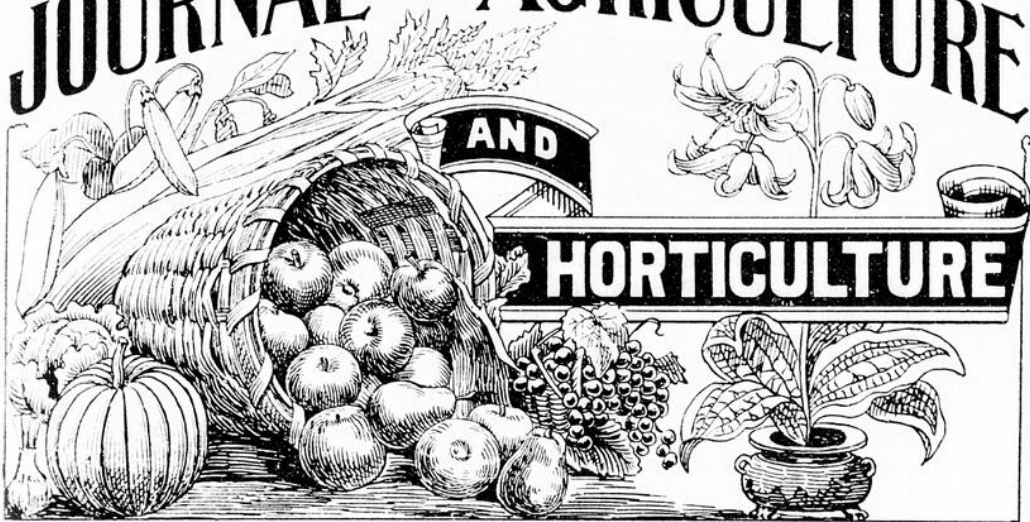


THE JOURNAL OF AGRICULTURE



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JANUARY 15, 1898.

THE NEW YEAR

The Victorian Era.—Position of Canadian Farmers.—Retrospect.—Results well doing

The year that is past was a notable one, the sixtieth anniversary of the reign of a Queen, unexcelled in all the christian virtues by any previous monarch in the world's history.

What a privilege have we enjoyed who have lived in the Victorian era. What cause have we to rejoice when we consider the advantages that peace and good will have brought to the cause of human progress.

Canada may well be proud of the recognition she received at the Jubilee in the person of her able Prime minister, and the Canadian farmer can learn lessons of hope and encouragement from the fact; remembering that all material prosperity must have its basis in agriculture. It is a matter of self congratulation and gratitude that we live in such an epoch, and have given proofs that we are not behind in the race of improvement which is being effected in the industrial, moral and social condition of the people.

In view of these considerations it will be well, at this season, to make a retrospect of the time past with reference to the better spending of the future, feeling assured that if we do our parts faithfully the coming year will bring us "new mercies, new blessings, new light on the way, new courage, new hope, and new strength for each day."

First: then, Have we endeavoured to add to our stock of knowledge with regard to our calling, so that we could perform all the work on the place in such a manner as that a successful result might reasonably be expected?

Have we kept any a record of our transactions which we can refer to now, as a ma-

riners to his chart, to enable us to avoid the quick sands of error and be guided into the favorable currents of good practice which lead to prosperity? Have we looked before we leaped, that is to say, have we studied in the light of our own experience and the experience of others what was the best course to pursue in the raising of certain crops on certain fields? Have we carefully remarked the condition of the land, its capabilities, and the work and manuring it stood in need of to increase or maintain its fertility?

Having drawn our conclusions as to what is best, have we promptly and faithfully carried our plans into execution, or have we made the usual excuses, "Oh I've been too busy this season, I must wait till next?" Let us hear in mind the old adage: "Where there's a will there's a way;" and again: "Procrastination is the thief of time."

Have we been diligent in our efforts to battle with the natural enemies of the farm, orchard, and garden. Weeds which choke the crop and rob the soil of its fertility. Death dealing Bacteria which attack our cattle: preying and poisonous insects, and fungous growths, which destroy our orchards and root crop; the loss and injury caused by which can be lessened or prevented by using the various applications which science and practice have proved to be effectual?

Have we done right by the poor, dumb animals in our charge, remembering that there is a mutual dependance existing between us and them, and that while it will pay to see that all their wants are supplied, and their comforts attended to, it is our duty to treat them kindly and to take care that they receive no ill usage at the hands of those who are employed to tend them?

Gentleness and kindness to the domestic animals has more to do with the profitable returns they will yield than many imagine: "kind words can never die" even if spoken to a cow.

Have we endeavoured to husband our time, and while we have taken a reasonable portion for amusement and recreation, for "all work and no play, will make Jack a dull boy," have we ever thought that:

"Kill time to-day and to thy sorrow:
 "He'll stare thee in the face to-morrow,
 "Kill him again, and it's most true,
 You may kill time, till time kills you?"

Have we made it a point, as much as possible to live peaceably with all men? not quarrelled with our neighbour because his cattle may have broken into our oats and done damage which he could not prevent? If he was in fault have we not found gentle remonstrance better than harsh words? And if on the other hand our neighbour have been inclined to be angry, have we not found that "A soft answer turneth away wrath?"

Have we done all we could to avoid going to law, or have we plunged our neighbour and ourselves into expensive and vexatious litigation about some trifling matter which a few words of reasonable argument between friends could have settled?

Have we put our trust in that Good Providence who has given us our opportunities for acquiring and disseminating happiness? If so and we have done all our duty manfully and faithfully, we enjoy all the conditions favorable to insure us a Happy New Year.

GEO. MOORE, ASSISTANT EDITOR.



Lectures.

A LECTURE BY M. L'ABBE TH. S. PROVOST.

Agricultural Missioner.

THE POLITICAL ECONOMY OF AGRICULTURE.

Rural economy—Of capital—The extent of the farm—Should be in proportion to one's means—Concentration of labor—Cropping—Intensive farming—Extensive farming—Routine.—Economical management—Courage in business—Instruction in agriculture—Education—Judgment—Love of progress—Nature a great agricultural university—Utility of knowledge—Its importance in Agriculture—A good prospect.

