

Cost of Producing Milk in Winter.

At a meeting of dairymen, held at Belleville, under the auspices of the Eastern Ontario Dairymen's Association, on December 2nd, the factory inspectors of the Belleville and Prince Edward districts gave their annual reports. Mr. Howey made 5,491 lactometer tests, 70 fermentation tests, and visited about a hundred farms to find sources of flavors in milk. He said that to him immediate cooling of the milk appeared to be the greatest factor of success in the business.

Mr. Whattam, whose inspectorate consists of Prince Edward County and the township of Hastings, made a report of substantial progress, also. He wished to warn factorymen in general of the danger of too strong alkali in the acidimeter test. The average milk test of the 21,565 cows in his section was 3.75 per cent. fat. The whey, on the average, contained .22 per cent. fat, but varied from .15 per cent. to .36 per cent. This emphasized the need of high quality of milk and a careful maker to prevent the excessive loss. He mentioned improvement in outside conditions, especially of the whey vat, as worthy of attention in his section. He regretted very much the attitude of the cheese-buyer, in refusing to differentiate between cool-cured and hot-cured cheese, though they admitted a difference in value of one-quarter cent a pound in cool-cured over ordinary cheese. If the increase had been given, there would have been, perhaps, ten more cool-curing rooms in Prince Edward County this year.

Nominations for district director resulted in the unanimous election of A. S. White, the president of the Belleville Cheese Board.

Hy. Glendinning gave an inspiring address on "The Cheap Production of Milk." He claimed by an experiment on his own farm that he could get winter milk at a cost of 23 cents a hundred pounds, which was lower than anyone he had heard of doing it during the summer season. The ration was fed in January to a fresh Jersey cow (neither the best nor worst in the herd). Both feed and milk were weighed. The ration per day was, 15 pounds corn silage (\$2.00 a ton), 1.5c.; 60 pounds mangels (6c. a bushel), 6.0c.; 20 pounds alfalfa (\$2.00 a ton), 2.0c., and a little oat straw mixed in the silage, making 9½c., or a total of 66 cents a week. The milk yield was 258 pounds, testing 4½ per cent. fat. That results in 11.62 pounds of butter-fat, worth 29c., after deducting cost of hauling to the creamery. The cash return was, therefore, \$3.37, leaving a profit over cost of feed of \$2.70½. The cost per 100 pounds of milk was 22.9 cents. And if the fat were reckoned as butter (15 per cent. overrun), butter was produced at 5 cents a pound.

The remarkable point was that no grain was fed, except the corn on the cob in the silage. Mr. Glendinning could have reduced the cost still further by feeding 40 pounds silage and 15 pounds roots, but scarcity of the former and plenty of the latter, due to unavoidable circumstances, caused the use of so little silage and more roots. Not only did the cow produce butter for 5 cents' worth of feed, but she actually gained in flesh during the test. The ration proves to be pretty well balanced (1:5.1).

"Alfalfa is as easy to grow as any clover," said Mr. Glendinning. "After my first five years' experience I would have said that it was not satisfactory, but seven more years have convinced me that there is nothing just as good."

G. G. Publow, the Chief Dairy Instructor for Eastern Ontario, spoke particularly of the desirability of quality as well as quantity of milk. He stated the results of experiments conducted at Kingston, which showed that, while 325 pounds milk testing 3.8 per cent. fat made 35.5 pounds cheese, milk testing 3.4 per cent. made 29.5 pounds, and milk testing 3.0 per cent. fat made only 27 pounds cheese. The patron who sent in the first milk, which was worth almost a third more than the last lot, usually only received the same amount of money. Yet, if he watered it, he would be fined. That explained why men who sent milk testing 3.4 per cent. fat had been fined; they had added water. That pointed to the necessity of paying by test.

Mr. Publow emphasized especially the fact that many good patrons allowed fellow patrons to send in poor milk—poor in fat, and overripe, etc.,—which was really causing the good patron, as well as the poor one, direct loss of money. The maker does not suffer nearly as much as does the good patron; yet, while the maker endeavors to remedy the defect, the man who is taking care of his milk is allowing other men to rob him of his legitimate earnings, because they do not do their share.

Mr. Publow concluded by an appeal for more sanitary conditions in the production of the milk. There was, on the whole, a creditable state of affairs in the factory.

Senator Derbyshire concluded the meeting by a brief address, in which he urged better cows, more feed, better feed, more milk, better milk, more cheese, better cheese, more money, more prosperity, better citizens, and better men.

District Dairy Meetings, Western Ontario.

Meetings have been held at Watford, Hamilton, Listowel, Woodstock, Simcoe, Norwich, St. Mary's and Belmont. Several of these meetings were well attended by patrons and makers; others were not, although the makers turned out very well at points. The object of these meetings was to get together the makers and as many patrons as might care to attend and discuss methods of improvement, the work of dairy instruction, interchange ideas regarding dairy work, and become better acquainted. Many points of interest were discussed. A director of the Dairymen's Association of Western Ontario, residing nearest the place of meeting, acted as Chairman. A summary of dairy instruction work for the season was given at each meeting. General improvement was noted in the care given the milk, the tidiness of the factories, the number of rusty cans discarded and replaced by new ones, and the improvement in the cleanliness of the whey tanks, but there still remains much room for improvement along these lines.

