one uses a pan of this style, (two would be needed,) it may be twenty-five feet long; the width of sheet iron 28 inches, three and a half feet at the top, and made flaring. It should be partitioned off into three divisions, and be set upon a continuous brick arch fifteen inches wide, and the fire should hug close to the pan. In this way 100 gallons, at least, of good syrup can be made with half a cord of wood. One will need, however, with this pan, a defecating pan to receive the strained sap, and clarify it as above described, and this clarifying pan will keep the long pan at work. But if one wishes very nice syrup, he should run the clarified sap, while hot, directly into the filterer, say a tank seven feet high and four feet in diameter, with a perforated bottom, and with a cock twelve inches from the bottom, to turn the juice from the tank into the pan; place bars upon the perforated bottom, and a flannel cloth to keep the dust and coal from mixing with the juice; then put in three feet of animal charcoal, or bone-black, and spread a cloth over it, and put two feet of wood coal upon the top of this, about as fine as shelled corn, and let in the juice. When ready to start the long or finishing pan, turn the cock and let on the filtered juice as fast as it may be required.

#### Disposal of the Scum from the Evaporator.

The scum is worthless until the juice is concentrated to about fifteen degrees, Baume, except to feed stock. They are very fond of it, and devour it greedily. After this, one can save the scum by putting it into a tank, for that purpose, and at leisure; after it has settled, draw it off and run it over the pan again, till the juice has arrived at about twenty degrees, when it will produce as fine flavored syrup as any. It might be well to run it through the fil-



ters, and the scum taken from this will make good vinegar. In fact, if all the washings are saved, ten or fifteen barrels of good vinegar can be made in manufacturing thirty or forty barrels of syrup; or if, something stronger is desired, an excellent brandy can be made from all fermented saccharine juices, that is worth from two to four dollars per gallon. Forty gallons of this juice will make four of good spirits.

#### **Drainage of Mush Syrup into Sugar.**

This is the most difficult part of all our labors, for it does not naturally drip dry. The quickest and most successful way we have found to obtain sugar, is to put the mush into a coarse, strong bag, and put it into a strong hoop, similar to our common portable cider-mill hoop; then put on the pressure of the screw, and if the room is warm, the molasses will soon leave dry sugar. Another mode of drainage is to have a large table, say twelve feet square, with sides four inches high, and the centre as high as the sides, and gradually sloping to the corners, where a spout should be placed to carry off the molasses; if the room is kept warm, it will soon drain to sugar. By either mode clean, dry sugar will be obtained, free from any cane taste, as that leaves with the molasses.

#### **Uses for the Bagasse or Crushed Cane.**

A mill of any capacity will produce bagasse enough to evaporate, when employed as fuel, all the juice to syrup or sugar. On the arch, over which the long pan is placed, have a side arch with a flue to enter it, so constructed that there may be a large door to open for putting in the crushed cane by forks full. The freshly-crushed cane will make more heat than the dry; therefore it is not necessary to wait till it is dry before using it. Having two arches, either wood or bagasse can be used. If the chimney is high enough, there will be no difficulty in respect to draught. We have known the flames to pass through the twenty-five feet arch and out three above the top of a chimney twenty feet high. We have a paper mill that already uses largely of the bagasse in paper making; and, as we have already said, it is an excellent article for fertilizing the soil.

#### **Sugar Making and Refining.**

There is now no longer any room for question or cavil as to the possibility of producing sugar from the canes; nor, indeed, is there any particular difficulty in its manufacture, with suitable conveniences. Ten

days' time has been found sufficient to convert the juice into dry sugar, fit for table use. The question may then be asked, What is required for fitting up a suitable manufacturing establishment?