Mr. President and Gentlemen,

I fancy you hardly expected to hear me treat of such a matter as that on which I intend to address you for a few minutes. Were it an adventurous expedition into distant lands, as yet unknown to the learned, I would say so at once. I would do likewise did it concern a rash and dangerous voyage to unknown regions, over a storm-tost immeasurable sea. But as, far from that it is the development of an important question that concerns every agricultural society, and which lies at the foundation of all the regulations instituted for the prosperity of the farmer, it is proper to take some precautions in announcing it and to keep back to at least the conclusion of a long drawn out sentence, the fact that it is in very truth a subject political in its nature.

I seem to see a quiver of curiosity pass over the lips of this pleasant audience, and to hear the low and anxious questions: "Whither he is going with his politics?"—Here, Gentlemen, is the point I aim at, without further preamble. There are politics and politics, as we shall see, or rather as we shall recall to our common memory. In its larger sense, and according to the most general acceptation, politics is the art of governing society by the maintenance or drawing up of just, equitable, wise laws, responding to the multiplied and constantly renewed needs of the various classes who compose it. Do not be alarmed, gentlemen, it is not that of which I am about to speak. There is another kind of politics, one that is peculiar to each of position, each class, each association of citizens; and that kind is the art of wisely directing the efforts of each individual toward the highest summit of desirable progress, and to open to each the prospect of a happy future. So in farming, as in every other business, there is a kind of politics to pursue, one founded in the laws of science and prudence, whose strict observance will ensure success. It is on this sort of politics, then, that I am about to address you, and as it naturally includes the search after the best things to be collected and the most profitable way of consuming them, it derives from these very operations the name that befits it so well i. e., "The Political Economy of Agricultural, or Rural Economy."

Let us then in speaking of political economy, select that specifically belonging to the art of agriculture. Let us study its principles, and make certain applications of them that may not be, perhaps, without some public utility.

I am very anxious to impress upon the farmer that it is not necessary to start with a large capital to be assured of a good prospect of success. Agriculture, in this respect, differs from trade. In manufactures, the amount of the profits results immediately from the amount of invested capital, and as this is increased, so the profits increase correspondingly, provided the business is well managed. Fresh capital, indeed, admits of the increase or improvement of the machinery, without an increase

of the staff or buildings, and effects a more economical and rapid employment of the raw material. In such a case, with the active aid of all necessary agents, with the supply of the market arranged for, a prompt return of profits becomes a certain consequence of the investment in a factory of large funds, which increases in proportion to the work done, and I may add, to the division of labor.

For, in the lumber trade, for instance, let us take the work of a large, well fitted up saw-mill. Every thing that cannot be cut into boards or planks, owing to certain faults, can be converted into small dimension-stuff, perhaps, or laths, or shingles, so that every particle of value may be economically extracted from the raw material. From which we conclude that, in this as in other trades, when the capital is increased, not only do the profits also invariably increase, but still more does the proportion of the return of profit on the capital increase.

But in farming, it would appear that the contrary is usually the case. A large capital does not invariably, nor even frequently, secure a proportionate profit, unless an exceptionally wise and prudent management accompanies it. This is easy to prove by a comparison of the profits from a small farm or garden with those of a large farm. When much labor and capital are employed, the profits have a tendency to fall. An acre of land may bring in \$50 00, but a hundred acres will not return \$5,000-00. With a view to the production of a better crop, one may, if thought advisable, plough thrice and harrow thrice: it will answer. Under other circumstances, seeking always to increase profits, one may plough twice and harrow four times; it will be advantageous, but the labor-bill will be increased, and, in spite of the most earnest attention, you may take it for granted that the profits will not come in in the same proportion. In these exertions there is, doubtless, advantage and profit, but not in proportion to the expenditure in increased labor. Why? Because skill and knowledge are not increased, because the labor is spread over too large a surface, and, again, because all the needed improvements are not introduced. What then must be done in order that farm labor may return the best possible products, and properly remunerate the farmer?... Three principal things must be done; in these three things lies almost the entire secret of success.

FIRST.—The capital invested in a farm must be proportionate to the physical and intellectual powers of its proprietor, as well as to the daily expenditure required to be made, without danger of losing the original fund. Every farming operation is more secure with a small capital, on a moderate sized farm, than with a large investment on a great extent of land, until, at any rate, a very vast amount of experience has been acquired.

SECONDLY.—The man, who devotes himself to agriculture, must act with judgment, and employ all his intellectual faculties. As soon as he ceases to search for or to employ our modern methods, he is sure to see great difficulties arise, for the causes of the dwindling away of the value of landed property are manifold, and if the farmer is not always on the alert, he will meet with every one of them; the best he can do, then, will not be too much to retain the position already acquired. But, if he desires to advance, if he wishes that his labor should become increasingly profitable, he must adopt all the settled improvements that come within his cognizance. It is thus, and by them, that he will obtain influence and remunerative action over nature that he is master of. While manufacturers can multiply their profits without extra cost, as long as their machinery lasts, the farmer who wishes to stand firm and to obviate all unfavorable events, must employ the latest invented implements and processes of his art. For, to him these are the very principles of life; there is no other hope of salvation for him and for his family. If he does not intend to wane and fail, he must respond to these demands.

IN THE THIRD PLACE, and this point merits special attention, agricultural labor must be concentrated, as far as possible, on a limited space. Will not the same

amount of labor return more profit on a small farm than on a large one, all other things being equal, since the former will be better cultivated than the latter? On the other hand is it not true that, in proportion to the increased extent of his farm, the farmer, not having the same amount of money or time to devote to it, will find the difficulties and the trouble of cultivation increase, in the fact that to make a thorough use of it, he must devote an additional amount of physical and intellectual exertion for which the possible increase of profits will never compensate him? Then, instead of subduing the ground, as he was ordered to do, it is he himself who will be subdued, because he has not employed his labor productively, but, on the contrary, has acted without attending to the advice of a wise economy as regards the extent and the cultivation of the land that he works or desires to work.

