

The Department is anxious to help men commence the system, and will assist in organization.

A. E. Calnan, being called upon, stated that he had been induced to take up his work through hearing Mr. Whitley urge it before, and was weighing each cow's milk daily, finding it a source of great pleasure and definite information. Some cows he thought pretty good were not by any means his best, and he knew now which he would like to sell. He heartily recommended the scheme.

COOL-CURING PAYS.

G. H. Barr, of the Dairy Division, Ottawa, spoke of the question of cool-curing of cheese. He stated that the County of Prince Edward is leading Ontario, having more cool-curing rooms, and good ones, too, than any other county. The quality of the cheese is advanced, and an increased price is readily obtained for the cool-cured article. Buyers with open orders name the factories with cool-curing rooms, so that if any preference is going, they get it every time. One salesman had informed the speaker that they had saved \$1,000 in two years through their cool-room. Hot weather is liable to spoil good cheese; despite all the care and best energy of a first-rate maker, the quality of originally good cheese is often ruined in poor curing rooms. To sustain our reputation, all cheese in Canada will have to be cool-cured; it must be, to face the competition from other countries.

COOLING, NOT AERATION, IMPORTANT.

Turning to the care of milk at the farm, Mr. Barr stated that arrangements had been made this summer with two patrons at Smith's Falls, whereby officials from the Department took charge of the evening's milk from eighteen cows at each farm. The patrons were not asked to do any extra work in caring for cows or milking. Both farms had fairly good conditions, though much was known as "drowned" land from the Rideau canal. At both places the cows were milked in the stable, at one place by the owner and his five sons, at the other by the owner and two hired men. A curd test was made of each can of milk delivered, and the cheese were cured in an ordinary room only. Two lines of experiments were undertaken: First, cooling only, with no aeration of the milk; and second, aeration, either by means of an aerator or by simple dipping. By means of excellent lantern slides, Mr. Barr showed the milk stands, curd tests, and actual curds from the vats. On one stand, with fine surroundings, better than hundreds, where milk was aerated without cooling, 38 per cent. of the curds were gassy. On the other stand, even with a clean sweep of apparently good pure air, 68 per cent. were gassy from aerated milk. But when milk was cooled, with no stirring, no dipping and no aeration, and kept covered, away from the air, only 6 per cent. of the curd tests showed gas. A very simple method of cooling was shown on canvas—by cutting a barrel in two and placing the half barrel on the milk stand, and setting the factory can right in the barrel. The milk from nine cows was cooled with 200 pounds water, and left at night at a temperature of 77 degrees just five minutes after milking. To obviate carrying water, another photo was shown where, when water was pumped for the cows into a trough in the corner of the barnyard, the water was made to flow through the half barrel first. No extra labor was thus involved, no water wasted. At this farm, the milk thus cooled and covered up showed only 6½ per cent. gassy curds, while the other can, on the same stand, right alongside, but aerated and dipped, had 71 per cent. gassy curds and bad flavors. This was during the heat of July and August. One need not spend five minutes taking care of milk; keep it away from the air, but cool it down. Poorly-kept milk sometimes takes 18 pounds to make one pound of cheese.

The slides shown elicited a rapid fire of questions from the large audience.

During the afternoon, the county council adjourned its session to attend in a body. The meeting was declared to be one of the most valuable and instructive ever held in Picton.

At night a splendid banquet was held, some excellent speeches being delivered, interspersed with choice music.

Whey Worth More Money.

At Blanchard Butter and Cheese Factory we have pasteurized the whey for one year. The whey is more desirable as to sweetness, flavor and feeding value. I estimate that it is worth 25 per cent. more. The cans are easier to wash, and much less grease adheres to them. In addition, the milk reaches the factory in better condition, and, consequently, cheese of higher quality can be made. I consider it pays, and wish to see the practice continued next season.

Perth Co., Ont.

GEO. SPEARIN.

One of the strongest arguments in favor of pasteurizing whey is the fact that the by-product is kept sweet, and in that condition is of much greater value for feeding purposes.—Prof. H. H. Dean.

Buttermaking on the Farm.

At the meeting of the Bruce Farmers' Institute Club, held on December 8th, the question of winter dairying was taken up by J. T. Lamb, who has had considerable experience in dairy work. It was pointed out that the first thing for consideration was the cow. Everyone favors a certain breed, and, perhaps, if dairying were the only object, the Holstein breed would fill the bill. But exclusive dairying was out of the question with most of farmers. They must also go into breeding beef cattle. To combine dairying and beef, it becomes necessary to raise stock suitable for both, and experience indicated that the Ayrshire was the nearest approach to the dual-purpose cow. A steer was easily fattened, and could be brought to 1,200 pounds at two years; while, at the same time, the dairy product of this breed came well up to the standard. Then, too, the method of feeding, feed and care were as important as breed. Cows that were fed a little grain throughout the summer did not drop off in their supply of milk when put in stable as others that were not fed. It was also well known that if cows are in good condition when winter sets in, they are easily kept so, but when in poor condition it is hard to put flesh on to them. For feed, bran was considered about the best. Bran mixed with other feeds, such as ground oil cake or corn meal, was also good. Cut clover hay, when steeped, was said to be almost as good as bran. Steeping or steaming any feed improved its value. Timothy hay should never be used, as it was not much better than straw.