From our own little establishment, we have made over four tons of well-grained sugar from the Imphee syrup, during the past season, and have found but little more difficulty in making sugar than we have in making good syrup. Our process was simply the one above mentioned, of pressure in the hoop and draining from the table, and for convenience we find the following to answer a very good purpose: A building erected upon elevated ground, in dimensions about fifty feet one way, by seventy-five to one hundred feet the other way, well covered with a tight roof, and one room in it made tight, close, and warm, the temperature of which should be kept always up as high as ninety-five degrees Fahrenheit. The building should be made high enough to have a fall of fifteen or twenty feet from the mill, to conduct the juice from the mill directly to any part of the building; otherwise it would require a large receiving tank, and make it necessary to pump the juice up into this from the mill. In this case a very large pump would be required, so as not to vibrate or disturb the juice too much, for it easily foams and then ferments readily. The clarifying pan should be placed highest, to receive the raw juice first and defecate it, next the filters, and then the concentrating pan. By this arrangement much labor in handling the juice will be saved. Have a horse and sled placed under the mill to remove the crushed cane out of the way. About an acre of ground is required to afford room for the building and the sheds to hold the cane and keep it from the sun, wet, and frost, and for a place to store the bagasse. With these conveniences, one can commence operations, and as the juice of the cane passes through the tin pipe from the mill to the defecating or heating pan, bring it to a boil, and concentrate it to 12 or 15 degrees, removing all green scum; then to every gallon of juice run from the heating pan while hot into a flat box or tub, put in ten or twelve pounds of pure pulverized clay; stir it up gently, and let it stand ten minutes to settle, then draw off from faucet, leaving the clay and sediment at the bottom, and continue in this way as the juice may be needed to fill or feed the last concentrating pan. By this process will be obtained a fine syrup, or sugar, as

the case may be, and according as the Chinese or Imphee cane has been used. Instead of this clay process, filters containing animal charcoal may be used, as previously described. We have sometimes used clarifying agents, such as sulphate of lime, etc., but do not like them, and think it better to dispense with them, though they might be found of some service in removing the acidity of the juice.—*Agricultural Report.*

#### THE VETCH AS A FORAGE CROP.

**T**HES or vetches, although apparently but little grown by farmers in the United States, form in Lower Canada upon the more improved farms an important crop for summer feeding to cattle, and are considered a most useful and wholesome change of food for the working horses of the farm. I grew them last summer upon my weakest land, and I was convinced that hardly anything I could have sown would have given a return more generous. There is a species indigenous to Lower Canada, termed by Lawson of Edinburgh, the Canadian Lentil. This forage crop we find grown in all parts of Lower Canada. We find it upon the *terre neuve* of the Concessions, upon the farms of the habitant, yielding abundantly although grown without care, harrowed into the ground after being sowed with a few handfuls of oats. I mention this fact in order to remove an erroneous impression which some agriculturists with you have formed as to its being a difficult crop to grow. As to its resistance of drouth, its powers were fully tested this last summer, a summer during which the fall of rain was less than had been known for many years. The St. Lawrence had reached a point that rendered wharves useless, which in former seasons had afforded a landing to vessels requiring a great depth of water. The heat from June to September was constant and excessive, yet the crop of vetches was satisfactory, and upon my farm did the best of service in soiling my cows during the month of July, and it also afforded a second cutting in September.

The Vetch has thriven during the past summer of unusual heat and dryness, and in former seasons when drouth prevailed; and in such seasons it is that the vetch will prove itself of most value for the purpose of supplying green forage to stock. We regard the crop as one of paramount excellence, hardy, thriving upon poor soils,

where a fair crop of any other forage equally good would fail, resisting drouth, and fully repaying a thorough system of culture. If it cannot be grown in the United States, it is not from excessive heat or dryness. If it has not been grown successfully, the fault will, it is highly probable, have been in the seed. Lucerne grows well here, although we hear but little said of it in your agricultural newspapers. Its failure may be in part attributable to the same cause. We do not cultivate vetches in the admirable way in which they are cultivated in England. We find that we can grow good crops of them, merely sowing them broadcast, three bushels of vetches with one of oats. The oats are added to sustain the stems of the vetch, which otherwise would lie upon the ground, and a great part of the crop would rot. The weight of a full crop of vetches here, if the two cuttings were weighed green, would be found nearly equal to the weight of a crop of corn-stalks. They are relished by cows, and, in my dairy last summer, maintained the yield of milk produced by the previous feeding upon clover.

I consider the vetch, both the summer and winter variety, a most important forage crop, especially to dairy farmers in the vicinity of towns, for whom these letters have been mainly intended. In Scotland it is the practice to sow seed grown in England, being of quicker vegetation and producing a more vigorous plant. Might not seed grown in Canada be tried with equally good results in the State of New York? It would give me pleasure to send to the editors of your journal a few bushels of seed grown upon my farm, if any of your farmers in the neighbourhood of Albany wish to make a trial of the crop.