A singular and convincing fact: the concentration of agricultural labor on a proper extent of land, has followed civilisation and the development of agriculture to our own shores, as everywhere else and at every epoch. The natives whom we have displaced though not very numerous, were nevertheless scattered all over the country, earning their keep chiefly by the chase. Here and there, a few wandering tribes ventured on a little cultivation, and developed, in some degree, the productive powers of the soil in addition to their purely savage mode of life. Then, came the cultivation of grain by the settlers, who raised the same powers another degree. Lastly, in our own day, arrived the special cultivation of vegetables, pulse, and fruit, which on account of a larger population occupying a small area, naturally necessitate a greater concentration of farm-work. Thus, by degrees, in conformity with these instructive facts, and following in the foot-steps of a beneficent progress, the work of the farmer has confined itself, little by little, to an area decreasing more and more in size. The labor diminishes, the profits increase. Let us quote a few figures as an additional illustration.

If we hear that an acre of land has produced \$1,000.00 worth of crop, we at once believe that, in consequence of an exceptional expenditure of skill and experience, the profits from that one acre have been at least cent per cent. But if, on the other hand, we hear that these thousand dollars are the product of severe toil on 200 acres, we directly set down the rate of profit at hardly 6 per cent. Whence, we easily deduce the fact that the centralization of the farmer's labor on a very limited area of his property can create for him an abundant source of real profits, and proportionately increase the value of the property he possesses.

Let the farmer learn then that, if he follows the march of the age and of progress, he may without disquiet divide his large farm among his children, who, to their great benefit, will settle down alongside of their parents. Here, is a true piece of economy, a policy bearing safety with it; there, if he so will, is for him a capital that cannot be lost: what better could he wish for?

(To be continued.)

(Trans. from the French by the Editor.)

The Farm.

TWO ACRES ENOUGH IN BELGIUM

To the Editor of the *Journal of agriculture*.

Seeing in your issue of the 1st instant an article with the above title, I thought I might give you an idea of what can be done here in Canada along the same lines as in Belgium. At Châteauguay, where I am now living, there is an acre and nearly a half; on the half acre the river runs in front, and also the public road; back from the public

road, about 60 feet, the house stands. There are 6 apples trees growing between the house and the road—we have a lawn that we keep for the children to play on; passing up one end of the house we have a private roadway, and there is also a little vacant square behind the house. On one side of this square we have a stable, manure shed, coal house and wood shed, with a place over the stable, coal and wood shed for storing hay and straw; we have also a small yard for fowls, these, with a cow and pig during the summer season, are all the animals we keep. There is then back of this front lot one acre which we cultivate — in fact there is only one *acre* one way by an *arpent* the other, so I call the 6 trees in front part of our cultivation, and call it then an acre.

We shipped to Montreal 53 barrels of apples this year; this, as you know, was an off year for apples. Last year we shipped 140 barrels — but I wanted to tell only of this year, besides all we used and sold several barrels at home — and put a lot into the cellar for own use, I should judge that about one third of our apples was sold and used at home — so that we must have had 80 barrels of apples this year; we cut and saved over one ton of hay for the cow and about one ton of corn; we commenced using potatoes in July, used them until September and had a large number of boarders; put about 20 bushels in the cellar— had more than 40 bushels of roots, such as turnips, mangels, carrots and beets, used all kinds of berries, but principally raspberries, and sold for over \$25 in cash, grew all our own vegetables, such as asparagus, cucumbers, melons, cabbages, parsley, onions, celery, lettuce, needed for a family, and not a small one either as there are ten of us all told. The past 3 years we have certainly raised a great deal more than \$100 worth a year from our one acre — and lived on it besides; we buy our flour or bread and butcher meat,— this certainly can not be done without care and attention; we do not keep our cow or hens for fun, the cow gives us milk and we make a good deal of butter from her too; but during the month of July and August, our boarders (sometimes as many as 15) use all the milk we have and often we have not enough for them, the hens keep us in eggs and during the winter, when they are worth 25 cts or over a dozen, we always manage to sell enough eggs to pay for the grain we buy them. The pig helps to make manure and use up the slops of the house, and with some grain in the fall — with small potatoes and apples, we always have from 200 to 250 lbs of pork very cheaply at not more than a cost of \$4 or \$5 for ground grain. The manure is not put out of doors during the winter — to get the best parts of it running down the ditch to the river in the spring — the droppings of the hens are scraped up every day: — the coal ashes are utilized to absorb the urine of the cow, and protect the hens from being infected with vermin. Everything of value is saved, the chamber-lye is also saved, and during the winter, is put over the manure heap every morning, and during the summer season is used direct as a fertilizer. The leaves in the fall are gathered up and used as bedding for the pig and cow, and make splendid manure; even the weeds, sometimes, that will grow, during a wet spell when you cannot hoe, are gathered, and made the commencement of a compost heap, where potato vines and all such stuff are put and you would be surprised at the size of it in the fall, soap suds are also used on the gooseberry bushes and currants. We have grown a good many sun-flowers — the seeds we feed the hens with and the stalks we cut up for kindling wood. Under these conditions it is no wonder that if we had 2 acres a family might have sufficient to feed and clothe themselves and have quite a surplus at the end of each year. The cow is kept in at night during the summer and each morning quite a barrowful of manure, with the chamber-lye from the house, is used around an apple tree; not a very great quantity one would say, but say 3 applications in 2 years — with the manure made during the winter for the potatoes roots, and vegetables, as many as 15 cartloads of well rotted manure yearly.— I would say I believe there is enough value lost each year in manure to pay the interest on all the Dominion and Provincial debts, and leave enough to form a sinking fund to eventually

pay up the debts too in 50 years, I am firm believer in the principle that whatever has to be done, should be done well. If you keep a pig, get the best breed, and see that it is kept constantly growing. The fine grass cut on the lawn is given to the hens, with lots of refuse from the house, the bones are all kept and ground for the hens when eggs are dear and scarce. Make the most of every thing, and you will be successful in your undertaking.

So I am satisfied that if I had two acres, I could make money from them and live comfortably at the same time.

Your truly,

PETER MACFARLANE.

