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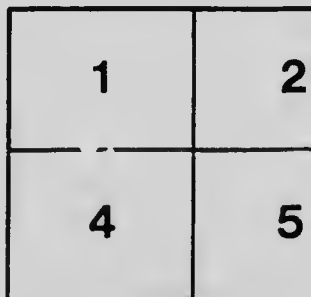
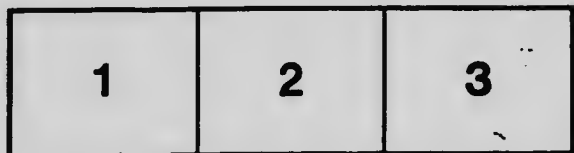
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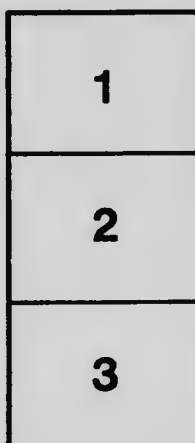
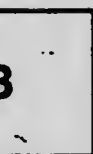
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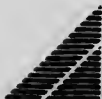
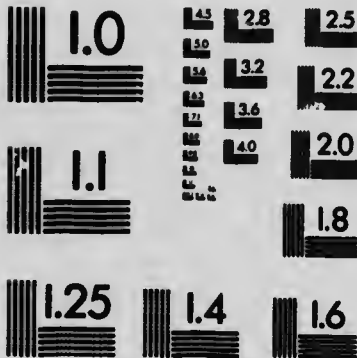
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MANITOBA DEPARTMENT OF AGRICULTURE
DAIRY BRANCH

Progress in Creamery Butter-Making

A TALK TO MANITOBA DAIRYMEN

by

L. A. GIBSON, Dairy Commissioner for Manitoba

International
Institute Branch

SEP 29 1918

DEPT. OF
AGRICULTURE

THE manufacture of creamery butter within the Province of Manitoba during the past few years, has shown marked progress, both in regard to quantity and quality. This is very encouraging, especially when there is such need for increased production.

The gradual extension of transportation, the aggressive campaign that is being carried on by the creamery operators in their respective fields, and the demands of the best markets at home and abroad, will hasten the day when all the surplus dairy products of the farm will go to market in the form of the higher priced and more popular creamery butter, rather than as farm made butter.

Assuming that this will be so, we may well maintain that the efficient operation and management of the creameries is of immediate and real concern to the dairyman on the farm, just as it is of vital importance to the operators and those who have invested their capital in the creamery plants.

During the year 1917 Manitoba exported 96 carloads of creamery butter, to points both East and West, the major part of it going to the Allies. In the first five months of 1918, 56 carloads were exported. This butter, according to present prices, is worth about \$10,000 per carload.

We have developed this export trade, not on account of the high quality of all our products, but because Great Britain and other countries engaged in the war require all the food they can get; consequently we have been able to sell our good and our indifferent butter at very attractive prices.

At present our butter is coming into direct competition with that from other provinces and countries, all of which are endeavoring to

produce a superior article, so that they may capture and hold the different markets after the war.

These markets demand a butter that is mild, and sweet, and clean in flavor; and this class of butter can be made only from cream that is practically sweet. A large percentage of the cream is now arriving at the creameries altogether too sour, and no buttermaker, however competent, even with the most up-to-date machinery at his disposal, can manufacture a first-class article from cream that is stale and sour.

Experiments have proven that pasteurization improves the keeping qualities of butter, and the sweeter the cream the better the results. Therefore, the reader will fully realize the importance of producing a clean-flavored, sweet cream for butter-making, if we are to hold our own with our competitors, and thereby reduce to a minimum the quantity of second-grade butter made. Failing this, we must rest content with a second place and lower prices.

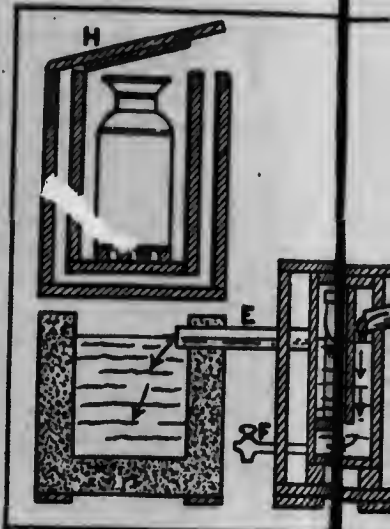
The principles involved in the proper care of milk and cream are simple and easily understood. Notwithstanding this fact, a large percentage of the cream delivered at the creameries is improperly cared for, and does not make the finest quality of butter.

One of the most common causes of poor quality in butter is lack of immediate, thorough cooling of the cream after separation. Cream can be kept sweet for several days, if properly cooled. Cream of the best grade can be produced with but little extra labor and expense.

All cream should "catch cold" immediately after it is separated. A cool cellar will not give the cream a cold; in fact, a cellar is an undesirable place to keep cream. To get a cold, one must receive a chill; and cream should be chilled, not simply cooled. Remember, you "catch cold" the easiest by getting your feet wet. Cool air surrounding you does not do it; neither does cool air chill your cream; the can must come in direct contact with cold water, and if ice is available so much the better. Have the cream can immersed in the water and keep the lid on.

The question naturally arises: Would as high prices be obtained if all butter could be classed as high grade? I believe that equally high prices would be maintained, as the average consumer would rather pay a high price for good butter than a medium price for butter when the quality is poor.

Among the other factors that have hindered the production of better cream, none is more responsible than the custom, among a percentage of the manufacturers of butter, of grading the cream indifferently, and of paying as much



Insulated cooling tank, better water be housed over.