I subjoin a condensed account of the practice in the management of this crop in England and Scotland, and which is applicable to this country, by Mr. John Wilson, author of the article upon agriculture in the *Encyclopædia Britannica*.

*Vetches* are a very valuable forage crop. Being indigenous to Britain, and not fastidious in regard to soil, they can be cultivated successfully under a great diversity of circumstances, and are well adapted to poor soils. By combining the winter and spring varieties, and making several sowings of each in their season, at intervals of two or three weeks, it is practicable to have them fit for use from May till October, and thus to carry out a system of soiling by means

of vetches alone. But it is usually more expedient to use them with grass and clover, beginning with the first cutting of the latter in May, taking the winter vetches in June, recurring to the clover, as the second cutting is ready, and afterwards bringing the spring vetches into play. Each crop can thus be used, when in its best state, for cattle food and so as gratefully to vary their dietary.

#### WINTER VETCHES.

**T**HERE is no botanical difference betwixt winter and spring vetches, and, the seeds being identical in appearance, caution is required to get it of the right sort. As the great inducement to cultivate this crop, is the obtaining of a supply of nutritious green food, which shall be ready for use about the 1st of May, and so as to fill up the gap which is apt to occur betwixt the root crops of the previous autumn and the ordinary summer food, whether for grazing or soiling, it is of the utmost importance to treat it in such a way, that it may be ready for use by the time mentioned. To secure this, winter tares should be sown in August, if possible, but always as soon as the land can be cleared of the preceding crop. They may yield a good crop though sown in October, but, in this case, will probably be very little in advance of early sown spring vetches, and possess little, if any, advantage over them in any respect.

The land on which they are sown should be dry and well sheltered, clean, and in good heart, and be further enriched by plowing into it from twelve to fifteen loads of farm-yard manure. Not less than three bushels of seed should be sown per acre, to which some think it beneficial to add half a bushel of wheat. Rye is frequently used for this purpose, but it gets reedy in the stems, and is rejected by the stock. Winter beans would probably succeed better than either. The land having been plowed rather deeply and well harrowed, it is found advantageous to deposit the seed in rows, either by a drilling machine, or by ribbing. The latter is the best practice, and the ribs should be at least a foot apart and rather deep, that the roots may be well developed before top growth takes place. As soon in spring as the state of the land and weather admits of it, the crop should be hoed betwixt the drills, a top-dressing of forty bushels of soot, or two cwt. of guano per

acre applied by sowing broadcast, and the roller then used for the double purpose of smoothing the surface, so as to admit of the free use of the scythe, and of pressing down the plants which may have been loosened by frost. It is thus by early sowing, thick seeding, and liberal manuring, that this crop is to be forced to an early and abundant maturity. May and June are the months in which winter vetches are used to advantage. A second crop will be produced from the roots if the crop is allowed to stand; but it is much better practice to plow up the land, as the crop is cleared, and to sow turnips upon it. After a full crop of vetches, land is usually in a good state for a succeeding crop. When the whole process has been well managed, the gross amount of cattle food yielded by a crop of winter vetches, and the turnip crop by which it is followed in the same summer, will be found considerably to exceed what could be obtained from the fullest crop of turnips alone, grown on similar soil, and with the same quantity of of manure.

#### SPRING VETCHES.

**F** sown about the 1st of March, will be ready for use when the winter vetches are just cleared off. To obtain the full benefit of this crop, the land on which it is sown must be clean, and, to keep it so, a much fuller allowance of seed than is usually sown will be necessary. When the crop is as thick set as it should be the tendrils intertwine, and the ground is covered by a solid mass of herbage, under which no weed can live. To secure this, not less than four bushels of seed per acre should be used, if sown broadcast, or three bushels if in drills. The latter plan, if followed by hoeing, is certainly the best; for if the weeds are kept in check until the crop is fairly established, they have no chance of getting up afterwards. With a thin crop of vetches, on the other hand, the land is so certain to get foul, that they should at once be plowed down, and something else put in their place. As vetches are in the best state for use when the seeds begin to form in the pods, repeated sowings are made at intervals of three weeks, beginning as early in March as the season admits, and continuing till May. With two sowings in autumn, and four in spring, a supply of this valuable food can be had in good condition

from May till October; so that by means of vetches alone, if well managed, the interval betwixt the old and the new crop of roots can be filled up.

