

erator accommodation on the steamship lines from Canada. The Manchester and Glasgow markets want a rather pale colored butter. The London and Glasgow markets are running on square packages, after the New Zealand or Australian style. We shall have some of our winter made creamery butter from the Government experimental dairy stations packed in square packages this winter. All the buyers prefer the butter packages to be lined with grease-proof paper, which protects the butter from contact with the wood or tin, and gives it a bright, sparkling look when the packages are removed. I purchased a considerable quantity of the best quality of suitable paper from one of the large paper manufacturing firms in London. All who are interested may obtain small sample quantities at cost, as soon as it arrives at Ottawa. I looked into the trade in tinned butters for export to hot climates, and visited Paris, where neat and suitable boxes for that purpose are made and finished in excellent style. I think Canadians might now get possession of the West India trade in butter, and through the facilities of the C. P. Railway and Pacific steamships, we should get the major share of the trade in butter, bacon and cheese with Hong Kong, China and Japan. I had a conference in London on that subject with a gentleman who had spent many years in business in that trade. The outlook for our products in that direction is hopeful. I arranged for a supply of the tin boxes and was able to secure an offer of the particular machines which are used in closing the boxes, so that they shall be perfectly

#### AIR-TIGHT AFTER THEY ARE FILLED.

Many complaints were made to me of the poor quality of the boxes in which cheese has been sent, particularly from the province of Quebec. The cheese which was sent over from the Experimental Dairy Station at Perth in Lanark County, Ontario, had less than six per cent. of the boxes broken to any extent, when they reached the London and Liverpool warehouses. Good sound boxes give an additional value to the cheese of from 1s to 2s per cwt., and the extra cost of those strong boxes was only 3 cents each. I hope the cheese makers, patrons, salesmen and buyers together, will insist upon the use of only strong, close-fitting boxes, quite dry before they are put on the cheeses.

I found Canadian cheese still growing in favor with wholesale dealers and retailers. In the Manchester District the fat cheeses from Quebec have not met with particular favor. The irregularity in shape and size, the unworkmanlike finish, or want of finish, and the wretchedly bad boxes were the worst features of some cheese from that Province. These defects could all be remedied in one season by a little more care and taste. The French race have the reputation of putting up goods of all sorts in the daintiest and most attractive form. The French speaking dairymen of Quebec should try to maintain the good name of their people in that regard. The fact that it would pay them handsomely to do so, should not be a deterrent.

I saw (with Mr. John Dyke in Liverpool) one shipment of Canadian turkeys in particularly excellent condition. The birds had been fasted before they were killed; feathers were left on; they came out of the cases looking bright and fresh, and with a sweet clean odour.

#### The Air-Churn

At the Ste Thérèse meeting of the Dairymen's Association, the Rev. abbé Côté stated that, although he

found the new churn work beautifully, he had never been able to extract more than  $\frac{1}{3}$  of the butter fat from the milk operated on! Monsieur Nagant is, I believe, making experiments on this wonderfully clever invention of an Italian man of science, and will no doubt discover in what part of the process loss is likely to occur when the implement is in the hands of unskilled workmen. The principle of the invention is simple enough, and no one that has had experience of the gentlemen who are at the head of affairs in the St. Hyacinthe Dairy-school can hesitate to place confidence in any machine bearing their approval with it. We expect great things from this establishment. Already the general make of cheese in the province has been nothing less than marvelously improved by the judicious enterprise of the late secretary, M. J. de L. Taché, and his energetic assistants MM. Côté, Archambault, &c., and we trust that before long the general make of butter will be as much amended as the cheese has been.

Our people must not lose sight of the fact that the exportation of butter from the farm carries with it not material loss of matter; whereas, cheese walks off with a vast quantity of the most costly fertilisers the land secretes in her bosom: nitrogen and the phosphates. In short, the export of cheese, *per se*, impoverishes land, the export of butter leaves land just as it found it. Take this as an example: the export of cheese from Cheshire nearly ruined the farmers of that county; Epping and the Vale of Aylesbury have exported butter for centuries and the grass continues to flourish as well as or better than, ever.

We do not care to repeat the same thing more frequently than necessary; but, as the great Roman bothered all his hearers with his reiterated assertion that "Carthage must be destroyed," so our constant cry should be "More Syndicates." The leaders of public opinion who do not impress this demand on all who listen to them, fail in their duty as regards one of the most important subjects ever submitted to the public.

### Beans and Linseed.

#### Experiments in the Rational feeding of Milch-cows

As will be seen by the following letters, the Rev. Ladies of the Ursuline convent at Roberval have given their cows in milk since November, a pint of dwarf-beans and a half-pound of linseed boiled as if for linseed tea. The result was immediate and most satisfactory. This experiment is to be repeated in the agricultural schools at Ste-Anne and L'Assomption. We shall keep our readers informed as to the results obtained:

Department of Agriculture and Colonisation.

Quebec, Nov. 15th, 1892.

TO THE DIRECTOR OF THE SCHOOL OF AGRICULTURE.

Dear Sir,

I beg to draw your attention to the interesting news Mr. Barnard sends me in the annexed letter.

