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Creamery Department

Butter Makers are invited to send contributions to this department, to ask questions on matters relating to milk making and to suggest subjects for discussion. Address your letters to the Creamery Department.

Some Churning Questions Answered

What is the proper temperature for cream to churn? How long should cream be kept after it has come from the separator before churning? What is the cause of butter coming so soft that it has to be strained through a cloth to separate it from the water milk? Does a little milk in the cream do harm?—L. L. Rinehart Co., Ont.

One cannot give definite directions as to the proper churning temperature. It depends on several conditions, chief of which is the ripeness of the cream. Other factors are, the character of the food of the cow, the extent of the period of lactation, also the acidity or the ripeness of the cream. The ripeness of the cream, the lower will be the temperature at which it can be churned. It will be then more difficult to churn the cream when the cows are on dry than when they are on fresh pasture. The main factor, however, is the ripeness of the cream. The acidity should be about 5 per cent. The right temperature may be said to be that temperature, which will give butter in firm condition in from 30 to 40 minutes of churning. Ordinarily in creamery practice, this temperature runs from 50 to 55 degrees. With this cream, however, and in cool weather, one would never get it churned at this low temperature. A 30 per cent. cream will churn at 55 degrees in summer. In winter the temperature should be from 60 to 65 degrees for the same cream.

In creamery practice (whole milk creameries) cream is usually kept for 24 hours before churning. The cream should be well ripened, should have thickened up and have a clean, acid flavor and a smooth velvety appearance, before churning. Most cream is kept too long before churning. In farm practice, the cream should be cooled down and kept at a temperature of 55 degrees. It may then be kept for from three days to a week.

The chances are that the cause of the butter coming soft is that the cream has been too thin and has been churned at too high a temperature. Hot cream, or cream that is not cooled in hot weather, will give such results.

There is some milk in any cream. For churning on the farm cream should be taken from 20 to 30 per cent., for the creamery 35 per cent. It will then churn at 55 degrees in the temperature if it has been well ripened for 24 hours. There is no call for having much milk in the cream. A 25 per cent. cream will be found to give better satisfaction on the farm than a 30 per cent. cream, for in small churns a 30 per cent. cream would have to have some water added to it in order to get the butter to come properly.—J. F. Singleton, Creamery Instructor, Eastern Ontario.

The Home Pasteurizing of Milk

L. A. Rogers, Bacteriologist, Dairy Division, Washington, D.C.

Milk delivered in cities in the summer months frequently contains bacteria in such large numbers that it is not a safe food for children, especially for infants whose food consists entirely of milk. In many cities a special milk can be secured, but this is sometimes difficult and always involves additional expense. Under such circum-

stances it is advisable to pasteurize all milk consumed by small children. The pasteurization should be done in such a way that disease-producing bacteria as well as those likely to produce intestinal disturbances are destroyed without at the same time injuring the flavor or the nutritive value of the milk. This may be accomplished in the home by the use of a simple improvised outfit.

Milk is most conveniently pasteurized in the bottles in which it is delivered. To do this use a small pail with a perforated false bottom. An inverted pie tin with a few holes punched in it will answer this purpose. This will raise the bottles from the bottom of the pail, thus allowing a free circulation of water and preventing lumping of the bottles. Punch a hole through the cap of one of the bottles and insert a thermometer. The ordinary donkey type of thermometer is likely to be inaccurate, and if possible a good thermometer with the scale etched on the glass should be used. Set the bottles of milk in the pail and fill the pail with water nearly to the level of the milk. Put the pail on the stove or over a gas flame and heat it until the thermometer in the milk shows not less than 150 degrees for more than 155 degrees F. The bottles should then be removed from the water and allowed to stand from 20 to 30 minutes. The temperature will fall slowly, but may be held more uniformly by covering the bottles with a towel. The punctured cap should be replaced with a new one, or the bottle should be covered with an inverted cup.

After the milk has been held as directed it should be cooled as quickly and as much as possible by setting in water. To avoid danger of breaking the bottle by too sudden change of temperature, this water should be warm at first. Replace the warm water slowly with cold water. After cooling, milk should in all cases be held at the lowest available temperature.

Dairy Meeting at Peterboro

All that kept the Peterborough district meeting of the Eastern Dairy-men's Association, held at Peterboro on Wednesday, November 3rd, from being a most enthusiastic and helpful gathering was the lack of attendance. One of the causes of the low well known day were Mr. Henry Glendinning of Manilla, Ont., J. F. Singleton, Creamery Instructor and Assistant to Mr. Puhov in the Kingston Dairy School, and Mr. H. C. Duff, of the Department of Agriculture, Norwood, Ont. Mr. Fred Davy, secretary of the Ottawa Cheese Board, Mr. E. H. Westervelt, Warsaw, Mr. G. A. Gillespie, Mr. J. Richards and Mr. H. B. Cowan of Peterborough also spoke.

The representative for the Peterborough district on the board of directors of the Eastern Ontario Dairy-men's Association, Mr. G. A. Gillespie, who has given most satisfactory service during the past few years, was again unanimously elected to represent the Peterborough district.

The addresses dealt with matters of vital interest to cheese makers and producers alike. Mr. Henry Glendinning handled the special topic, "The Feeding of the Dairy Cow." He emphasized the need of weeding out the poor cows by means of the scales and Babcock test and at the same time, he showed that in order to weed out cows, one must feed them. It was not fair to condemn any cow unless she was given a fair chance. Corn silage and alfalfa hay together with a good abundance of water supplied at all times was given as the secret of cheap production of milk.

The composition of milk, and the use of the various constituents in cheese making, formed the main part of the address given by Mr. Singleton. This address was pointedly il-

lustrated by means of samples of the various constituents in their relative quantities, each constituent being in an individual bottle. Other subjects touched upon by Mr. Singleton were the care of samples, the matter of paying by test and some discussion relative to the creamery business.

Information of interest to farmers locally was brought out by Mr. H. C. Duff. He dealt briefly with the work that he is engaged in and spoke of the advantages of the Farmers' Institute Clubs. A club has been already organized in Norwood. Others will be organized shortly. Mr. Duff called upon the cheese makers and salesmen as leaders in their respective districts to help along the work of the farmers' clubs and to lend their assistance wherever possible.

Eastern Dairy Meetings

In addition to the district dairy meetings that have already been held at Peterborough and Lindsay in connection with the Eastern Ontario Dairy-men's Association other meet-

ings have been arranged for as follows:

November 16, Renfrew; November 17, Carleton Place; November 18, Vars; November 19, Manotick; November 23, Vanhook Hill; November 24, Moose Creek; November 25, Alexandria; November 26, Iroquois; November 27, Kingston; November 30, Kemptonville; December 7, Napanee; December 8, Queensborough.

It is hoped that dairymen generally, as well as others interested, will turn out largely and take advantage of the information and instruction to be given. Mr. George N. Barr will give his illustrated address on "The Care of Milk for Cheese Making," which will be illustrated by lantern slides at Renfrew, Carleton Place, Vars, and possibly at a few of the other places. Well known authorities, all experts on their respective subjects, will address the meetings. Those attending may be certain of gaining much information of value that will amply repay them for their time and trouble.

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