"There are other forage crops well worthy the attention of the farmer, *but the vetch is less fastidious in regard to soil and climate than any of them, and can be grown successfully on very poor soils.* The usual practice has been to sow vetches on part of the oak break, once plowed from lea. Sometimes this does very well, but a far better plan is to omit sowing clover and grass seeds on part of the land occupied by wheat or barley after turnips, and having plowed that portion in autumn to occupy it with vetches, putting them instead of "seeds," for one revolution of the course."

I have not seen vetches cultivated in

rows in Lower Canada, but consider it as compared with broadcast culture, the better mode. Still, we secure enormous crops from vetches sown broad-cast in the spring, and the rapidity of their growth keeps down the weeds. A part of the piece of land upon which my vetches were sown was very foul with twitch. I saw nothing of it until the vetches had been consumed, when the couch came on vigorously. I pared the land and then worked it with grubbers, and got the land clean. Winter vetches have not yet received a fair trial, from the difficulty of getting reliable seed. But spring vetches have long been an established fact, and a very important fact indeed it is esteemed by every farmer who has stock to feed or a dairy to sustain in summer. SHELDON. *Montreal, February 10th, 1866.*

## BREEDERS' DEPARTMENT

### THE LAMBING SEASON.

**R**OMG the principal causes of the fatality that so often affects ewes at this critical season, ranks foremost what is understood by the term "*bad condition.*" Not emaciation necessarily; as bad condition may be associated with plethora, but a general unhealthy state of the system, brought on probably by neglect and deficient diet for some time past; shortness of keep is one of the misfortunes which no foresight can always obviate; but the farmer should always strain a point to keep his ewes in good order, not by any means to fatten them, but to preserve what is well understood by "*healthy condition.*" A moderate quantity of good hay, with a fair proportion of well harvested pea haulm or straw, cut and steamed when practicable, will compensate for a bad supply of roots, and should always be liberally used in connection with them. The enormous percentage of water in roots renders them objectionable as the almost sole article of diet, particularly as the time of parturition approaches, when the bulk necessary to furnish the requisite nourishment is inconvenient to the animal, and a drier food, proportionately nutritious, is desirable.

No amount of care, to insure a high state of health, can be deemed superfluous, as under the most favorable circumstances the period of parturition is a crisis in the animal economy. The extraordinary excite-

ment, nervous and muscular, with the necessary exhaustion, tell always most injuriously, and often fatally, on debilitated constitutions.

The ewe continues in labor longer than most other animals; hours are frequently passed without any progress being made, while the pains occur at frequent intervals, not so strongly as in those animals in which the act is more rapidly performed, and weakly subjects frequently succumb during labour, or immediately after it, never recovering from the collapse. In other instances, excessive reaction follows, resulting in fever, which is almost uniformly fatal. This vascular excitement has its centre in the uterus, the lining membrane of which, after death, is found nearly black and rotten. The affection may be designated "*inflammation of the womb, or puerperal fever;*" and virtually consist in an extension of the uterine irritation to the whole nervous system, and an excessive vascular action is a natural consequence. Subjects of the disease die at various periods, from four or five hours to a couple of days, after lambing; the symptoms are—uneasiness, panting, and alternately grinding of the teeth; the external parts continue red and swollen, and the discharge of dark coloured fluid, partly composed of blood, is constant.

The extreme fatality which commonly attends this disease, and the rapidity of its course, render any of the ordinary anti-inflammatory plans of treatment practically

useless, as none but powerful agents have the slightest chance of acting in time to avoid the usual results. Aconite, a valuable remedy in all inflammatory attacks, is the only one, perhaps, that can with confidence be suggested for these cases; and if employed when the first appearances of un-easiness are seen, its effects are marvellously rapid. In Europe, Fleming's tincture of aconite is mostly used, and the dose carefully apportioned. The most simple course is to put one drachm into a pint bottle, fill up with pure water, and give a small table spoonful, say three times in the course of two hours, or even every half hour, until a quiet condition follows, after which an occasional dose will suffice to keep up the sedative effect; a single dose has often arrested the excitement at once; and since in very decided cases not more than two would be necessary to produce a marked sedative action. During the treatment, the ewe should be housed and kept warm, dry and particularly quiet. Sheep are especially sensitive to interference, and, at the last gasp, will struggle to escape the touch of a stranger.