I should be greatly obliged if you would repeat as soon as possible the experiment made at Roberval. To this end, it seems to me that a dozen cows, say, should be selected, giving each, as nearly as can be managed, the same weight of milk, and divided into two distinct lots. The whole should be fed as previously for about a week, but a

strict account must be kept of the yield of milk and butter by each of the two lots. After the first week, the first lot should receive three quarts of beans made into soup, and three pounds of linseed previously well boiled—this to be mixed with their ordinary ration. The other lot is to be fed as before, and that for a fortnight. You should show exactly the results obtained, in butter and milk, from each lot; then, you should feed in the same manner, but the lots should be reversed, that is, the lot that received the soup for a fortnight, should then receive the ordinary ration, *vice versa*.

It would also be very useful to ascertain, as carefully as possible, the species and entire weight of the ordinary rations consumed by each of the lots experimented upon.

This, Mr. Director, seems to me to be a very useful experiment; first, for the instruction of your pupils, and also for the information of the public. I trust you will be good enough to undertake it, and to give me the results as soon as possible.

J. A. GIGAUET,

Assistant Commissioner.

(From the French.)

Quebec, Nov. 15th, 1892.

TO MR. J. A. GIGAUET,  
Assistant-Commissioner of  
Agriculture, etc., Quebec,

Dear Sir,

Your devotion to the improvement of agriculture encourages me to relate to you the results obtained, after a simple piece of advice, given in a hurry when I was at Roberval. The Rev. Ladies of the Ursuline convent, as you already know, never lose any chance of gaining information about profitable agriculture. I advised them to add to the daily winter ration of their cows a pint of dwarf-beans and a half-pound of boiled linseed for each head. The beans to be made into soup with water, or, if there is any to spare with skim-milk.

Now, in the middle of November the cows that have calved in April hardly ever increase their flow of milk; any farmer will agree with this statement. But the six cows at Roberval, two of which had calved ten months and more previously, and two others were young heifers with their first calf, increased their yield of milk by about 10%. But, and this is still more encouraging, the milk is 10% richer than it was in the fall.

Here, then, is a positive return of 20% additional yield, obtained in winter quarters, instead of the decrease that farmers generally find in almost every part of the province. And more; the manure is considerably enriched by the food provided. It is observable that by giving a trifling quantity of very rich food, the consumption of coarse fodder itself is very much diminished. Numerous, and very careful experiments have proved that this economy in coarse fodder is of such importance that we are able to feed three cows with the same quantity that two would have consumed before the addition of food that produces rich milk in abundance.

I thought you would like to know these excellent results obtained in the extreme north of the province.

Your obedient servant,

ED. A. BARNARD.

(From the French.)

20 COWS AND 100 SHEEP—I have a farm in the valley of Lake St. John, near a station on the railroad. I intend to live there in the spring. Being desirous to carrying on a practical and

profitable system of farming and aiming at the putting into a good arable condition of 125 acres between the present time and two years hence, would you be good enough to answer the following questions in your paper:

In the first place, I wish to keep 20 good cows and 100 ewes within two years of the present date. Can I do this on my extent of land?

W. S. DRUMMONDVILLE.

Reply.—Yes, if you feed them in accordance with the known principles of the art. See my letter on the subject of Lake St. John, D.

## Agriculture.

### The Day of an English Tenant-Farmer.

Many years ago, in 1852, not feeling quite satisfied with the knowledge of sheep-farming we possessed, it struck us that, as we had a whole summer of leisure before us, the best thing we could do to perfect our acquaintance with that branch of agriculture was to pass six months in the house of one of the most noted breeders of South-down sheep in the south of England, always provided we could persuade such an one to endure the invasion of his family by a perfect stranger.

A near relation having at various times bought rams from Mr William Rigden, of Hove, near Brighton, Sussex, he was persuaded to ask the latter to meet us at dinner one day in the month of February. A very pleasant evening was spent, we found the visitor a very agreeable, intelligent man, and, after a good deal of conversation on farming matters, Mr Rigden listened attentively to our proposal, and finally it was agreed that the following week his house should be open to us for six months.

A description of the farm and stock of this thriving agriculturist will be found at p. 153 of the vol. 14 of the first series of this periodical, so our readers shall be spared a repetition of the story, if they will kindly remember that the farm consisted of 650 acres, the part next the sea being of fine quality, the middle fair soil, and the upper part a loose soil not very long broken up out of the chalk-downs. No pasture, the whole being under the plough, and the 20 milch cows (dairy-shorthorns) with the bull, then, a pure "Bates shorthorn" Notary, from the herd of Jonas Webb, were all *souled* throughout the year. The milk was sent into Brighton, twice a day, at one shilling a gallon—10 lbs.—wholesale price. The cows averaged 10 quarts a day for 11 months in the year—800 gallons each, worth \$200, or, for the whole herd, \$4,000. That paid: no doubt about it. The sales of wheat averaged about 1,000 quarters—8,000 bushels, which, in 1853, 54 fetched 10s. a bushel—\$20,000; barley about 1,000 quarters at 40s. = \$12,000; and the flock, what with the letting of rams, the sales of ram-lambs, and of full-mouthed ewes, brought in about \$4,000. Besides these items, there were sales of green meat, mangels, potatoes, &c. to an unknown amount. Probably not less than \$45,000 were received that year from the disposal of farm-crops, and this would give a gross sum of \$66,000 an acre over the whole farm. The capital invested in stock, implements, payments to outgoing tenant, &c., was £16 an acre = \$80.00; rent, tithes, taxes, &c., = \$2,200 = \$11,000 a year, labour cost about 42s. an acre, say, \$7,000. Large outgoings, but large incomings too. The payments to outgoing tenants