

**First Prize Essay.**

WHAT PROFIT IS DERIVED FROM THE AVERAGE CANADIAN DAIRY COW? HOW CAN THIS PROFIT BE INCREASED?

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I will calculate for Ontario, and conclude that the other Provinces are about the same. Taking the estimates of the Bureau of Industries for 1887, I find that there are 748,321 milch cows in Ontario. Of these 213,723 cows have their milk sent to the cheese factories and creameries. The 339 cheese factories that gave returns showed that each cow yielded 17.6 cents worth of cheese per day for 159 days, and the 23 creameries showed that each cow gave 12.65 cents per day for 128 days. The creameries gave a smaller return per cow, but this was more than repaid by the farmer keeping the skimmed milk. We can therefore safely say that the average product of the 213,723 cows was in round numbers 17 cents per day. In private dairies there would not be as high a percentage of butter obtained from same quantity, and the price for butter would be lower as actual results show. Cows, on the other hand, that produced milk for cities and towns, would have a larger average; this would make up for the decrease of private dairies. This 17 cents per day would last long enough to call it an average for 200 days, so that the year's product would be \$34.00. This is what the average Canadian dairy cow produced per year.

What has it cost to have her produce this? On an average, dairy cows drop their first calf when two and a-half years old, and their cost up to that time would be from \$35 to \$40, and if turned off to beef should bring \$35 to \$40, so that it can be reckoned only during her milking years. She would cost during six months of summer \$1.50 per month, or \$9; during six months of feeding, at 15 cents per day, she would cost \$27, making a total of \$36 per year. Thus she cost per year \$36, and produced \$34, and also made a quantity of manure. Thus the farmer sells the produce of his land, pays \$2 per year for manure, and gives his work in. This is not a very satisfactory way of selling the produce of the farm. Some may keep their cows cheaper, but many pay more if everything is counted.

How can this profit be increased? It can be increased by:—

1st.—ECONOMY IN FEEDING.

(1) There is no economy in giving a milch cow a small quantity of food. To feed her sparingly is to waste food. This is easily shown. It requires a certain amount of food to keep the system in a good, healthy condition. What is over goes to make milk; if little is over, then the yield of milk is small, and there is no profit, but a loss, in converting the food into milk—whereas, if more food were given, it would go to increase the milk. It is said that two-thirds of the food given goes to keep the animal alive. Innutritious food, or food given too sparingly, injures the cow, and her yield is not profitable.

Sometimes cows are fed an unevenly balanced ration. There is a sufficient quantity, but there is too much of one ingredient, so that the cow has not sufficient material, of a certain kind, to make milk. The milk is taken entirely from the food, and if the food is partly deficient in one ingredient, the cow must either eat a very large

quantity, in order to get enough of this, or give a smaller quantity of milk. She frequently does the latter. Roots and straw alone are largely deficient in albuminoids. This is the part that is changed into casein in milk. A ration made up of roots and straw is very weak in albuminoids, and hence it would require a large quantity to make the casein in the milk. A little bran added would greatly improve the ration, because the bran is rich in albuminoids; or a ration may be too rich in albuminoids, as when there is a quantity of flax-seed, rape seed, cottonseed, meal, etc., etc. There is nothing like variety in feeding for milk. Milk, as every one knows, contains a variety of ingredients, and these must be taken from their food; hence it is very important that the ration should contain a variety of foods.

I will give a few rations that are evenly balanced and satisfactory, because they have been tried and give good satisfaction. These have been used by farmers, breeders, and dairymen:—

- (a) 16 lbs. meadow hay,
- 8 " wheat bran,
- 2 " ground oil cake,
- 6 " corn meal.

The wheat bran and ground oil cake are strong in albuminoids, and the corn meal is weak in these; the two former are not so strong in the carbohydrates as the corn meal, so that there is a proper quantity of each and a variety.

The following is taken from the "Country Gentlemen":—

- (b) 10 lbs. of clover and timothy,
- 9 " corn fodder,
- 10 " mangels and carrots,
- 5 " corn meal,
- 10 " wheat bran.