Unnecessary violence is a fruitful source of loss among ewes. When unmistakable symptoms of lambing are observed, the ewe should be carefully watched, but not interfered with, as the possibility is that nature will finish her work without extra aid, which, when prematurely and injuriously rendered, will be sure to do harm, sometimes to a fatal degree. If, however, after a reasonable time, no advance of the fœtus takes place, the shepherd may carefully examine its position, and if all be right, leave matters alone; if the mother be exhausted, or the fœtus wrongly presented, judicious assistance is then indispensable. But this should be done with much care, with a view to aid, rather than force, nature, and everything approaching to violence (so often fatal) should be studiously avoided.

Inversion of the womb, generally produced by straining, sometimes by unskilful handling, is occasionally fatal, and always permanently injurious to the animal, especially for breeding. The protruding viscus should be carefully cleaned and returned, the animal's hinder parts being subsequently propped up, to facilitate its retention, and a dose of the aconite mixture will usually prevent a recurrence of the straining efforts. Where the womb is obstinately everted again and again, a strong suture is sometimes placed across the external opening, with success; or in the event of this

failing, a ligature may be placed round the neck of the organ, close to the quarter, and the protruding part excised. This operation is often successfully performed, although there is more reason to fear the result of inflammation after excision, than difficulty in returning the uterus to its situation again. Ewes that survive these operations should be at once fattened for the butcher.

After delivery has been effected, and the ewe is apparently doing well, there are occasionally some minor difficulties to be surmounted. Among them are swelling and hardening of the udder, with the formation of abscess. This disease often occurs in cold, wet seasons, and though seemingly of trifling importance at first, a considerable number of animals die from the irritation, and many are very seriously injured. At the commencement, when the swelling is first observed, the shepherd should apply fomentations; the animal suffering should be placed under shelter, and have plenty of dry straw to lie on; a small dose of Epsom salts (one ounce) may be given, and as soon as the swelling and heat have subsided, a little stimulant may be used with friction; an ointment composed of iodide of potassium with twelve parts of lard, is very good for the purpose. If the sheep be suffered to remain on the cold, damp soil, the circulation in the gland is ultimately arrested, and the part becomes a dead mass, that rots by degrees away, gradually impregnating the system with a quantity of decomposed matter. In such cases, a free dissection of the diseased part is the only course that promises a chance of success; most commonly, however, the subject sinks, from the weakness engendered by the combined irritation and poisonous influence of the diseased organ.

A successful lambing season, in a great measure depends upon a properly constructed, well defended ewe pen, a sufficient quantity of nutritious food, and, above all, a careful shepherd, well acquainted with his duties, and conscientiously desirous of performing them—one who will watch for symptoms of a possible mischief, and hasten to repair it, who is scrupulously cleanly, and light and tender in his touch in rendering needful assistance. Furnish such a man with a bottle of aconite mixture, material for gruel, a few simple comforts, and facilities for heating abundance of water, and there will be no need to apprehend—adverse circumstances out of the question—any

very "bad luck," during the lambing time.

**HORSES IN KENTUCKY.**



We see it stated that, in order to improve the stock of Kentucky—a State already famous for her pure bloods—an association has been formed for the breeding of thorough-breds, to be sold at public auction, every year without reserve, to the highest bidder. The

gentlemen connected with the movement are thorough horsemen, and the public will thus have the benefit of their judgment and experience, in matters pertaining to blood and high breeding. The incorporators named in the act organizing the association, are R. A. Alexander, W. S. Buford, F. P. Kinkead, and Abraham Buford of Woodford county, and B. G. Bruce, John R. Viley, and James A. Grinstead of Fayette county. The capital stock is \$250,000.