Chateaugay 10th Dec 1897.

Notes by the Way.

SUGAR-BEETS.—We have often quoted Mr. Henry Stewart's observations on various points of farm-practice, and generally with approbation; but we cannot agree with him in his "Method of growing sugar-beets." He begins by saying: "It is not easy to grow beets." Now, here, we are absolutely at variance with Mr. Stewart; it is very easy to grow sugar-beets if one throws aside the childish idea that any unusual treatment of the plant is required. Prepare the land as for any other root-crop; drill in 5 pounds of seed to the arpent in rows 24 inches apart—*on the flat*—; single at 7 to 8 inches, by chopping out gaps in the rows with a 4-inch hoe, and pull all the beets but one from the bunches by hand; keep the horse-hoe going, and when the beets are well started after the first hoeing, give a dressing of 200 lbs. of nitrate of soda to the arpent.

Nothing can be much easier than this; but the truth is, in the States as in this province, people began to try to grow beets before they had grown turnips, swedes, or mangels, and, consequently, made a muddle, and an expensive muddle, of the job.

The real cost of growing an arpent of sugar beets, as stated by our pupil, Monsieur Séraphin Guèvremont, is as follows: "The farmer," as he says, "being supposed to have to pay for every operation—absolutely for everything:

To two ploughings.....	\$ 2 00
" " harrowings.....	1 00
" Forty loads of dung, including purchase and cartage...	10 00
" Drawing drills.....	50
" Spreading dung in drills.....	1 00
" Splitting drills.....	50
" Rolling ".....	25
" Sowing ".....	25
" Seed, 12 lbs., at 15 cts.....	1 80
" Four horse-hoeings.....	2 00
" Singling.....	3 00
" First hoeing.....	2 40
" Second ".....	1 80
" Harvesting, cartage to factory, &c.....	12 00
	<u>\$ 38 50</u>

Of course it is not fair to charge the whole of the dung and cultivation to the beet crop; one-third of these expenses at least ought to go to the succeeding crops of grain and grass, and this will reduce the cost per arpent to, at most, \$26.00.

Of course, if we go fiddling about, cutting the crop "into 4-inch strips" to be twice weeded by hand, we can make sugar beets a very costly crop. But, if ever the

beet-sugar industry is resuscitated in this province, we strongly advise all intending growers to work their beet-crop in exactly the same way as any other root crop (1): by this time, root-growing is pretty well understood in most of the more advanced districts of this province. Five pounds of mangel seed is enough for a full plant; why sow 12 lbs. of beet-seed to the arpent?

ENGLISH MUTTON.—The same Mr. Henry Stewart whose article we refer to above, has another, in the "Country Gentleman" of December 30th, on the reason why English mutton is "the best, juiciest and tenderest of the mutton kind." It is, he very rightly says, a matter of feeding. The English farmer feeds his flock as no other farmer does. "It is a strange thing that we on this side of the ocean—at least some of the scientific part of us—will insist that the food has nothing to do with the quality or flavour of the flesh or other product of the animal; at least, this is peremptorily alleged in regard to the butter of cows, and this is a similar product in any animal to the fat in flesh, and is derived directly from and is flavoured by the food."

We need hardly say that we perfectly agree with every word of the above quotation. In our abstract of the transactions of the Dairymen's meeting, at p. 27, it will be remarked that Mr. Barnard, the Secretary of the Council of Agriculture, proposed a resolution, that was unanimously carried: "That enquires be made as to the reasons why English and Scotch Cheddar is actually worth in the British market from 18 to 28 shillings (2) per 112 lbs. more than our "best" Canadian cheese." To our mind, Mr. Stewart gives the true reason: the food is the real cause. It would be absurd to suppose that Canadian makers are not superior in skill to the wives and daughters of our English tenant-farmers, who, to our own special knowledge, have only lately begun to use such an instrument as a thermometer!

SHEEP AT THE SMITHFIELD CLUB SHOW.—Mr. Baxendale's *first prize* Hampshire-down lamb weighed, alive and fasted, 191 lbs.; carcase 116 lbs.

Lord Chas. Bruce's Hampshire lamb, *commended*, weighed, as above, 200 lbs.; carcase 122 lbs.

The Suffolk lambs came out well; carcase weight of heaviest, 116 lbs.

No Shropshire lambs exhibited in the carcase competition.

CHRISTMAS AND NEW YEAR'S FLOWERS

Our supply of flowers in Montreal this season was larger and more beautiful than on any former occasion, and florists are well satisfied with the demand. This betokens an improved state of things; first, that the taste for flowers is in the ascendant, and next that people can afford to indulge in the luxury of adorning their homes with them at this festive season; both signs of the times on which we may congratulate ourselves at this dawning of another year. G. MOORE.

MONTREAL Y. M. C. A. RECEPTION

New Year Day

The Floral display of the Montreal Horticultural Society at the New Year's Reception at the Young Men's Christian Association, on Saturday afternoon, added very much to the beauty of the building and to the attractiveness of the occasion.

It is highly creditable to the Horticultural Society that they should have assisted this nobly philanthropic display on this occasion, and we hope that, another year, it will be continued even on a large scale. The taste for horticulture cannot be too much encouraged and made popular as a means elevating the religious and moral tone of the community. G. M.

(1) Barring the distance between the plants.

(2) Best Canadian Cheddar 42s. 6d., best English 72s. December 6th, 1897. E.D.

The Dairy.

The Dairymen's Meeting.

The Sixteenth Annual Meeting of the DAIRYMEN'S ASSOCIATION of the province was held, at Nicolet, on the 1st of December last.

After greetings on the part of the President, Mr Milton Macdonald, M. P. P. coupled, we are sorry to say, with certain observations on the paucity of attendant members of the society, Mr Macdonald called upon M. Elie Bourbeau, the Inspector-general of the Syndicates, to read his report for the past year.

M. Bourbeau said his duties had led him chiefly into the Western districts of this province. He had visited 169 cheeseries, 75 of which he put in the first class, 71 in the second, and 19 in the third class.

