

September conditions in the curing room. So if we are to make a cheese that will sell for as much money as the old country cheese we will have to be stir ourselves.

Mr. Ruddick also strongly recommended having the curing rooms so built that the cheese-maker could control the temperature of the room with ice at all times.

Curing and Ripening Cheese

Mr. Ruddick said that all along we have thought that the rennet has played the most important part in the ripening of cheese, because the more rennet that is added the faster the cheese will ripen. This is not necessarily so because there is no doubt that moisture and temperature also count in the ripening process and possibly much more than we give it credit for.

Dr. Babcock, of Wisconsin, has, however, advanced a new theory that may upset all of our ideas about the ripening of cheese. It is no less a theory than that certain enzymes inherent in the milk itself are the agents that ripen the cheese and not the rennet. If this be so we will have to change our ideas; time only will tell.

Mr. Ruddick called attention to the results of an important experiment. He had placed green cheese from the same vat in a room the temperature of which varied with that of the outside air, the average temperature during the experiment was seventy-five degrees, and in a room where the temperature was kept between sixty and seventy degrees, with an average temperature of sixty-four degrees. The cheese were weighed when they were put in, and at the end of three weeks they were weighed again. The cheese that were kept at the lower temperature showed about one pound less shrinkage in a seventy-five pound cheese. Samples of the cheese were sent to Brockville and Kingston to be tested, with the result that a commercial value of one half-cent a pound in favor of the cheese cured at the lower temperature. Mr. Ruddick estimated that these gains would amount to about \$480 on the season's make at the average factory. This saving can be effected by using ice and having the rooms properly insulated. The gain the first year would much more than pay the cost of fitting up the curing room. Directors of factories should take notice of this, and provide their makers with an up-to-date curing room.

New Butter Package.

Mr. Ruddick showed a new package for pound prints, which will make a great improvement in handling print butter. The print is wrapped in parchment paper, then shipped into a tight fitting case of cardboard. It makes a neat package, and twenty or thirty of them can be shipped in a small case of light board in the winter time much cheaper than in any other way. The total cost of parchment paper, paper case and shipping package is less than one cent a pound.

Butter Making

Mr. Ruddick called attention to the fact that milk, while warm, will absorb certain odors. Salt, he said, will also absorb odors, and should therefore be kept in a clean place.

Mr. Mark Sprague said that when a butter-maker accepted milk he became responsible for the product. He

should, therefore, be able to detect tainted milk and return it, or gracefully accept the criticisms of the buyers.

Professor Dean says that when silage is fed the butter churns much easier than when the cows are fed dry feed. He had repeated the experiment tried some time ago with milk from fresh cows, cows under six months, and cows over six months. The first experiment showed that there was not much difference in the flavor of the butter made from the different milks. This season's experiments showed that the fresh cows' milk made the best flavored butter. This shows that too much reliance cannot be placed upon a single experiment. The patrons of a cream-gathering creamery near Barrie were in the habit of straining their milk through pounded ice into the creamery cans, claiming a more complete separation as the result. They had tried it at Guelph and found no difference.

Aeration of Milk.

Professor Dean gave a good instance of the value of aerating milk. On the 26th of July they had an especially bad lot of milk at the dairy school. One half of it was aerated; the other half was not. The milk that was aerated made the best cheese, and there was less loss of fat in the drippings. They also found gassy curds were much more easily handled if the milk was aerated.

Care of the Cow.

Mr. John Gould thought we should take a great deal better care of the cow. We keep her to increase our herd, to give us a necessary and wholesome food, to enrich the soil by returning to it 85 per cent. of the manurial value of her feed, and finally, to make jerked beef for the family.

Every farmer should study the science of "cowology" or the science of bovine motherhood. He thought that many a dairyman was most brutal in his treatment of the cow mother. Why tie up a calf where the mother can see it but cannot reach it? Why crucify her feelings in this way? Why let the calf suckle the cow for a day or two until the mother becomes fond of her offspring, then tear it away?

Never let a heifer's calf suckle her and she will never know that there is any other way of removing her milk than by the human hand. Ingratiate yourself into her favor and get her to adopt you as her calf and you will get the most milk. Bestow real affection on the cows and they will love you in return. Treat them as you would members of the human family and they will pay you well for it.

Cows that calve in the fall will give 2000 lbs. more milk in the course of the year. Try it. Why should they not give the most milk in the winter? They cost the most to feed during this time. We want our cows to have great vitality, and be hardy. We never think of this when they are out in hot summer sun; but just as soon as the cold weather comes we expect the cows to freeze and thaw out twice a day, drink 100 lbs. of ice water, and give a lot of milk. Yea, verily, they will. It takes four good pounds of Indian corn meal to keep a cow warm if she is out doors, but if she is kept in a good stable she won't take the half of that.

The General Purpose Cow

Mr. John Gould says that a good many farmers want a cow that will give a big flow of milk, that will give rich milk, that will be a real good cheese factory cow, that will give milk suitable for the city milk trade, that will drop a heifer calf one year which will develop into an ideal dairy cow, and the next year give a bull calf that will make an ideal broad-backed, deep-fleshed beef steer. You might just as well want a general purpose farm machine, one that will plow the ground, harrow and sow it, then reap the harvest and thrash it, cut the hay and haul it to the barn, plant and dig the potatoes, then during the winter pull stumps and cut wood. Just as much sense in one as the other. Get a special purpose cow, and feed her for a special purpose.

Cover Crops.

Professor Saunders urged the farmers to grow more cover crops, i.e., clover, or peas and oats, to keep the ground covered. These plants gather food from the soil and air and prevent the loss of nitrates, which always occurs when the land is bare. On being plowed down they leave all the plant food they have collected in the soil, quickly available for other plants. Clover sown with grain in the spring grows up quickly after the grain is cut, and if plowed down in October will add manurial value equal to a dressing of ten tons of ordinary farm-yard manure per acre. If left until spring it prevents the loss of nitrates during the winter, and unless too badly winter killed will, when plowed down in the spring, add manurial value equal to an application of about fifteen tons of farm-yard manure per acre.

Corn for the Silo.

Professor Saunders exhibited a chart which showed the value of growing the right kind of corn for the silo in a way farmers can understand it. Corn that only reaches the tasselling stage by the time it is necessary to fill the silo only contains 186 lbs. of digestible nutrients per ton, if it reaches the silking stage it will contain 211 lbs., when in the early milk it will contain 257 lbs., in the late milk 286 lbs., and at the glazing stage 339 lbs. So that it will pay farmers to grow a corn for ensilage purposes that will reach the glazing stage by the time it is necessary to fill the silo.

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