The prices for the year have been good, and a general feeling of hopefulness prevailed. The opinion seemed to be that the small round holes noticeable during the hot weather in several lots of cheese were due to curds not being properly firmed in the whey before dipping, thus leaving excessive moisture, not getting the curds well enough flaked before milling, and in some cases salting a little early, and in a number of cases salting the curds before they were sufficiently matured. The one-quarter inch curd knife was ap-

and tidy condition of the factory, and the cleanliness of the whey tank had a great influence on the patrons in inducing them to take proper care of the milk. Building of more cool-curing rooms was discussed. The general opinion among factory-owners was that they should have the co-operation of the patrons in paying at least one-half of the cost, since the patrons would get most of the benefit in less shrinkage in weight and other results. No expression of opinion could be secured with regard to the benefit or otherwise of makers' certificates. The effect of feeding turnips, and the early shipment of fall cheese, without being sufficiently cured, was discussed. A patron suggested at one meeting that the turnip-flavored milk should be made up by itself, and the patrons paid accordingly, but none of the makers seemed to want to take the responsibility of selecting the milk. The general opinion was that mangels or sugar beets should be fed, instead of turnips, since it was not fair that those who did not feed turnips should have to suffer in price for those who did. A buyer thought that many late fall cheese were allowed to cure at too low a temperature for best results. Complaint, also, was made regarding the poor quality of cheese boxes in one section. Attention was called to a number of important details in connection with the pasteurization of whey to make the system successful, and several ingenious methods for heating economically were explained by makers as being used by them, and were considered of much value.

Winter Dairying.

Editor "The Farmer's Advocate":

Although dairying has always been a prominent industry in the Dominion, farmers are day by day awakening to the fact that they have not obtained the results they should. To be a successful dairymen, a man must read and study the methods of feeding, keeping and caring for cows. He must select a breed which is best adapted for his purpose, and then adhere to it, and gradually, by breeding and selecting, try to improve his herd, which will, if properly cared for, yield profitable returns. It is best to have cows fresh in the months of November and December. The cows will then go dry in the fall, when pasture is nearly always scarce, and they can then be put on rape, which will put the cows in good condition before they go to the stable in the fall. As soon as the weather becomes cold and stormy, the cows should be stabled, and well fed and cared for until they calve. If this is done, the cows generally give birth to large and healthy calves. Cows that become fresh at this time of year will milk best during the winter, when products have the highest price, and when there is the most time to care for them; and when they go to pasture early in the spring, the flow of milk will be greatly stimulated, and they milk well all summer.

It is very essential that cows should be fed and milked regularly. A large percentage of the food should be of a succulent nature. Clover hay, corn silage and mangels are about the cheapest, and can be fed in large quantities, as much as a cow will eat up clean. But it is necessary, also, to feed a quantity of chop or bran, and a little ground oil cake tends to increase the flow of milk. Salt should be provided daily, and, if the cows have not water before them at all times, they should be watered at least twice a day. It is not advisable to turn cows out during the winter, as they will take very little exercise, and will only become cold and chilled, which will more or less decrease the flow of milk.

The stable, which should have been white-washed during the summer, should be cleaned at least once a day. The walls and ceiling should be kept free from dust and cobwebs, and the floor dry and well bedded. The stable should be high, light, and well ventilated, but sufficiently warm to keep the cows comfortable. It should be as free from bad odors as possible. A good plan is to use some reliable disinfectant occasionally. It is desirable to have single stalls and troughs, and to have a fairly good-sized gutter behind the cows. The size, and especially the length, of the stalls, should vary according to the size of the cows. The cows should be curried daily, and a rag slightly moistened with coal oil is very good for wiping off the dust and litter which may adhere to the cows, before each milking. This not only improves the appearance of the cows, but it also assists in preventing lice, from which cows must be kept free, but care must be taken not to get the flavor of the oil into the milk.

The milking should always be done by the same persons, and never should the hands of the milker be dirty or wet. The utensils should be scrupulously clean, and the milk should never remain in the stable for any length of time, being strained through cheese-cloth, and cooled or separated as quickly as possible.

If strict records are not kept, the milk of each cow should be weighed at least once a week, and tested at least twice a year, once during the winter, and once when the cows are on pasture.



Trimming Father's Beard.

proved, especially for use for fast-working curds. The pasteurization of whey was spoken of very favorably by patrons and makers wherever it had been tried. Many of the makers were positive in their assertions that proper pasteurization of the whey will get rid of bitter and yeasty flavor, and that the treatment has many other advantages. A number of patrons expressed themselves as quite willing to pay their share of the cost. The general opinion seemed to be that the cost would depend on the conditions under which the work had to be done, such as the size of the boiler, distance the tanks were from the boiler, and what system was adopted for heating. The cost would not be more than \$1.00 and not less than 50 cents per ton of cheese. It could be made of the exhaust steam from the engine, in the way spoken of when the question was first taken up last year. Fifty-eight factories pasteurized the whey this year.

The system of cooling milk in cans, in tanks, the cans surrounded by cold water and ice, if possible; the cooling done quickly, with occasional stirring of the milk, rather than continued aeration, was approved. It was claimed by some that the patrons should be compelled by law to cool night's milk in hot weather to 60 degrees, and keep it surrounded with sufficient cold water or ice that it could be delivered at the factory very little above that temperature, basing this claim on the fact that, when the milk is at a low temperature during cold weather, very little trouble results, and, therefore, temperature should be a basis on which milk should be received at the factory.

It was also properly considered that the neat