There were 12,424 cheeses passed under his examination; first class, 5,368; second, 5,600; and 1,066, third class.

Very few factories had proper ripening chambers; that is, chambers in which the temperature could be regulated; and this was one of the chief causes of there being such a monstrous quantity of second and third-rate cheese turned out. The cost of such chambers was more than could be borne by small factories, such as deal with two or three thousand pounds of milk daily.

(There seemed to be a general desire among the members of the association for the suppression of these small factories.—Ed.)

M. J. A. Plamondon, M. Bourbeau's assistant, stated that he had visited 277 cheeseries and about 20 creameries. He only found 63 cheeseries the cheese made in which could honestly be called first rate. Still, he had met with but little off-flavoured cheese, and its colour was greatly improved.

A great mistake was made by the factory-men: they persisted in selling their cheese too new.

The ripening-chambers, M. Plamondon thought, should be kept, as nearly as possible, at 65° F.

A report of sales of cheese in a Montreal paper stated that, whereas for 3,229 boxes of cheese, at Cowansville, 7 5/8 cents were paid, and for 2,222 boxes, 7 1/2, cheese was selling at London, Ont., for 8 cents!

(Half a cent a pound does not seem, at first sight, any great difference, but allowing 400 lbs. of cheese to be the proper yield of a cow for the year, it amounts to \$2.00, which, multiplied by the number of cows whose milk is sent to the cheesery in this province, comes to a good deal of money. Ed.)

(An attempt was made to pass a resolution asking the government to employ special inspectors "to examine the rennet exposed for sale in the province of Quebec;" but this was rejected, and very properly rejected, *nostro arbitrio*, as it is a regular case of "*caveat emptor*;" and it should be the business of the cheese-maker to secure himself from fraud by only buying his rennet, etc., from tried, trustworthy firms. Ed.)

On December 2nd, business began by M. Leclair, Principal of the St. Hyacinthe Dairy-school, reading a most interesting report on the butter-factories of the province. The school had received no fewer than 302 pupils during the past season; of these 155 took the cheese-course, and 147 the butter-course.

He had been, at the request of the Minister of Agriculture, occupied during the past summer in the inspection of the creameries of the province, especially as regards cold storage.

In M. Leclair's opinion, perfect butter would never be made throughout this province until greater attention is paid to cleanliness, particularly to keeping the churns perfectly clean.

Boxes, for the packing of butter, should be uniform in size; for he had heard of

several cases in which buyers in Montreal had obtained 60 lbs. of butter while only paying for 56 lbs.

Out of the 148 creameries visited by M. Leclair, 107 had recently put in "cold storage" chambers, involving an outlay, on the part of the Department of Agriculture, of over \$5,000.00, as a grant in aid.

The English market for butter was the great point at which all creamerymen should aim; and, if they attended to their business, there was every prospect of Canadian butter driving Danish butter out of the field.

The following plan (for which we are indebted to the "Montreal Star,") was proposed by M. Leclair for the development of the butter-trade in the province of Quebec:

1st.—To appoint commissioners to push Canadian butter. The said commissioners to live part of the year in Canada and part of the year in England.

2ndly.—To appoint experts at all Canadian ports of shipment, to examine and pass all butter before it is dispatched to Europe.

3rdly.—The Dairyman's Society to pick out a certain number of factories in the Province of Quebec; each of which factories to forward for shipment to England its entire product for a certain day of each week or each month.

4thly.—The Government to determine the exact quantity to be shipped.

5thly.—Payments for the butter taken, after examination by an expert, to be made by the Government at the ruling Montreal prices.

6thly.—The results of the sales in England to be returned to the Government by the Commissioners, the profits to be divided among the controlling factories.

A warm discussion then took place between representatives of the Montreal merchants and those of the manufacturers. The latter stating that the merchants sacrificed their interests to further their own ends. Mr Scott, of Ayer & Co., spoke a few words as did Mr. Barbad. Mr. Peter Macfarlane, the inspector of cold storage in Montreal, then spoke as to the possibility of constructing cold storage chambers at comparatively small outlay.

An enormous audience attended the evening session of the Association, and greatly enjoyed the exhibition of lantern slides presented by the Secretary, our good friend, M. Emile Castel.

Later, in the evening, the Hon. Sydney A. Fisher, Minister of Agriculture, entered the hall, introducing Mr McLaren, of Ontario, who read a most impressive paper (in English), comparing the different processes employed in making cheese in the two provinces. Cleanliness was the main point insisted on. Not only must the implements, utensils, floor, &c., in the factory be kept perfectly clean, but the maker and his clothes should be able to bear inspection. Dirty hands and dirty habits would not fail to disgust the buyer, and it might be taken as a rule that a man foul in his person was not likely to be cleanly in his work.

Cooperation is, according to Mr McLaren, a most valuable principle in dairying. No small factory ever yet turned out such good stuff as a large one, no matter what their common product was. And, sum of all, a cheesery-proprietor should always employ good men, pay good salaries, and see that both factory and men be kept clean.

Then followed a competition, in cheeses, between the counties of Nicolet and Yamaska, in which Nicolet won easily. One of the victorious counties, lot was awarded 95 points for quality, one point more than was assigned to a sample of Ontario cheese brought as a specimen by Mr McLaren, Mr Sydney Fisher rather cruelly remarking that, "after this decision, no one could doubt but that before long the province of Quebec would pass Ontario in the importance of its cheese production."

The officers of the Association were then elected for the next year. On this election the "Star" makes the following remarks:

"The sitting of the convention was resumed this morning, when the officers for the ensuing season were elected. Mr Taché proposed that Mr. McDonald, M. P., be

re-elected president, but this was hotly opposed by Mr Barnard, who suggested Mr Bourassa as a better man.

A scene of great excitement ensued, but a general vote of the society eventually returned Mr McDonald, he receiving 37 votes against Mr Bourassa's 26. Mr Bourassa was, however, elected vice-president."

A committee was then appointed to try to reduce the number of small creameries and cheeseries in the province.

The President, M. Milton Macdonal, stated that VALLEYFIELD had been selected as the town in which the Convention would be held in 1898.

