

regarding the buying and selling of butter, especially that received from farm dairies.

Mr. Marshall, of the firm of Rutherford & Marshall, said they could handle large quantities of dairy butter at creamery prices if the quality could always be depended upon. I questioned him with regard to the defects in the butter.

He said the "off" flavors were mainly due, in his opinion, to keeping the milk in badly-ventilated rooms or where it comes in contact with vegetable odors, etc., also that in many cases the cream was allowed to become overripe, giving the butter a cheesy flavor.

In talking with J. J. Fee with regard to the color and salt, he said they did not find much fault with the color, as it was more even of late years, but that still some people persisted in using coarse, inferior salt, there being no excuse for it when good dairy salt is so cheap.

Another large firm told me they paid from one-half to one cent more for butter in pound prints, but in the summer time, unless the butter was shipped in refrigerator boxes, they preferred the crocks or tubs or even the large rolls, as it could be handled better without becoming soft or untidy.

I found the grocers still took in a great deal of poor butter, for which they had to pay a good price. "I could not offend the customer, you know!" I said, "Whatever do you do with all this inferior butter?" "Sell it to the bakers, although the really first-class ones will not use it, and what we cannot dispose of in that way we pack, and it is shipped to the fishermen in the Lower Provinces."

Every man I spoke to said there was always a good market for gilt-edged butter, and that it always brought from two to five cents more than the poor quality.

Let it be the aim of each buttermaker in this Province to produce butter of the very highest grade, and only can this be done by exercising the greatest attention and care in every detail of its progress from the stable to the table.

How Do Your Cows Pay?

The above is a question that it will pay dairy farmers to answer; nor do we mean simply the herd generally, but the individual cows composing it. In season and out of season, editorially and through correspondents, and on one occasion by a valuable trophy offered for public competition, the FARMER'S ADVOCATE has sought to teach discrimination against the cow that does not give a good return for the food consumed and to crowd her to the block. The cost of keeping cows is a vital question. We note that Mr. J. H. Grisdale, Agriculturist at the Central Experimental Farm, reports that during the past year twenty-five cows were milked the number of days in lactation varying from 49 to 365, or an average of 284 days per cow. The total milk sold was 135,346 pounds, which, valued at current factory prices, amounted to \$1,280.47. This makes an average of \$51.22 per cow.

Valuing the feed stuffs as follows: Bran and meal \$15 per ton, ensilage \$2 per ton, roots (mangels) \$2 per ton, clover hay \$5 per ton, chaff \$3 per ton, pasture \$2 per month per cow, dry cows \$2 per month per cow. The cost of maintaining the herd for the year was \$1,030.51, or an average of \$41.22 per cow. This leaves a net average profit of \$10 per cow.

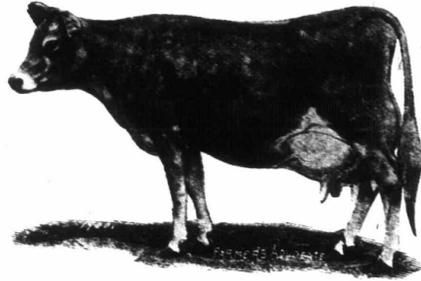
In this connection, dairymen will also be interested in the experiment carried on by Mr. Robt. Robertson, Superintendent of the Experimental Farm at Nappan, N. S., to show whether a fairly good herd would pay for the food consumed and leave a balance on the right side. The trial began Nov. 28, 1888, and continued till Nov. 27th, 1890. The meal feeds fed, most of which were bought, cost: wheat bran \$18 per ton, pea meal \$27 per ton, corn meal \$24 per ton, chop (oats, barley and peas) \$22.50 per ton, the whole averaging, as per proportion fed to cows, 1 1/2 cents per pound. Roots were estimated as worth 5 cents per bushel, and corn ensilage at \$1.66 per ton, and hay at \$5 per ton. The daily ration for cows in full milk in winter was: ensilage and roots, 30 pounds, 2 1/2 cents; hay, 20 pounds, 5 cents; bran and meal, 8 pounds, 9 cents, making a total cost of 16 1/2 cents per cow per day. When not milking in winter they were charged \$2 per month. From June 1st to July 15th they were on pasture day and night, and from July 15th to Sept. 15th stabled during the day and on pasture at night, and from Sept. 1st to Nov. 1st stabled at night and on pasture during the day. After June 15th pasture failed, and they were fed green food. When milking in summer they were charged \$1.50 per month, and \$1 per month when dry and running in the bush pasture. Each cow's milk was weighed every day, and tested from time to time with the Babcock test. The milk was sent to the Nappan Dairy Station, where the butter produced was credited at the rate of 20 cents per pound, less 4 cents for making and milk drawing. Skim milk was fed pigs and calves, and was valued at 15 cents per 100 pounds. The milking period varied from 210 to 364 days, and the pounds of milk per cow from 9,373 pounds to 4,114 pounds. The highest credit was earned by a Holstein cow, being \$83.01, the next being an Ayrshire grade, \$82.83; the lowest an Ayrshire grade, \$46.51. The cost of keep per year per cow ranged from \$33.55 to \$58.29. The