**HORTICULTURAL DEPARTMENT.**

**STRAWBERRY CULTURE.**



With a view of determining which of the rivals should receive the crown, I planted a field of Triomphe by themselves, and kept a separate record of all outlays upon it, as well as the amount of fruit it produced. The amount of land that this piece contained was 225 rods, or a little over an acre and three quarters, and the following was the result:

Expense of raising the crop.....	\$534.68
Expense of gathering and marketing..	353.06
Total.....	\$887.74
Quarts of berries produced.....	6,280
Gross receipts of the whole at 29 cents per quart.....	\$1,821.20
Net receipts of the whole at 29 cents per quart.....	933.46

The amount of berries raised per acre was 4,465 quarts, or 139 bushels 17 quarts. Net receipts per acre, \$663.79. Thus it will be seen that the profits per acre on this patch of Triomphe de Gand berries exceeded by \$158.40 the average profit per acre of the whole five acres and a half which were cultivated. Taking into account the fact that more than two acres and three quarters of the whole five acres and a half were of the Wilson's variety, which bore a bountiful crop, it is manifest enough that the Triomphe have come out triumphant this year, with us at least. It should, however, be taken into account that the field of Triomphe was the best piece of land on the farm, and that the crop was attended to with special care. I judge that the results of this year's harvest may give a too flattering character to the Triomphe, from the fact that last year they almost proved a failure, yielding not forty bushels to the acre on our plantation, while the report we heard from them abroad was anything but encouraging.

As I adopted some novelties in my method of treating this particular field, it may not be out of place to mention them here. It was in meadow in the year 1863, and after mowing and securing a moderate crop of grass, the turf was turned under to the depth of a foot, by a double Michigan plow, with the aid of two teams. In September it was sowed with rye, and later in the season manure was carted from the barn cellar and spread upon it at the rate of forty cart loads to the acre. The cart probably contained about twenty-eight bushels to the load. Late in the fall the turf of rye and the manure were plowed in to the depth of four inches, and two strong teams followed with the subsoil plow, which went down about a foot lower, loosening up the turf that had been thrown down by the double Michigan plow. This work was interrupted by the winter's frost, but was completed in the spring. As soon as the ground was fit to work, I raised slight ridges upon the whole of it at a distance of two feet apart and set out my plants at a distance of twenty inches apart on these ridges, in holes made by a dibble in the manner described in an article heretofore published in these columns. This work was finished about the middle of April, inasmuch as I regarded an early start as of vital importance. Soon after the first hoeing in May, I put on a plentiful quantity of mulching between the rows. The ridges were made with the idea of making room in the hollows between for an extra thickness of mulching; but I have since thought them unnecessary. The after-work was to weed out the rows, and to place the runners so that one of them could take root between each two plants that were set (thus leaving them ten inches apart in the row,) and cutting off all the rest of the runners. In the fall I drew

some of the mulching over the crowns of the plants with a rake, for their protection, and they underwent about three weedings in the spring, before picking time. The quality of the berries for size, sweetness and good flavour, was certainly wonderful to ourselves and our neighbours, and the advanced price that we obtained for them was well deserved.

Concerning the *Triomphe de Gand*, our experience seems to warrant us in saying this:

1. It is rather essential that it should be raised in hills or rows, and not in beds, and that the runners should be clipped.

2. It requires a richer soil than many other kinds.

3. It seems to be not quite so reliable as many other kinds.

4. There are occasionally seasons when, with the right kind of treatment, it beats everything else in the line of strawberries, not altogether in the quantity of fruit it produces, but in the general quality and consequent profit derived from its cultivation.

5. It is remarkable for continuing in bearing much longer than many other kinds, it having in a measure supplied our table this year from June 6th to July 10th.

Perhaps, before leaving the subject, I ought to say something about certain varieties which I have tested this year. The *Downer* strawberry was recommended as more prolific than the *Wilson*. I tried it, and am tempted to say that I am heartily sorry to find it so prolific. The berries were so soft that they would certainly have damaged our character if we had attempted to send them at any great distance to market.

The *Russell* was another strawberry highly recommended in some quarters. It proves to be quite prolific and large, but alas! its surface is tender and scorches under the rays of the sun, turning to a most unlovely brown; and under transportation it settles down in the box or basket most uncomfortably.

