Prof. Farrington: A good many differ in opinion, but I think these wide mouth glass stopper bottles are very good. The Mason fruit jars are very satisfactory, but we are using the wide mouth glass stopper bottle. It is very clean and the stopper is easily cleaned. It is not a good plan to use a bottle with a cork stopper, because the milk sticks to the cork badly.

**HOW I MAKE MY PRIZE CHEESE**

Edward Termaat, Plymouth

While I do not believe that my method of making cheese is much different from that of anyone else, yet I have been quite successful in winning a good many prizes.

In the first place, I think I am fortunate in having a good bunch of patrons, who not only take an interest in producing and caring for good milk, but who are also interested in seeing me win prizes whenever I do. I need not tell you that none of us can make a first-class cheese, or a high scoring cheese, unless we have the cooperation of every one of the patrons who furnish the milk. In order to get this cooperation it is necessary for us to instruct our patrons in the best way of caring for their milk. I must say that, in taking credit for myself for having produced quite a number of prize cheese, I must also give credit to my patrons for the care they take of their milk.

Another thing, we must exhibit our cheese and enter into competition with one another to find out whether we can make prize cheese or not, and I have never hesitated to exhibit cheese at the different conventions and state fairs throughout the country. In this way I have entered into competition with my fellow cheese makers, and have secured quite a number of mighty good scores. My advice to each and every one of you is that you exhibit cheese whenever the opportunity presents itself.

My plan of making cheese is as follows: I receive my first milk about 6:30 A.M. and as soon as I have about 1,500 pounds of milk in the vat I add twenty-five to thirty pounds of pure culture starter—that is for 4,000 pounds of milk. By 7:45 A.M. I have all my milk received, and by eight o’clock I have the temperature raised to 85° F. As soon as the milk has reached an acidity of 19–100 per cent I add my rennet at the rate of three ounces to the thousand pounds of milk, using one ounce of color to the thousand pounds of milk. My vat is then ready to cut in about thirty minutes, or about 8:30 in the morning. At the time of year at which I am speaking I was cutting my curd four times—one with the horizontal and three with the perpendicular knives, so that I was really cutting it fine. I then started stirring my curd, slowly, handling it with as much care as possible, and in the twenty-five minutes after heating it to a temperature of 102° F. I then keep it well stirred in the whey until it shows about 14–100 per cent of acid, or ½ inch thread on the hot iron. Usually this takes two hours from the time it is set until it is dipped. After the whey is drawn off I throw the curd back on the racks from six to eight inches deep, cut it in strips about eight inches wide and turn it every fifteen minutes until I have it piled from five to six layers high. In about an hour the curd has about 4–10 per cent of acidity and is then ready for grinding. After grinding the curd is washed with from five to six pails of water at a temperature of 105° F. and I work this through about three times, then pile my curd on both sides of the vat and allow it to drain. After it has drained the curd is forked over and salted with three pounds of salt to the thousand pounds of milk and well worked up with the fork four or five times and left for about fifteen minutes, when I can fork it through and put it in the hoops. In about half an hour I loosen the press and dress the cheese. I use a self-pressure cheese press and take my cheese out in the morning and put them in the curing room. I hold them three days, paraffine them,
and then put them in cold storage. The process of making my prize cheese takes about six hours time from the time the rennet is added until the cheeses are ready for the hoop.

There are none of us have any patent process on the manufacture of cheese. The whole thing necessary is care in receiving the milk, good milk, and care in making the cheese after you get the milk into your hands. The process, of course varies, depending on the condition of the milk, but I have spoken of milk that was in good condition from which prize cheese can be made.