Mr Sydney Fisher next addressed the meeting on the "Expansion of dairying in the province of Quebec." This, as he had predicted, had taken place to such an extent that in the last four years the export of cheese to England had doubled no less than four times. In 1896, 60 per cent of the entire quantity of cheese sent to England had been shipped by Canada, and by the end of this year, 1897, the quantity would probably have risen to 70 per cent. Surely, this required attention. Should the export of cheese experience any increase? In his opinion we had done enough in increasing the exportation of cheese, and should now turn our attention more to butter; for, had all the milk that had been produced by our cows been converted into cheese, there is little doubt but that the price of that comestible would have fallen from 8 and 8½ cents to 5 cents!

Here, in Canada, heat is clearly the great enemy of dairy products. Butter, he thought, might be most advantageously made during the period of stabulation. Last year, Mr Fisher had established a system of "cold storage" on the railroads and steamers; but though the dairymen of the other provinces had largely availed themselves of this system, the Quebec makers had been slow in taking to it. The grant for cold-storage and refrigerating compartments would be continued next season, and he hoped that the people of Quebec would utilise it.

Professor Robertson had come to the conclusion that the best temperature for the ripening-room was from 64° F. to 68° F., and that at over 70° F., the goods began to deteriorate, and soon lost at least one cent a pound in value.

Many were the advantages to be derived from the Farmers' Institutes; attendance at the lectures and discussions to be heard in them would benefit every agriculturist. He had instructed Mr Peter Macfarlane, inspector of cold-storage, Mr Castel, their Secretary-treasurer, and M. J. C. Chapais, the Assistant Dairy-commissioner, to make a tour through the province, and in the different towns to give lectures and practical illustrations of modern agricultural and dairy processes. Dr Daubigny would accompany the above named gentlemen in their tour, and would deal with the diseases of stock, more especially in connection with *tuberculosis* in cows. Magic-lantern slides would illustrate his lectures.

Mr Edward Barnard then read the following resolution:

"Considering the fact that the best English and Scotch Cheddar is actually worth in the British markets from 18 to 23 shillings more per cwt (1) than our best Canadian cheese, and the best Danish butter from 14 to 18 shillings more than our best Canadian brands:

"Considering also, that the dairy products from the province of Quebec are far from being known and appreciated on the British markets as they deserve to be; the province of Quebec Dairymen's Association, assembled at Nicolet, respectfully request that the Hon. Sydney Fisher, Minister of Agriculture, at Ottawa, and the Hon. Melville Dechène, Commissioner of Agriculture, at Quebec, take jointly such measures as will secure a careful examination, by competent men, in Great Britain, of the best dairy goods from this province, in order to obtain a fair estimation of their value, as compared with the best products of the same kind on the British market, and that also such information be obtained as will enable our makers in the province to improve our butter and cheese, to the best of their ability."

This was greeted with loud applause.

From the French by the Editor.

CAN DAIRY ABILITY BE DETERMINED BY OUTWARD INDICATIONS?

ED. HOARD'S DAIRYMAN:— "We must know a great deal to know how little we know" seems to apply very well as regards our knowledge of the dairy cow.

After carefully reading up the various books on this subject and studying the theories of various authorities, one would think one will be able to go into any dairy and pick out the best cow — the one that would give the most milk, the best milk, and be the most persistent milker: but after following dairying for fifteen years, and trying all the time to add to my "cow knowledge," I find myself getting fooled every little while in regard to some dairy animal.

I noticed that Mr F. Z. Henderson would like to see the question discussed in regard to the points that indicate a rich milker. Some time ago, I read an article written by some eminent professor, I think, and illustrated by fine half-tone engravings, showing the construction of the udder and explaining how the fat glands were produced, etc.

The gentleman claimed that a cow having a fleshy udder would give richer milk than one with a thin one, and seemed to prove it without a shadow of a doubt. But on looking up the matter, I find that four cows in my own herd, having the fleshiest udders, average 5.2 per cent butter fat, and that the four, having the thinnest udders average 6 per cent, all tested under the same conditions. These cows are all pure bred Jerseys. I also have two heifers closely related, and showing, as far as I am able to judge, about the same butter indications as regards form, hide, hair and color; but one tests 4 per cent and the other 7.

I have another cow that insists upon knocking all my carefully sought "cow knowledge" all to pieces. She is long legged, rather square hams, a great deal too thick at the thigh, a slim round barrel that would look very well on a trotter, and a good, big tail, while her hair is altogether too coarse. I showed her at a fair this fall, just to see if anybody else could see any milking qualities in her, and the judge said she was unworthy of a premium, although there was no competition. Well, this ungainly cow insists upon giving forty pounds of milk testing 6 per cent butter fat in a day, and is also a very persistent milker. Of course she ought not to do this. In fact, she has no right to; but she will, and I don't see what I am going to do about it. And I will add, for the benefit of Mr. J. D. Smith, that she has no escutcheon to speak of, either.

I was very much interested to note the comments made by the different men while looking at the cattle at the fairs this fall, and I came to the conclusion that nearly every man has a hobby in regard to the "signs" of a milker. One owner of a large dairy picked out a cow which he pronounced to be the best one on the grounds, because, he told me, she had very nearly a perfect escutcheon. I called his attention to the fact that she had very deficient forequarters to her udder, and other points that were lacking in what is generally supposed to be a dairy animal, but he ignored these things and declared that he knew she was a splendid cow because she had a splendid escutcheon. (1) Another man, while looking at my Jerseys found much fault with my best cow because she has a white tongue, and declared that he never knew a good Jersey with a white tongue. And who shall say that he was not just as sensible as the escutcheon man.

Still another man looking at the calves, picked out a little poor pot-bellied heifer which most men would be ashamed to have around his stable, and declared it

(1) Neither in Britain nor in Guernsey and Jersey is the escutcheon considered worth two straws.—Ed.

was the best calf because it had such a nice big belly. She surely would make a cow of the most pronounced dairy form. He simply ignored the fact that any ca even a Devon or a Short-horn, would become pot-bellied if fed on an unnourishing diet.