The subject of keeping up the stock, also, was said to be an important one. The idea that the spring is the proper and best time for the cow to calve was fast losing ground. Calves are generally kept in the stable a few months after they are dropped, so why not use the winter months for that purpose, when you have more time to attend to them? In the spring, they would be in good shape to put on pasture. You will have a good supply of dairy product when it is most profitable, and the cow will be dry when the pasture is scarce. In the selection of calves, the first calf always is worth keeping.

MAKING HIGH-CLASS BUTTER.

In the science of converting cream into butter in the most up-to-date and scientific process, cleanliness from start to finish was mentioned as being of greatest importance, and butter made in this way would bring from 3 to 8 cents a pound more than ordinary butter, if sold through the proper channels. This approved process was summed up as follows: Cleanliness from the very start to the finish is the great essential in the art of making good butter. Remove the milk from the stable to the separator building as soon as milked. When the milking is all finished, run the cream through the separator, and cool the cream in cold water to about 50 degrees. Have the old and new cream of the same temperature before mixing. Have the cream sweet until 24 hours before churning, then add a culture or starter, which may consist of about a quart of good-flavored buttermilk. Heat the cream to between 65 and 70 degrees, according to weather, and it is usually ready to churn the next morning. Have the cream of the quality that makes 2½ pounds of butter to a gallon of cream, or just as thick as you can churn it without concussion ceasing. Churn at a temperature of from 60 to 65 degrees, and the butter should come in about half an hour.

Scald the churn with boiling water, and then cool with cold water. Strain the cream into the churn through a dipper having a perforated bottom, and add just sufficient butter-color to give

it a natural June tint. When the butter breaks, add a dipperful of water two or three degrees colder than the cream; it helps to separate the butter from the milk, and leaves less butter-fat in the buttermilk. When the butter is the size of wheat grains, it is sufficiently gathered. Then draw off the buttermilk, and put as much water into the churn as there was cream, having it two or three degrees colder than the cream was, and revolve the churn ten times very quickly, so as to wash the butter without massing it. Draw off the water, and while it is draining, prepare the butter-worker. Use a V-shaped lever butter-worker and brick-shaped print. With a hair or fibre brush, a dipper of boiling water, and a little salt, give the butter-worker and print a good scouring, and cool well with cold water. Take the butter from the churn and spread over the worker; sift the salt on evenly, allowing ¼ oz. of salt per pound of butter. Fold the salt under and begin working. Work by means of pressure only; avoid a sliding motion, as it spoils the grain of the butter. Work sufficiently to expel moisture and thoroughly distribute the salt. Finish the butter smoothly and press the print down into the butter until the mould is well filled; cut with the ladle the surplus butter from the bottom. Wrap the print neatly in good parchment paper which has been previously wet in clear, cold water. The butter, when wrapped in the paper, should weigh 16½ ounces. Keep the butter in a cool, clean place, and get it to the consumer as soon as possible. When shipping butter to city, boxes are preferred to baskets.

When you have finished with the butter, proceed to clean up the churn and the worker. The churn should be rinsed out with hot water and thoroughly scalded with boiling water. Wipe the outside, but never touch the inside with a cloth. Leave the lid off until the churn is dry, and the plug out till next churning day. Scour with hot water the worker, ladle and butter print; rinse with boiling water, and allow them to dry.

The cream can, milk pails and separator should be washed in warm water and scalded in dancing boiling water, and inverted in pure air and sunshine, if possible, to dry. Never wipe with a cloth. The heat of the utensil that is properly scalded will readily dry it. Never use soap on milk utensils; use sal soda, but do not feed the wash water with sal soda in it to the hogs, as Prof. Day says it is not good for them. Cleanliness is the prime factor in securing good butter.

Never keep the cream more than four days, if you want the best-flavored butter, and stir well each time you add fresh cream. The thicker the cream, the lower the temperature at which it can be churned. The lower the temperature, the more exhaustive the churning—that is, less butter-fat left in the buttermilk.

The authorities on buttermaking never advise using buttermilk for a culture or starter. They say, use a culture which you know has a clean, pleasant, sharp acid flavor and smell, which may consist of a pint or two of sour cream from your previous churning, or the same amount of good-flavored skim milk.

It was claimed that if the above method was followed the product would be an article second to none, and one that would command a price that well pays for the little trouble expended in following the instructions.

A. E. WAHN.

Bruce Co.

[Note.—The culture advised by Mr. Lamb should give satisfactory results, but care is required in the use of buttermilk from a previous churning as culture. There would be a danger of having too high percentage of acid, especially if churnings were infrequent. A mild acid flavor, pleasant to taste and smell, and containing .7 per cent. acidity when used, is recommended by



Milk Wagons Unloading at Blanchard Cheese Factory, Perth Co., Ont.