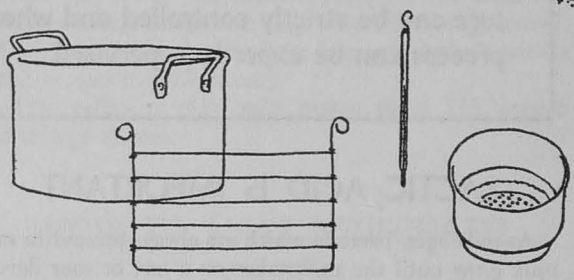
Extension Folder 189
November 1954

making Soft Cheese at home

cottage cheese • Neufchatel • cream cheese



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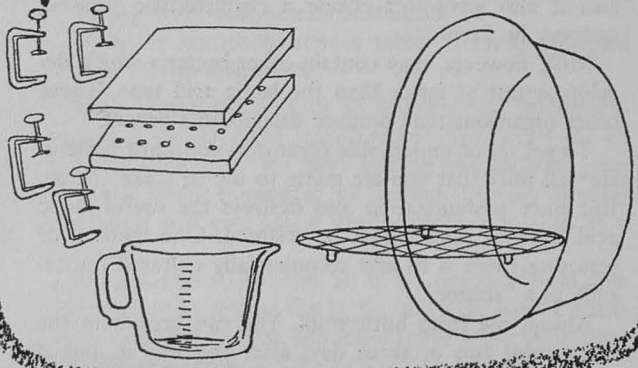

UNIVERSITY OF MINNESOTA
Agricultural Extension Service
U. S. DEPARTMENT OF AGRICULTURE

Serve soft cheese often -- for variety • economy • health

Have you thought of making cheese at home? It's one way to cut down your food bill, and of course, healthful cheese is a good addition to your family's diet. Cheese is easy to make, too.

Only the soft cheeses—those that don't need curing—can be made in the average Minnesota home with any success. Hard or cured cheeses, which require months of aging to produce a good product, can be made better in a factory where moisture and temperature can be strictly controlled and where the process can be expertly supervised.

There are three common types of soft cheese:

1. COTTAGE CHEESE—Made from *skim milk* and coagulated or "set" with lactic acid. The milk is heated slightly to firm or cook the curd.
2. NEUFCHATEL—Made from *whole milk* and coagulated with rennin (rennet) in milk which is slightly acid. The milk is not heated.
3. CREAM CHEESE—Similar to Neufchatel, with enough *cream* added to the milk to bring the butterfat content to 33 per cent or more.

LACTIC ACID IS IMPORTANT

As milk ages, bacteria which are always present in raw milk grow until the milk takes on a tart or sour flavor. Eventually the milk thickens or "clabbers." This wholesome lactic fermentation is necessary to form a curd, and it also gives soft cheese a characteristic pleasing tartness in flavor.

Milk, however, may contain other bacteria which develop as fast or faster than the lactic acid type. These other organisms may produce disagreeable flavors.

To get rid of undesirable organisms you must pasteurize* all milk that you are going to use to make cheese. But since pasteurization also destroys the useful lactic acid bacteria, these must be restored. One method of restoring them is to add commercially cultured buttermilk as a "starter."

Always use fresh buttermilk. You can keep it in the refrigerator two or three days after you buy it, but if you try to keep it longer it develops off flavors and the lactic acid bacteria become weakened.

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* See Minnesota Agricultural Extension Folder 133, *Pasteurizing Milk at Home*.

USING RENNIN IN SOFT CHEESE

Rennin, a setting agent, is used in all hard cheeses and many of the soft. It is most effective at a temperature of 80-86 degrees and in milk that is slightly sour. Rennin is destroyed at temperatures very little hotter than lukewarm, so be sure to use a dairy thermometer.

Cheese made with rennin has the following advantages over cheese made by heating sour milk:

- √ It is quicker to make, except for the pressing of the curd.
- √ Since the curd is not cooked, there is less danger of toughening.
- √ Less calcium is lost in the whey.
- √ The curd is finer and can be used in more ways.
- √ Since the whey is not diluted with water you can recover it more easily for other uses and thus save more of the milk's original food value.

SPECIAL EQUIPMENT FOR CHEESEMAKING

Dairy thermometer—You can usually buy this at your local hardware or creamery for less than a dollar.

Two-gallon kettle—For cottage cheese.

Five-quart or larger kettle—For cream cheese or Neufchatel.

