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WANTED—FIRST CLASS CHEESE AND BUTTER MAKERS for Central Smith Dairy Co. Duties to commence Jan. 1, 1912. Apply stating salary expected and giving references and experience to—J. A. McCREGOR, R. R. NO. 2, PETERBOROUGH, ONTARIO

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Cheesemakers Buttermakers

We have a paying side line for you.

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Work for spare time OR Steady for the Winter

Write at once to
FARM AND DAIRY
PETERBORO, ONT.

Creamery Department

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

Dairy Methods in Kansas

Editor, Farm and Dairy.—Having been closely associated with dairy work in Canada, previous to 1907, I have been interested in the discussion concerning the different methods used for determining the value of milk and cream as published in Farm and Dairy.

Dairying in Kansas is conducted on what is known as the gathered cream method; that is, a creamery establishes anywhere from a dozen to several hundred stations situated in various towns adjacent to the railroad. At these points they establish an agency and equip the building with necessary supplies for testing and handling cream. The farmers deliver their cream to these places of business, the agent tests it, pays the farmer for the butter fat and ships the receipts of the day as one lot to the creamery. The creameries hold a check upon the accuracy of the tests made by each operator. They take one representative sample from the entire shipment, the test of the sample multiplied by the pounds of cream received gives the total pounds of butter fat which should be the same as the pounds of butter fat shown by the individual test.

OVER ONE PER CENT VARIATION ILLEGAL

We have a law in Kansas limiting the variation between the butter fat shown by the individual test and the fat the cream actually contains. According to this law the variation between the two must not be more than one per cent. By way of explanation of these sections of our law, I wish to say that the one per cent. variation referred to is on the one hundred pounds of butter fat bought and not the test; for instance, A bought cream from one or more patrons, which cream actually contained 100 lbs. of butter fat, but if by his tests he gives the patron credit for less than 99 or more than 101 lbs., the tests would be contrary to the law.

Our law does not demand that the person testing cream shall use the scales. This is unnecessary owing to the provision of the sections mentioned, as no person can accurately check within the lawful limit of variation unless the value of the farmer's cream is determined by a weighed sample. The difference in the specific gravity of cream testing 20 per cent. and that testing 50 per cent. makes it necessary to weigh the sample. Then, too, the condition of the cream when sour or gassy would make it difficult to deliver by pipette measurement the amount that is intended to deliver. Whether or not the cream should be tested by weighed sample by Babcock test is no longer an open question in this state. The result of the Babcock test is only accurate when the grams of weight, or the equivalent thereto, is used (depending upon the style of bottle used). The 18cc. pipette will not deliver 18 grams in weight.

FOR CONVENIENCE IN READING

We have established through this state the use of the nine gram, six inch, 50 per cent. direct reading bottle. The diameter of the neck of this bottle is reduced by one-half, thereby narrowing the limits of the meniscus and making it possible to read the test more accurately. By using a bowl with a capacity of about 35cc. on this style of bottle it is possible to add a greater quantity of boiling water at the right time,

which enables one to get a more perfect test.

The only milk and cream that is bought by the gallon is that which may change hands locally for domestic purposes. Our consumers buy the milk at so much a cwt., containing a certain per cent. of butter fat; hence, the price varies in accordance with the per cent. of fat the milk contains. The farmers of Kansas would not tolerate any other method, as they have confidence in the Babcock test.

ABOUT CREAM SCALES

We have experienced a great deal of trouble in going cream scales that are very sensitive, perfectly level and placed upon a solid base made of concrete or some other material that will not be influenced by the vibration of machinery, etc. The scales should be used by a person so that they will not be influenced by wind when in use and when not in use can be covered to protect them from dust or injury. Oil should never be used upon cream scales. D. M. Wilson, Dairy Commissioner, Kansas.

Churning—Working—Packing*

L. A. Zujlitt, Supt. Kingston Dairy School

Churning is simply the application of concussion to the cream, which brings globules of fat together, causing them to unite. When sufficient of these have united so as to be visible, we call them granules.

The churning temperature is the temperature at which the globules will adhere to one another. If the temperature is too low, they strike and go by without adhering and the temperature must be raised until the fat is sufficiently sticky. If the temperature is too high, we are liable not to get an exhaustive churning, the butter will be soft, and an excessive amount of casein may also be incorporated.