Now, Mr. Editor, I have told about a good deal that I don't know, and if any one knows and knows that he knows, I would like to have him tell what he does know.

Madison Co., N. Y. J. GRANT MORSE.

Household Matters.

Let this year be marked by a visible stirring up of the minds of the young people of Canada. Let them show by their work that they are no longer content to lie dormant, but are determined to do some one thing or other to prove that the long winters are not all spent in frivolity, but that they, like other people, are determined to advance with the time. On a farm, early poultry raising ought to be easily carried on, and with a good profit.

The demand and prices are always good in the spring. The work is not hard, but must be carried out with care to get good results.

Any intelligent boy or girl can do this by strictly following out instructions given in this Journal. Let this truth never be forgotten :

All young people should have their heads, hearts, and their hands educated.

By the proper education of the head, they will learn what is good and what is evil, what is right and what is wrong.

By the proper education of the heart they will be taught to love what is *good*, wise and right, and to hate what is evil, foolish and wrong.

And by educating their hands, they will be enabled to supply their own wants, and to assist those around them.

The highest objects of a good education are, to reverence and obey God and to love and serve mankind.

When wisdom reigns in the head, and love in the heart, that person is ever ready to do good; order and peace reign around, and sin and sorrow are almost unknown.

The following from the report of the new Jersey State Convention is applicable to our Province, and we quote it as containing very valuable suggestions to tree planters on a subject on which is some difference of opinion :

Prof. E. B. Voorhees, director of the New-Jersey Experiment Station, read a paper on "Growing Apples in the State." He spoke of the kind of soil best adapted to the growth of the apple. The largest number of the most profitable orchards in the State are in Burlington and Monmouth Counties, on sandy soil, with a clay subsoil. *Those with a northern exposure give the best results, as they do not begin growth so early in spring and thus become subject to later low temperatures.* The soils mentioned possess in some cases a low state of fertility, and are fed annually with a liberal application of fertilizer, and give better results than others on naturally rich soil, of a heavy clay nature.

Flowers a necessity.

We have passed the time when plants were considered a luxury. They have now become a necessity. It is a healthful occupation, and statistics show that the florist has an average life of longer duration than any other calling except clergymen, and the lover of flowers seldom has many bad habits."—*Country Gentleman's* report of New Jersey State Convention.

An Inexpensive Luxury

It seems strange that so few farmers or persons living in the smaller villages have ice-houses of their own when ice is such a luxury, almost a necessity, during our torrid summers. The expense of such a building is slight, and to fill it each season requires but a few days' work of men and teams at a time when work is usually slack.

If the farmer had to make the butter himself in the heat of summer, I think there would soon be an ice-house built. Now is the time to build and fill one.

Ice for the Farm Dairy

It is not only for creameries that ice is important and necessary. The farmer's wife who sets her milk in pans the old-fashioned way cannot do her butter justice unless she has an icehouse to go to for ice to keep her butter firm in hot weather. She is usually obliged to adopt such makeshifts as hanging her butter suspended in a pail in the well, or putting it in the cellar, which, though cool enough, is often too full of bad smells to be a proper receptacle for butter.

A Radical Countess

The Countess of Warwick is very busy over a new scheme to establish an agricultural training college for women, to educate them in scientific and commercial dairying, poultry and bee rearing and the preserving of fruits, jams, etc. The Countess, however, has found time to write a life Joseph Arch, the labor leader and president of the National Agricultural Laborers' Union, who has also been a Methodist preacher, and has lectured for the union in all parts of Great Britain and in Canada. In this work Lady Warwick, who was better known as the famous beauty, Lady Brooke, expresses advanced views on Mr. Arch's theories.

Poultry Schools in France

England imports eggs and poultry to the value of \$23,000,000, while France exports \$70,000,000 of the same. France has a number of poultry schools, where pupils are regularly trained in rearing fowls, managing incubators, curing diseases, etc., 30,000 chickens being hatched each season at the Gambais school. The pupils pay for their instruction, and work from 6 a. m. to eight p. m., three of the hours being devoted to study. Scholarships are founded for the benefit of those unable to afford the tuition fee.

Kitchen Helps

Waste in Cooking Potatoes.— An English scientist, after careful experiments, finds that when potatoes are cooked without removing the skins they lose only 3 per cent of nutritive quality through extraction of the juice. When the skins were removed before boiling the loss was 14 per cent, which makes the process of cooking the potatoes without their jackets an exceedingly wasteful one.

Borax In The House

There can be no surer way found by the country housewife to preserve the healthfulness of the house than by a free use of borax, which cleanses, deodorizes and disinfects. In the kitchen it will be found invaluable for washing cooking utensils, cleaning oil cloth table covers, keeping the coffee and teapots fresh and sweet, and freeing the dishcloth and towels of all grease and dirt. For use in washing dishes in place of soap, borax is unrivaled and will prevent besides the chapping and reddening of the hands which usually follows such work.

As an antiseptic and general disinfectant borax stands pre-eminent, and being innocent and safe, should be freely used for these purposes during the hot weather. In a word, no single article used in the family has so great a variety of uses as borax. It economizes labor and soap, saves the wear and tear of clothes in washing, sweetens and purifies and preserves wherever it is used.

Borax is a first-class washing powder, and being a natural salt, does not injure the texture and color of the most delicate fabrics. Blankets, flannels or woollen dresses washed in a solution of it will be cleaned and refreshed without shrinking, while a little powdered borax added to starch will give a beautiful gloss to linen.

A capital way to clean and polish knives is to dip a cork in the knife-powder, rub the blades vigorously on each side, and then polish with a dry cloth. This answers quite as well as rubbing the knives on a board, a proceeding which causes the dust to fly in all directions, and it demands less expenditure of force.

The Horse.

Telegony.

Telegony means the influence upon progeny of a previous sire. This scientific term is of recent concoction, and it is only of recent date that anything has been written, or much attention paid to the remarkable influence of a former sire upon produce for which his service is not immediately responsible; under other appellations, such as stain and throwing back, it has been noticed by practical breeders long ago, but it is only rather lately that some scientific men have been induced to make special experiments in that direction. In view of the fact that throwing back has long been recognized, it is somewhat strange, says a writer on this subject, that horse breeders should have given but little attention to a factor, which is asserted by some people to be one of the most important in the delicate task of mating, and a force which is often accountable for otherwise inexplicable disappointments.