Cheese knife—Make this at home by bending a firm wire into a U-shape that will fit into the kettle in which you will make your cheese. Anchor rustproof wire firmly from one arm of the U to the other at intervals of 2 inches.

Strainer or cheese bag—Use an empty sugar or jelly bag, seams turned to the outside, free from holes but loosely woven.

Long wooden spoon

Measuring cups and spoons

Dishpan with rack

Cheese press—Make this by boring ½-inch holes through a 6-inch–square hardwood board at 1-inch intervals in both directions. Put the cheese bag on this board and top with another board. On this second board place a weight, such as a 2-quart jar of water. Clamps such as those used on quilting frames may be used instead of the weight.

Wash and scald all utensils to be used in cheesemaking before using them. Organisms hiding in joints and seams may produce disagreeable flavors and an unwholesome product, even though the milk has been thoroughly pasteurized.

HOW TO MAKE COTTAGE CHEESE

1 gallon pasteurized skim milk
½ cup fresh commercial buttermilk

Cool or heat the skim milk to a temperature of 70-72 degrees. Stir in the buttermilk. Let stand at this temperature (room temperature) until it clabbers and the curd settles enough to leave a thin film of whey. This takes 15 to 24 hours.

Cut the curd into strips by running a long knife through it in both directions at 2-inch intervals. Then cut the curd horizontally into cubes by inserting the U-shaped cheese knife and giving it a half turn.

Let the curd "rest" for ten minutes. Then add 2 quarts of water that feels neither hot nor cold to the touch (98-100 degrees). Set the kettle of curd on a rack

in a dishpan of water, and heat slowly until the curd reaches a temperature of 98-100 degrees.

Hold the mixture at this temperature for 30 minutes to an hour, stirring gently with a wooden spoon every 5 minutes. Be careful not to break up the curd. During this period the finished curds will settle to the bottom of the kettle as the whey is gradually forced out. When you break them between your fingers, these curds will break clean and have a somewhat dry appearance. Too high temperature or too prolonged heating will give a tough curd.

When the heating is finished, pour the mixture carefully into a freshly scalded muslin bag, a cone-shaped puree sieve, or a fine colander. Rinse the curd with clean cold water while draining to firm it and remove some of the acid taste. Let it drain as long as the whey drips freely but not long enough for the surface to become dry.

Remove the curd from the strainer, work in 1½ teaspoonfuls of salt, and refrigerate it until needed. This is the "dry curd." To make it ready for the table add sweet or sour cream and any other seasoning desired. You can leave it in the flake form or work it with a fork or spoon until creamy.

One gallon of skim milk makes about 1½ pounds of cottage cheese.

HOW TO MAKE NEUFCHATEL CHEESE

1 gallon pasteurized whole milk
½ cup fresh commercial buttermilk
¼ to ½ household rennin tablet (rennet) dissolved in ¼ cup cold water

Heat or cool the milk to 85 degrees. Add the buttermilk and the dissolved rennin tablet. Stir gently for 10 minutes or longer, but **stop stirring the moment you notice a slight thickening or setting.** Stirring beyond this point will give you a mushy product instead of a firm curd.

Keep it warm—at from 80 to 85 degrees. Hold this temperature by setting the kettle in a large pan of warm water to which you can add more warm water from time to time as it cools.

Let it stand until whey covers the surface and the curd breaks clean from the side when the container is tipped.

Mark the curd into 1-inch strips by running a long slim knife through in both directions. Then cut the

strips crosswise into cubes by inserting the cheese knife and making a half turn.

Turn the mixture into a muslin bag or a colander lined with cheesecloth.

Press out the rest of the whey when nearly drained. Use your cheese press if you have one; otherwise cover with a small dish and weight it down with a jar of water. Save the whey and keep it in the refrigerator until the cream rises and becomes firm enough to skim. The cream will be of butterlike consistency. Work it back into the cheese.

When the cheese seems dry and firm, work in 1½ teaspoonfuls of salt. Add more cream or other seasonings as desired.

HOW TO MAKE CREAM CHEESE

3½ quarts fresh, sweet, pasteurized whole milk
1 pint whipping cream (more may be used)
½ cup fresh commercial buttermilk
¼ to ½ household rennin tablet (rennet) dissolved in ¼ cup cold water

Add the cream to the milk and continue exactly as you did for Neufchatel. Be careful to save all the whey, as a great deal of cream will have drained out with it.

CHEESE IS THE HEART OF THE MILK—

Cheese is climbing fast in popularity. Doctors recommend it, and it is easy on the budget. It pays to use it often.

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