No fixed churning temperature can be given. It depends largely on the proportion of the hard and soft fats present and the degree of ripeness and richness of the cream. Every butter maker will have to determine this for himself, with this provision—to churn at as low a temperature as is possible, providing it does not take over three-quarters of an hour to one hour to bring the butter. When the churning is completed, the granules should be the size of wheat or slightly larger, not smooth but sufficed in appearance.

Boiled water should be used to wash out all traces of butter milk, and at a temperature to leave the butter sufficiently firm for working.

Working is for the purpose of compressing the granules into a case and forcing out the milk. To evenly distribute the salt and to remove excessive moisture. Salt is added to improve the flavor and add to the keeping qualities of the butter. In working care should be observed that no undue friction be employed as otherwise the grain may be injured and become greasy or salvy.

No other article of food, by its appearance, affects our senses more than does butter. Too much pains, therefore, cannot be taken to make the butter have an attractive appearance. If we are making bricks see that they are square and neatly wrapped. If we are making soap have the boxes clean and the butter packed solid, without any holes or vacancies in the corners. The air

*An address delivered before the last annual convention of the Eastern Ontario Dairymen's Association at Perth, Ont.

should be thoroughly excluded and the butter stored in a clean place, where the temperature can be maintained at or near freezing point, to be kept for any length of time.

Discussion on Salting Butter

"One of the difficulties we have as butter buyers is to get a carload of butter evenly salted," said Mr. J. B. Muir, of Ingersoll, at a meeting of creamery men from various points in Western Ontario at Guelph. "The makers will claim that they all use the same percentage of salt, but the difference of the amount of salt in the butter product is wide, although we notice that the salting of butter from one to another is uniform." These statements of Mr. Muir's led to an instruction to discuss the salting of butter, and we here reproduce some of the ideas of the creamery men present for Farm and Dairy readers to compare with their own methods.

"We estimate how many pounds of butter we will make when the cream is put in the churn. We know the weight of the cream and the percentage of fat. From this we calculate the amount of salt required. The size of the granules and the time allowed to drain affects the salt content of butter. When butter is not well drained there may be enough salt left in the churn to wash a pound of salt out of the butter and uniform salting cannot result."—Jas. McFeeters, Grey Co., Ont.

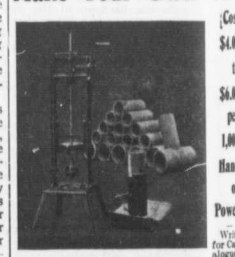
"The condition of the butter when the salt is added affects the moisture content. The larger the gathering of the more salt will be retained in the butter, as there is less free moisture to wash it out."—W. Taylor, Wellington Co., Ont.

"Four to five per cent. of salt added to butter is best for the Canadian trade."—J. B. Muir, Oxford Co., Ont.

"Another feature other than the quantity of salt that we butter makers should pay attention to is the quality of the salt. Some of my salted butter at Toronto last year scored 96 and 96 per cent., while non-salted butter scored 98. The difference was due to bad flavored salt."—R. M. Player, Bruce Co., Ont.

Patrons are standing in their own light when they permit a creamery to start up in a section where there is already one that is giving satisfaction in the hope that by competition they will get more satisfactory terms. Small production invariably means higher cost of production in the creamery, which by encouraging more creameries in a limited section, patrons are causing loss to themselves as well as to the creamery man.—M. J. Lewis, Victoria Co., Ont.

Make Your Own Tile



Farmer's Cement Tile Machine Company
WALKERVILLE, ONT.

Cheese

Makers are invited to this department matters relating to cheese making. Send letters to The Cheese

Cheese Factors

Cheese factors are those who buy cheese from the farmer; they have dairying which "is" was often similar that broke the car ways had plenty of husband, son. When in addition make butter through work in summer at the pans or creamer ter bowl, and the that enter into farm almost more than

Now the milk is to the can and factory. All the house is the supply in the bottom of a for household purposes couple of big 30-gallon matter of comparison with under the old system. If there is any Canada who should factories with great women on the farm Hastings Co., Ont.

Maker Boosts

J. J. Hogan, Peterborough, Ont.
A cool cellar is a factory is an important machinery in combining cheese or butter for four years with ing room. I used ice cream then to cool the room and think like the results of the cheese that side of the room. I full of ice hung from there through the results, however compared with the cooling either in a shrinkage or in a cheese.

It cost us four hundred dollars. Our make of time was about 100 costs us about 25¢ per chamber. It might other factories, as miles from the river the cutting out of the \$2 a day for man their board. I believe our plant in shrinkage seasons.

GREAT IN HOT weather we consider the 25 per cent. better previously. In the the weather is very ordinary cold rooms are just

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