- A. Pump.
- B. Cooling tank.
- C. Shipping can.
- D. Plain shotgun can for collecting

The sides and bottom of the tank are studded, putting paper and studding the outside, and filling the tank with dry ice. The tank is then lined with a half-inch pipe in the bottom of the tank, necessary. The depth of the pipe is suited to the height of the can of lumber, with damp-proof paper on the shell. Let the top ply of the pipe crosswise of the tank. The tank and go nearly to the bottom.

for over-ripe, badly flavored cream as for these products when sweet and good flavored.

All milk and cream should be paid for, not only according to the butterfat it contains, but according to its flavor and the amount of acidity or sourness present when it arrives at the creamery.

The Department of Agriculture, realizing the importance of the aforementioned essentials in dairying, strongly recommends the grading of all cream purchased, and paying for it on the basis of quality, and recommends the adoption of the following as a basis for so doing:—

SPECIALS

Cream that is both sweet and clean in flavor, having a smooth, even consistency.

FIRST GRADE

Cream that is clean and fresh in flavor with a smooth, even consistency.

SECOND GRADE

Cream that is slightly stale, old or bitter, or otherwise slightly defective in flavor, but of a smooth, even consistency.

Cream below second grade to be classed as "off grade" and either rejected or paid for according to its value.

A difference of 2c. per pound of fat should be made between "extra first" and "first," and a difference of 3c. per pound of fat between "first" and "second" grade cream.

The purpose of this circular is briefly to point out the causes of bad flavors and other defects in cream, and how these may be prevented. All defects in milk are passed on to the cream, and in turn to the butter. While we cannot take from, we may readily add to these defects in each step of our work. Hence we begin to determine the flavor of the butter in the production of the milk, and end with the finished product.

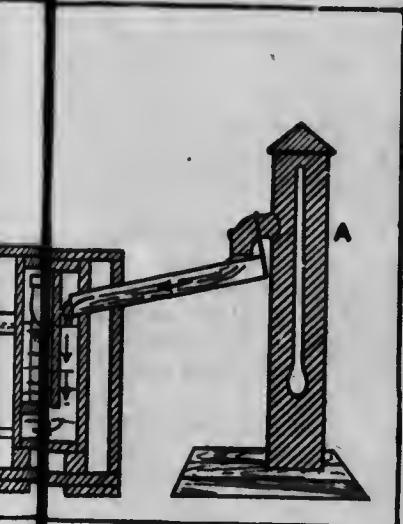
Causes of Defects.

2. Milking in unclean stables.
1. Cows' udders and teats in an unclean condition at milking time.
3. Using unclean, wooden, galvanized or rusty pails.
4. Keeping the cream in cellars or other places where there are roots or vegetables.
5. Keeping the cream for several days at a temperature over 50 degrees F.
6. Cows drinking water from stagnant ponds.
7. Plants that taint the milk, such as stink weed, reeks, etc.

Notes on the Production and Care of Cream.

Keep healthy cows under sanitary conditions. There are both pasture and stable foods that will injure the flavor of milk and cream; avoid them.

showing variations in growth. a slight y in Conn.



watering trough. The tank should

- F. Small pipe, with valve for emptying the tank to clean it.
- G. Watering trough.
- H. End view of tank.

own are made by using 2 by 4 inch lumber on both the inside and with dry mill shavings or sawdust. There should be a three-quarter inch on it, to empty the tank when the height of the over-flow should be of the tank is made of two piles of is coated on the under side with ver run lengthwise and the under should enter near the top of the

Provide pure water for both your dairy cows and the washing of dairy utensils.

Use good tin utensils and keep them thoroughly clean. In cleaning them, rinse with warm water, wash with hot water containing a little washing powder, scald with thoroughly hot water and then place in a pure atmosphere in the sunlight and in a position to drain. Use a fibre brush for washing.

Milk a clean cow, in clean surroundings and in a cleanly manner.

When cows have free access to salt at all times, they will keep in better health, will give more milk, and the cream from this milk will have a better flavor, and keep sweet longer, than when they do not get any at all, or receive it only at intervals.

Separate the milk promptly, while fresh and warm, and take a cream testing about 35 per cent.—not below 30 and not above 40 per cent.

Keep the separator in a clean place and cleanse it every time it is used.



Keep the Separator in a clean place and clean it every time it is used.



Use of an over large cream can, with a lot of stale cream inside, leads to bad quality and low prices. Deliver frequently.

Promptly cool the cream from the separator in a separate vessel to a temperature of 50 degrees or below if possible. A good plan to cool promptly is to set the cream pail in cold water while separating. Use a good dairy thermometer in your work, and don't guess at temperatures.

Hold the cream in the collecting can at the same low temperature and stir every time a new lot is added, to keep the skim-milk from settling to the bottom. Use a plain shot gun can, with a good cover, for the cream before adding to the larger lot or collecting can, and keep it covered at all times.

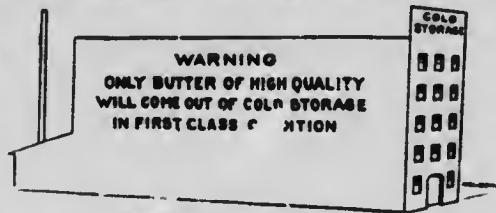
For cooling purposes use a well insulated cooling tank and cool the cream either by pumping water through it or by means of water and ice (see illustration, page 3), unless you are blessed with a plentiful supply of cold spring water.

Make frequent deliveries of cream your practice—not less than twice, and, better, three times a week in summer. Do not use too large a shipping can, but suit its size to that of the herd.

Cover the can while on the road with a clean blanket. Wetting the blanket helps to keep the cream cool.

To produce cream of high quality take as your motto:

CLEAN CREAM RICH CREAM COLD CREAM
SWEET CREAM FREQUENT DELIVERY



He who runs may read.