highest cost to keep was an Ayrshire grade, \$58.29, and next, the Holstein that topped the list as a producer, but the latter gave the largest net profit for the year, \$27.83, the lowest on the list being a grade Ayrshire, showing a profit of only \$2.68. When we find such a startling difference in a herd of 30 cows, it should awaken dairy farmers to a sense of the importance of knowing what their cows are actually doing, and what profit, if any, they are earning. There is reason to believe that hundreds of cows in every county are actually being kept at a loss to their owners.

The Cow End of Dairying.

It is practically certain that no matter how intelligently, carefully and well the product of our dairy herds in milk, butter and cheese is managed, we shall fail to make the best of our opportunities in dairying if slipshod methods are practiced in the care of the cows and in the provision and preparation of their food in order to produce the greatest quantity of milk at a minimum of cost. We are fully persuaded that in the case of the great majority of dairy herds of this country the owners come very far short of realizing the profit they might, firstly, from the lack of care and judgment in the breeding and selection of their cows, and, secondly, from mismanagement in the feeding and care of the cows.

The question of breeds and breeding is an important and interesting subject—one on which there is room for difference of opinion, and which it is not our purpose to discuss in this article; but the matter of testing the cows to learn definitely whether they are paying their way decently or not is now so simple that there is little excuse for going on with our work blindly or with inglorious uncertainty, and if, by testing, we find that there are inferior producers in the herd consuming as much food as the superior producers, it is clearly in order to insist upon their expulsion and the substitution of a more profitable machine as soon as practicable. The apparent indifference of so large a propor-



GOLDEN LAD'S SOLID GOLD 149162, IMP.
Three-year-old Jersey cow sold at the Cooper sale for \$1,000.

tion of dairy farmers to the quality of their cows is one of the surprises of the business, and is, no doubt, one secret of the comparatively small returns they receive for the labor and feed expended on them. We know it is easier to moralize in this way and to give gratuitous advice as to getting rid of the unprofitable cows than to do it, but the present high prices for butchers' cattle would seem to make it a specially favorable time for feeding off the worst producers, and if the beef boom has that effect, it may prove a blessing in disguise to dairymen. It is one of the advantages of dairy farming that the idle and incompetent cows can be disposed of in that way, and may not be in the end a total loss.

The matter of keeping up a uniform flow of milk during the year is one of the most important in dairying, and one in which it seems most farmers fail, and that failure is made generally in the summer months. Most dairy farmers feed well in winter, keeping their cattle in comfortable stables, giving them liberal rations of meal and succulent food in the form of roots or ensilage, so that a fairly steady flow of milk is maintained. The fresh pastures in the spring make the cows flush up and milk generously for a while, but in most seasons and in all sections in some seasons there are terms of drought, when the pastures dry up and flies torment the cows, and they fall off rapidly in their milk, if some provision be not made in the form of succulent food or extra food in some form for supplementing what they get in the fields, and it is certain the cows will not, taking the years as they come, do nearly their best work unless provision be made for them in this way. This may be done either by growing green crops, as alfalfa, clover, mixed grains and corn in turn, to be cut and carried to the cows or by putting in a sufficient supply of ensilage to fill this want in the dry time in summer, and it seems to us that the silo presents the simplest and most effectual and satisfactory solution of this problem.