Telegony, however, is not exactly the same thing as what is commonly called throwing back. By telegony, we understand the tendency of some mares to form a physiological habit of conception, which is persistent to the extent that the offspring of subsequent unions are qualified by their first bias. Hence the important advantage of breeding from maiden mares as a compensating factor as to the uncertainty of their breeding at all, or turning out good brood mares. A good many breeders prefer giving longer prices for tried brood mares, to trying their luck with maiden ones. If maiden mares, however, come of dams that have been good brood mares themselves they will generally turn out good breeders themselves, if properly managed. But the barrenness and the tendency to slipping of foals are distinctly hereditary, and nothing of course cuts down profits more surely, than the misfortune of being saddled with a lot of mares that either do not breed regularly, or are always slipping foals. Abortion, or the tendency to it in constitution, is distinctly hereditary. Wm. Day (1) says, as to the hereditary nature of the malady: I have found that when mares slipped a greater number of foals than the generality usually do, their offspring had a greater tendency to do the same thing than others which had been bred from mares, not so affected. Of the truth of this, and of the difficulty of overcoming it, and I may add the loss resulting from breeding from a stock predisposed to it, the following illustrations, will I think, afford ample proof. Octaviana, the dam of Crucifix, slipped, Crucifix did the same, Chalice out of Crucifix, in addition to slipping a twin and a single foal, was barren five times and had two dead foals, etc., etc.

The clearest examples of telegony, of course, are those afforded by the well known different instances of mares crossed by zebras, having foals to horses afterwards marked by stripes, as in the first instance. Sir Gore Ouseley, when in India, put an Arab mare, which would not breed, to a Zebra, and she produced an animal striped like its male parent. The first object, that of causing her to breed, having been accomplished, she was put to a thoroughbred horse, but the produce was striped. The following year another horse was chosen, yet the stripes, although less distinct, appeared in the foal. Again, Mr. Blaine relates that a chestnut mare also gave birth to a foal by a quagga, that the mare was afterwards put to an Arab horse, but that the progeny exhibited a very striking resemblance to

(1) Whom we remember as a trainer some 50 years ago. Ed.

the quagga. The paintings of the animals bred by Sir Gore Ouseley as also the skins, are to be seen at the museum of the College of Surgeons, in Lincoln's Inn Fields. On the same subject Mr. Darwin writes, in his "Origin of Species:" In Lord Morton's famous hybrid from a chestnut mare and a male quagga, the hybrid and the pure off-spring subsequently produced from the mare by a black Arabian sire, were much more plainly barred across the legs than is even the pure quagga, he further corroborates what other writers assert on the subject by saying: "When a breed has been crossed only once by some other breed, the offspring occasionally shows a tendency to revert in character to the foreign breed for many generations—some say for a dozen or even a score of generations."

"Cecil," says on this subject: "It is curious to remark that when a thoroughbred mare has once had foals to common horses, no subsequent foals which she may have had by thoroughbred horses have ever evinced any pretensions to racing qualities."

Wm. Day says, as to the special conditions enumerated by Cecil: "I find that since his time, there has been a case in which a thoroughbred mare, after being covered by a half-bred horse, produced a winner. This was the case with the Duke of Beaufort's The Roe, when she bred Horseshoe and The Cob. But I never heard of another instance.

A medical man expresses the opinion that if the Sire be in all respects the stamp of animal the owner would most wish to produce in future, the mare should see as much of the horse as possible. His suggestion is that the eyes play a most important part in the reception of impressions, so that the first sexual impression produced in the mare should be a thoroughly good one, since she will always in after breeding retain the tendency to revert to it, in other words to throw back. There is, however, nothing new in this, and the practice of allowing the mare to see as much of the stallion as possible, is well known amongst breeders and farmers even here, and one which I have carried out on my own farm even to the extent of keeping a stallion constantly opposite the box of the mare which he had served; but my experience in this respect is that it would be quite absurd to suppose, that even in the case of a maiden mare, the keeping of her in the closest possible proximity to the stallion will result in anything like reproducing a perfect fac-simile in exterior conformation or anything approaching it. Two instances, which I give, amongst others seem to show, that one cannot rely upon anything much more than peculiarities of colour and markings being the subject of these impressions (1). In the case of a maiden half-bred mare and a thoroughbred stallion, the first foal reproduced the colour and markings of the horse, but no similarity of conformation, and the second foal had neither the marks nor the conformation. In the second instance the foal of a thoroughbred mare put to a thoroughbred stallion, the white markings of the stallion alone were reproduced, the conformation was wholly and entirely that of the mare. As a rule, the mare gives her colour to the foal, although now and again, thoroughbred stallions transmit their colour and markings to their progeny. But of course, except in the breeding of carriage horses, the transmission of colour, is a very unimportant consideration.

Telegony is not of itself a sufficient force, to overcome what has always been known as throwing back to distant ancestors. This uncertainty and the impossibility of controlling it in any manner will always be with breeders. The only possible antidote is to breed perseveringly from as nearly perfect a couple, with as many perfect immediate ancestors, as possible. The value of a pedigree does not consist in its length so much as in the excellence of the individuals more nearly related, and even in these instances, there will be occasional misfits, not only in conformation, and peculiarities of shape, but peculiarities and defects of action, such as straddling in forth, in trotting, speedy cutting, brushing, dishing, are unfortunately transmitted as easily, or am afraid I must admit it to be the case much more so than good action and conformation. We constantly see horses of excellent shape and perfect conformation everywhere, except in one point, which unfortunately takes away very much indeed from their value, and in the case of mares renders them quite unfit for brood mares, although very taking animals in every other respect.

C. F. BOUTHILLIER.

(1) The Charolais cattle are always kept in white-washed sheds, the fences are white, and the men who milk, etc. wear white clothes! All this to keep the beasts white. Ed.