This is better for flow of milk than for butter. Here is another:—

- (c) 20 lbs. cut hay (clover),
- 10 " bran,
- 15 " roots.

The following was given by a leading dairyman and found very satisfactory:—

- (d) 25 lbs. corn ensilage,
- 2 gals. meal (2 parts oats, 1 part peas),
- 15 lbs. roots,
- 15 " straw.

A leading breeder and dairyman of Nilversum Farm, N. W. T., feeds as follows:—

- (e) 1 gal. bran,
- 1 " meal (½ barley, ½ oats),
- 1 pint oil cake,
- Loose prairie hay and turnips,

John Gould, of Ohio, fed with satisfactory results the following ration. He is a prominent dairyman, and a man that has both eyes open when it comes to economy in feeding. He feeds:—

- (f) 55 lbs. corn ensilage—cost in Ohio... 1½c.
- 3 " clover hay—cost in Ohio... 1c.
- 6 " bran—cost in Ohio... 5c.

Total..... 7½c.

The following I consider the cheapest and best for most parts of Ontario; it is a large and evenly balanced, and, perhaps the most economical for the strength of it. With small cows it may be much diminished:—

- (g) 50 lbs. corn ensilage—cost... 2½c.
- 3 " chopped oats " " " 3c.
- 3 " ground peas " " " 3c.
- 6 " bran—cost... 4c.
- 5 " clover hay—cost... 2½c.

Total..... 15c.

Twelve, or even ten cents worth of this mixture would be a good day's feed for the ordinary milch cow. We find that by feeding ensilage, we can save from ten to twelve cents per day in the cost of the ration.

[TO BE CONTINUED.]

**More Canadian Hogs Wanted.**

BY WM. DAVIES, TORONTO, ONT.

Without expressing any opinion on the question of free trade with the United States, it does seem anomalous that thousands of farmers should be so anxious for it and regard it as the "philosopher's stone," to turn all they touch into gold, while they have a gold mine almost unworked at their doors. This gold mine is the raising and fattening of swine for the Canadian market. Our senior commenced pork packing in the city of Toronto in 1854, and in 1860 commenced to export the product to England, and has followed it continuously ever since, but always at a great disadvantage, compared with American packers, from the insufficient and irregular supply of hogs. In 1887 we killed 63,457 hogs, of which less than half were Canadian. We should have been only too glad to have got our full complement in Canada. First, we are patriotic enough to wish to leave the money in our own country; second and last, but not least, the quality of the meat of Canadian hogs is very superior to American, and for this reason we pay a higher price for them, and we can get a higher price in England for the product. Canadian bacon is beginning to be appreciated in England, but the small and fitful supply prevents it gaining the position it is entitled to. Our agents talk it up and induce the provision men to give it a place on their counters with Irish and Danish, and they in their turn persuade their customers to try it, but by the time a fair trade has been worked up the supply, always small, ceases, and the next season the ground has to be gone over again. We do not at this time propose to go into the question as to the most desirable sort of hogs, but will leave that for another time. The point we now want to urge on the farmers of Ontario is that we want five times as many hogs raised and fattened as are now produced. We are informed that in Denmark and Sweden this branch of farming has received a wonderful impetus in the last four or five years. Denmark has taken the front rank for years with her butter, and she is fast coming to the same position with her hogs and bacon, both in quantity and quality. Now some of your readers may say, if the supply of hogs is increased the price will be lowered in proportion. We do not believe this would follow, and we will give you our reasons:—

1st. The National Policy appears to be acquiesced in by the Canadian people. This interposes a 20% barrier to competition from the United States, and the same is in general terms true of the product, so that Canadian farmers have their market to themselves.

2nd. The demand from Ottawa and Montreal is increasing every year, and we are assured that competition by the farmers of Quebec is out of the question.

3rd. Modern appliances and system of curing has enabled the pork packers to produce an article of such superior quality and flavor that consumption by all classes is steadily on the increase. This is the case all over the world, excepting of course the tropics.

4th. Lastly, the English market will always act as a safety valve—any overplus can always find a market there. We are prepared to handle 2,000 per week, and are ready to enlarge our facilities as soon as the supply warrants it.