Time is so much an object in the summer that cutting and carrying food for a large herd of cows would seem to be expensive and inconvenient, but

if fairly estimated, would doubtless be found less so than at first sight appears. Corn ensilage, when corn is well matured, gives both grain and succulence, and is probably the cheapest food we can produce, taking into account the cost of seed, the weight of the crop per acre and the increased flow of milk. Having it convenient to the stable, it can be fed so quickly and with so little outlay of time that it seems to be the best and cheapest food, all things considered, even in summer when pastures fail: and for that matter, we believe it has been demonstrated that it will pay to feed the cows both ensilage and a light ration of meal all through the summer. Mr. Tillson, of Tilsonburg, Ontario, last year, by feeding half a winter's ration of ensilage and grain, made his cows average 1,220 lbs. more milk than in the previous year, which, if milk is worth a dollar per 100 lbs., gave him \$12.20 extra per cow for the 150 days of summer feeding. He reckons the extra cost of feeding thus: 20 lbs. ensilage, at 10 cents per 100 lbs., equals 2 cents per day; 5 lbs. grain feed, at 60 cents per 100 lbs., equals 3 cents per day; making the extra cost 5 cents per day, which, for 150 days, would be \$7.50. Deducting this from the value of the extra quantity of milk, he has a net balance of \$4.70 per cow, or on his 55 cows, \$258.50. And the extra manure, he considers, would more than pay for the extra labor in feeding.

By the way, the milk record of this herd, as published in our columns last year, furnishes a striking illustration of the possibility of improving the working capacity of a dairy herd by judicious selection, breeding and feeding. Mr. Tillson reported that the milk product of his 55 cows, mostly grades, in 12 months and 3 days was an average of 11,472 lbs. per cow, which is nearly four times the product of the average of the cows of the country, and shows how lamentably the average dairyman is falling short of his opportunities.

Those who are not provided with a silo will, perhaps, raise the objection that it is expensive to build, but we know from experience that a plain stave silo with a capacity of 70 to 100 tons can be built for \$75 to \$100, and some men have built them for less money. If that is more money than a farmer has to spare, it is just a question whether he would not be justified in borrowing the amount and trusting to the probability of improved returns from his dairy operations to pay off the debt in due time.

The point we have wished to make in these remarks is the paramount importance of keeping up a steady flow of milk throughout the season, for we think all will agree that it is almost, if not quite, impossible to bring a cow up to her best work again after she has been allowed for a month or more to fall off in her milking by reason of an insufficient supply of food and a fight with flies, causing her to run down in condition, and necessarily to expend nearly all her energies in sustaining life.

If the old adage be true, that what is worth doing is worth doing well, then it is worth the effort to keep the cows milking somewhere near their full capability during the whole term of lactation, and we feel safe in saying it will pay to do so.

Raising Calves on Whey.

The increasing demand for young cattle, but especially for those possessing a fair proportion of beef blood, is leading many dairy farmers to use beef-bred sires and to raise the male calves for stockers. On farms where the milk goes to a cheese factory, the calves are liable to be slighted and stunted unless some special precaution is taken to supply the needs of the growing animals. While it might in a certain degree return a profit to retain a quantity of whole milk for the calves until they are a few weeks old, yet if almost as good results can be gained by using cheaper product the wise dairyman is apt to resort to that method. The nearest approach to the natural food of a calf obtainable on such a farm is undoubtedly whey, if properly fed and properly supplemented, but some care is necessary to get good results. A thrifty calf may commence to receive whey when four or five weeks old, but this is a critical time and great care must be exercised not to overfeed and sicken the calves by the change. When commencing to feed whey it should compose a part of the milk ration and have mixed with it a small quantity of cooked oil meal and fine shorts. The whey should be increased gradually as well as the oil meal, while the milk is decreased. About two quarts at first, gradually increased to four or five quarts, is better than more. It is better to allow the calves to go a little hungry than to overfeed. A person's judgment must determine when a calf has had a comfortable meal. It is well to have a trough set up about two feet from the ground for a mixture of bran and chopped oats or other grain. Access to a little nicely-cured hay or wilted soiling crop has its advantages even while the calves are on pasture. It is better during the hot months of summer when flies are troublesome, and a supply of salt should always be provided. The aim should be to raise good calves that will sell at a fair price, rather than to save expense by feeding them poorly. The whey should always be fed sweet and warm and the vessels from which they drink should be scalded out daily so as to be kept sweet and fresh.

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