After gathering our annual harvest of leaves for tea from some of our old beds, we shall give them decent burial with the plow. Others we shall endeavour to renovate for another year. Meanwhile we shall do our best at weeding and cultivating the new beds planted this year; and, turning over a new leaf in our account book, we will thankfully trust Providence for as good a crop the coming year as we have had this.

#### FARMER'S GARDENS.

Do farmers generally realize the value of a good garden to the economy of a well-regulated household? Wide-awake farmers who read, and try to improve upon the teachings of agricultural journals, I think do generally understand their worth. But

in travelling where the inhabitants are scattered I find a different state of things; well-arranged gardens, stocked with a few of the choice varieties of small fruits, as well as the usual varieties of vegetables, are scarce. Why is it so? When thus situated they should have the best the soil is capable of producing. Their diet is usually confined to a few articles.

How often is the farmer's wife or daughter put to it to provide a dinner for husband and father which he will sit down to with a relish. For tea, bread, or biscuit and butter, with perhaps dry cake, constitute the variety. Now, with a garden and a good assortment of vegetables, the good woman can get up a dinner that would tempt the palate of an epicure.—For tea, strawberries and cream, raspberries, blackberries and currants, in their season, furnish a dessert that will give a relish to the plainest fare. I asked why it is so? Perhaps they think their garden must be laid off into formal beds, and kept up with a great deal of system and care. They imagine that much time and skill are required in sowing, planting, weeding, training, etc. Suppose it be true, does it not pay as well as the time spent in the culture of common field crops? What part of the farm produces from an equal area as much profit as the *cultivated* garden, with those who have one? Usually there is sufficient time unemployed to do the necessary work required in the garden; and then the luxury of a mess of spinach, asparagus, etc., gives a relish to the salt pork,—the usual meat upon a farmer's dinner table. The variety of beans, peas, beets, potatoes, etc., fresh from the vines and ground, and in addition as relishes, lettuce, cress, cucumbers, radishes, etc., with many other vegetables, go to make up an assortment from which the good housekeeper need never be at a loss to supply a sufficient variety of edibles for any occasion.

The last week in June and the first week in July is the very best time to prune fruit or other trees.

## COMMERCIAL DEPARTMENT.

## END OF THE RECIPROCITY TREATY.

**S**INCE our last issue, the Reciprocity Treaty has expired. An arrangement which created a vast trade between the British Provinces and the United States is brought to a close, and we have entered upon a new order of things. As a retrograde step, the change is to be regretted. The termination of reciprocity is an evil in the sense that all obstructions to commerce are evils. Fortunately, however, our position is such that we have no cause to be alarmed at the loss of the Treaty, or to be apprehensive as to the future. We know, from the progress of the country before the Treaty was negotiated at all, that it is not an absolute necessity to us; and we know also, that there has been no time since the Treaty was negotiated when our country has been so well prepared for the effects of its abrogation. Not only has the bountiful harvest of last year enriched the Province by millions, but a number of incidental circumstances conspire to lessen the inconveniences which may arise from the change in our commercial relations with our neighbours.

A large portion of the articles which we have been exporting to the States under the Treaty, are in such demand in that country, that they will still be bought, and the duties paid by American consumers. That this is true of the lumber trade, no one doubts. The supply of American lumber is too small for the demand, and the markets which we supply are distant from the lumber districts of Maine and Michigan. It may be true that the advance in price which will be occasioned by the imposition of duties will lessen the demand a little, but probably to no great extent. In the same way, the American manufacturers require our wool, for the reason that the wool-growers do not produce either the quantity or the quality required. If the Americans are to continue the manufacture of worsted goods, they must have Canadian wool, and pay any duties which may be levied upon it. If our wool is not sent to the States it will be manufactured here, and the cloth will very likely be made by our neighbours. Already our woollens are largely sold in New York, and the tax on them is paid by advancing the price

make American woollens still dearer, and give our manufacturers a still better chance to compete. In either case, the tax on wool will cause little or no loss to us. The article which will be most affected is undoubtedly wheat, and ordinary descriptions of wheat will hereafter be shipped direct to England, instead of being sent by way of New York. But the Americans have been in the habit of paying very high prices for Canadian white wheat for domestic consumption. There is a demand for flour made from that wheat, and it commands prices quite unwarranted by the quotations at Liverpool. We are by no means sure that the well-to-do people in New England, who insist upon having the best quality of flour, will be content with an inferior article because there is a tax upon Canadian wheat. It is very likely that a portion, at least, of that trade will be continued on terms advantageous to us. We believe, too, it will be found that the demand for other articles of Canadian growth is not to be entirely stopped by taxation. Altogether, the Washington protectionists will be astounded at the extent to which they have imposed taxes upon their own people.