Discussion

Mr. H. L. Naumann: Could anybody make that cheese without putting it on the rack?
Mr. Termaat: Yes, you can.
Mr. Naumann: Do you get as good results?
Mr. Termaat: I don’t know as you get as good results. I could not say, but all my cheese I made for fairs I made on racks. I think we get a drier cheese and firmer cheese all around by making on racks.
Mr. Lewis Root, Madison: What culture do you use for your starter?
Mr. Termaat: Pasteurized starter.
Mr. Root: I mean culture.
Mr. Termaat: This starter I have is two years and a half old.
Chairman: I feel the same as Mr. Termaat, if you have a good starter, keep it. Some years ago Mr. Johnson of Canada used a starter which was seven or eight years old. I used a starter for eight and a half years and I sold that starter with the factory and the starter is going today.
Mr. Root: How can you keep that?
Mr. Termaat: By taking care.
Chairman: I pasteurize the starter in the morning, cool it down, and I take the starter out the next morning. I used it eight and a half years and I sold it with the factory and the gentleman who bought the factory is using it yet.
Mr. H. B. Tanberg, Spring Valley: Do you pasteurize your starter indirectly? You do not have the steam running directly into the milk?
Chairman: No, sir, indirectly.
Mr. Mensch: I would like to ask if you recommend the washing of the curd?
Mr. Termaat: Yes, I use five to six pails of water, at a temperature of about 105 degrees.
Mr. Ubbeloohde: How much starter do you put into your milk?
Mr. Termaat: For four thousand pounds of milk I use twenty-five pounds of starter.
Mr. Tanberg: How much do you save to start that starter?
Mr. Termaat: About a three-quarter can. I take that out right away.
Mr. Larson: When your curd is dry it causes more of a hard, drier cheese. In pressing it, it will show more of a curd, it will be coarse in texture.
Mr. Ubbeloohde: If you have the right amount of acid when you start, there is no danger of your curd getting too dry.
Prof. Farrington: Don’t you think you lose in yield?
Mr. Termaat: I don’t know. It probably might affect the yield a little bit, but I don’t think so.
Mr. Tanberg: At what temperature do you ripen your starter?
Mr. Termaat: From 175 to 180 degrees, then cool down.
Mr. Tanberg: How long do you keep it at 175 to 180 degrees?
Mr. Termaat: A little over an hour.
Mr. Tanberg: How low do you cool your starter?
Mr. Termaat: I suppose between 55 and 60 degrees. It depends on the time of year.
Mr. Roach: Washing at 145, is not it a fact that you want your curd any warmer than 85.

Mr. Termaat: You get a closer cheese. That water will take it out.

Mr. Mensch: Is not there danger of washing out some of your butter fat at that temperature?

Mr. Termaat: There might be.

Mr. Mensch: Is not there danger of having grease in your press washing at that temperature?

Mr. Termaat: I don't have any trouble.

Mr. Mensch: Your idea of washing your curd at this temperature is to lose the loose fat?

Mr. Termaat: I learned to do that in the course at Madison.

Mr. Ubbeholde: In washing the curd with the cold water my hoops would be full of grease in the morning. With the cold water you will have more grease in your hoops in the morning.

Mr. Mensch: Are you of the opinion that washing the curd will take off flavors?

Mr. Termaat: I think washing the curd will take that out.

Mr. Mensch: What temperature do you keep the curd when it is on the rack?

Mr. Termaat: I don't know.

Mr. Mensch: You do not allow it to cool down before the fat is warm?

Mr. Termaat: No.

Chairman: You use water under the vat?

Mr. Termaat: Under the vat.

Mr. Mensch: Do you use a steam heated vat?

Mr. Termaat: It is a self-heating vat.

SHOULD WISCONSIN USE A STATE BRAND ON ITS CHEESE?

A. W. Hopkins, Madison

We all know that Wisconsin enjoys unusual conditions in the production of all farm products. We have the climate, we have the location, we have all of the natural advantages for the production of superior products. In the past year Wisconsin has been successful in its production, and other states have been having their difficulties. When it comes to the matter of butter, we are producing one-sixth of the nation's butter; when it comes to cheese, you are producing more than fifty per cent of the cheese of the nation, and you are producing various types of cheese which are in demand.

The matter of advertising comes in. Wisconsin is producing all of these various products and it seems there is no reason why we should not go out on the markets recognized by our own brands, instead of the dealer or market man in Chicago, probably. We are producing all of these various products. We are producing enough butter, I figured out a year ago, if you had it laid on cars of the average size, it would take one hundred trains of thirty cars each to haul that to market. That is in butter, and we do not produce as much butter in Wisconsin as we do cheese.

I am not a cheese man, I am a publicity man. About five years ago we thought out the idea of some state brands, and at that time we called together representatives of the fruit growing, the butter making, the cheese making, the potato growing, the grain growing, live stock—all together there were eight different lines, and the plan was then submitted of having a state brand which would be similar. For butter we would have "Made in Wisconsin", and here we would have in this lower part here the type or the market package of whatever was for sale. Here are a number of the thirty-five varieties of cheese made in this state. When it came to butter, of the market package of butter. If it were