Undoubtedly the change in our commercial relations with the States will call forth important changes in our agricultural system. We shall not want to raise so much wheat as formerly. Our farmers will be forced to make a change in that respect, which might well have been made long ago. They have been too much disposed to sow wheat year after year. Attention can be profitably turned to other crops. The experiments in flax-raising, which have been made in various parts of the Province, by hundreds of our farmers, have proved most successful. The yield is both more certain and more profitable than that of wheat. Large mills designed for the manufacture of linen goods are already in operation at Doon and Streetsville—a guarantee that a market will be afforded for flax, and that some of our most enterprising capitalists have faith in the success of the efforts being made to introduce the cultivation of flax

Too little attention has been paid to the establishment of Canadian



growing, even were the Reciprocity Treaty continued.

There is no reason to think that the raising of cattle and hogs will, in the end, be rendered less profitable by the abrogation of the Reciprocity Treaty. For the present, indeed, living animals may be exported to the United States free of duty, but we do not think it safe to count upon the continuance of that arrangement for any great length of time. We can, however, find other markets for the meat which we raise. It is well known that beef and pork are largely exported from the United States to England. The British navy is largely supplied from that source. We can surely supply cured beef and pork cheaper than they can be sent from the

United States at the present time. Besides enlarging our trade with Britain, we have the prospect of extending it in other directions. The mission to the West Indies has, we have every reason to hope, proved a great success. The delegates were everywhere welcomed by the local authorities, and found the warmest interest taken in their errand. At every place they found goods imported from the United States, which could be quite as well supplied from Canada, and at cheaper rates. It is necessary, before anything can be done, however, to establish communication, and efforts will be made at once to establish steam communication between Canada and the Lower Provinces, and from thence with the West Indies.

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WITH a view to obviate the objection urged to the system of Half-Credit Premiums on Life Policies—that thereby an accumulating debt arising from arrears of premium and interest is incurred—the Directors of the Scottish Provincial Assurance Company have adopted, as a substitute to that system, a *Reduced Table of Rates*, whereby the full sum in Policy will be payable at death of Assured, free of all debt, either from arrears of premium or interest.

The following are the Annual Rates, under this Table, for Assurance of £100 Stg. (\$486.67):

Age next Birth-day.	First Five Years.	Remainder of Life.	Age next Birth-day.	First Five Years.	Remainder of Life.	Age next Birth-day.	First Five Years.	Remainder of Life.
<b>20</b>	\$ cts. 4 60	\$ cts. 8 80	<b>35</b>	\$ cts. 7 10	\$ cts. 13 58	<b>43</b>	\$ cts. 9 24	\$ cts. 17 48
<b>25</b>	5 29	10 14	<b>36</b>	7 32	14 03	<b>44</b>	9 53	18 01
<b>29</b>	5 96	11 44	<b>37</b>	7 57	14 48	<b>45</b>	9 85	18 69
<b>30</b>	6 13	11 76	<b>38</b>	7 83	14 92	<b>46</b>	10 20	19 57
<b>31</b>	6 31	12 08	<b>39</b>	8 09	15 41	<b>47</b>	10 60	20 31
<b>32</b>	6 49	12 41	<b>40</b>	8 38	15 90	<b>48</b>	11 03	21 17
<b>33</b>	6 67	12 77	<b>41</b>	8 64	16 36	<b>49</b>	11 54	22 08
<b>34</b>	6 88	13 18	<b>42</b>	8 92	16 87	<b>50</b>	12 08	23 16

EXAMPLE.—A person aged 30 may assure £100 at his death, by an Annual Premium of £15s. 2d. for the first five years, and £2 8s. 4d. for the remainder of life, without any debt accruing from unpaid Premiums being accumulated against the Policy.

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