CARE OF WHEY CREAM

By Wm. J. Frank, Manitowoc, R. 4.

Mr. President, Ladies and Gentlemen:—When I first started skimming whey I had trouble, finding the cream soured very fast, even after I had cooled it during the afternoon. This was very unsatisfactory, so I decided to skim a richer cream. Next results were it was fall time and the cold weather made the cream too thick.

My next plans were to dilute the cream with a few gallons of sweet milk, but high cheese prices made this too expensive and I thought why not try cold water from the well.

This brought good results, and I advise skimming a rich cream, say, about 60% fat and add 8 or 10 quarts of pure cold water to a 10-gallon can containing 7 or 7½ gallons of cream immediately after whey is all skimmed. Then do not put cans aside and forget them until the cream truck comes, but always set them into a tank of cold water and stir it several times while cooling, changing the water during the hot weather. Stirring it often prevents it from getting lumpy. If only half a can of cream is received a day do not let this stand till the next day, but cool at once after skimming. Don't pour warm cream into cold cream. Keep cans covered and in a cool place.

This is extra work, but is well worth the trouble, producing a cream that will keep sweet longer, is nice and smooth and has a good flavor.

Now, cheese maker friends, let's make 1922 a record cheese year and do our part to bring in good whey cream to our butter maker friends.

EFFECTS OF BAD MILK ON AMERICAN CHEESE

By N. E. Possley, at the 1922 Convention.

In discussing the subject of the effects of bad milk on American cheese, I want to take up first the effect of milk with high acidity.

One of the chief difficulties with milk having a high acidity is that it makes the curd work too fast. As the curd works rapidly and acidity grows more than normal it is necessary to get the proper temperature or cook to all the particles of the curd. This necessitates finer cutting of the curd and rapid working by the maker. If the maker should fall down on this and not cut the curd fine enough, a hard coating will form on the outside of the cubes, while the interior remains milky. This milky interior will continue to grow in acidity, as this cheese is very high in moisture, and will cause the cheese while in the process of curing to turn very acid, if not actually sour, even when it did not have too much acid at the start. If the maker works fast, however, and gets the proper cook he will overcome the acid, but is bound to lose in yield.

When the maker discovers that the acid has the better of him, he can still save the day by washing the curds in warm water immediately
after the whey has been drawn. This washing will take most, if not all, of the acid. However, this washing process will still more reduce the yield. It must be borne in mind that such curds, not having the proper cook, will require more salt in order to expel some of the excess moisture. This again means a loss in yield.

My second point in this discussion is the effect of bad milk due to yeasty fermentation. It is not necessary for me to explain to you what yeasty fermentation is. I have had fresh morning milk selected for culture starter turn within an hour, raise and work so fast that only half of it remained in the can. Such milk, no matter how small the amount, will affect the entire vat of milk and cause the maker a lot of trouble. With milk of this kind one should cut finer, by all means get the proper cook, run more acid than usual and add an extra amount, say, one-half of one per cent, of good commercial starter. The extra acid will overcome some of the yeasty fermentation and the bacteria in the starter, which is a pure culture, will overcome some of the yeasty bacteria. These curds must be given more time in maturing. From my experience I have found that to leave the curd in the vat for three or four hours after milling will oftentimes help greatly to turn out a fair marketable cheese. If this germ is not overcome in the process of making, the product will be practically worthless, as this germ will continue to work, with the result that the cheese will swell and become badly off flavor.

My next point in this discussion is the effect of off-flavored milk. Generally such taints follow through the process into the cheese, but oftentimes some of it can be removed by using a good culture starter and getting the proper cook. After milling air the curds thoroughly and rinse with water at about 100 degrees Fahrenheit and when salting add a little more salt than usual. By adding the extra salt you may lower the moisture content way below the legal standard, but by improving your product you more than make up for the loss in yield.

This flavor often goes with the cheese even after they are cured and can always be detected. Such cheese may not be a loss to the maker, but the buyer has his complaints on such cheese.

My next point is the effect of gassy or pinholey milk. I do not think there is a cheese maker in the business who takes in gassy milk without knowing it. How can we prevent it? In the first place, gassy milk should be rejected at the intake. In my experience in northern Wisconsin I had a great deal of trouble with gassy milk and if I had rejected all gassy milk I would have had little left. By making the Wisconsin curd test I discovered who were bringing me the worst gassy milk and some were those who thought they were taking the best care of the milk. I showed the patrons the curd test and one particular farmer, with the poorest sample, invited me to come and take care of his evening milk and make another test, which I did. I cooled the milk down to 50 degrees and stirred it thoroughly and in the test the next morning, to my surprise, there was no improvement. I then decided that the trouble was in the feed at that time of the year and that it was up to me to do the best I could. By putting in long days I
made a cheese that was marketable as far as texture and make-up was concerned, but I could not get the desired flavor, and I found no way, in all my experience, to overcome this condition. I have seen cheese that had been in storage for six months, well-cured nice stock, but the flavor was against it, and, of course, it did not bring the market price.

In the Neenah neighborhood I had a different experience. There I had milk which was gassy and perhaps as bad as that in Oconto county. By making the curd test I discovered who was bringing the gassy milk and upon investigation I found that it was not the pastures, but was in the care of the milk. I found that the majority of the farmers were using homemade wooden milk stirrers and that the pores of the wood in these were breeding places for the bacteria causing the gassy milk. I was not slow in ordering four dozen metal stirrers and simply handed one to each patron gratis. I also pasteurized the whey, thereby destroying the bacteria so that they would not affect the cans as the whey was being hauled home. Between the metal stirrers and the pasteurizing of the whey my troubles with gas came to an end.

However, before I was able to eliminate the gas I handled the cheese as follows: In the first place, I added a good per cent of pure culture starter, I was very particular to get a good cook, I run an extra amount of acid, I did not mat the curds, but after the proper length of time I milled them and then covered them with water at about 100 degrees and kept this water at this temperature for from two to four hours, depending on the amount of gas. After making sure that all the gas was removed I drained the water off and when salting used an extra amount of salt. The yield was poor, but the quality was so that there was no loss in price, as the cheese did not Huff and pulled a good plug.

My last point in this discussion is the effect of barnyard odor in milk on the cheese. As a rule, one has to contend with barnyard odors in the wintertime, as the farmers keep the milk in the barn to keep from freezing, but one may get such milk in the summertime, as I experienced. I rejected one patron's milk three mornings in succession and the third morning I told him that if he would stand the loss on the cheese I would take his milk, but this he would not do. That evening I went to his place and found his milk in the stock tank and near a manure pile. I demanded that he move his milk to the house where he had a pump, had him get some barrels to cool the milk in and warned him that I would not take the milk if he did not follow my instructions. After this the milk was always O.K.

The intake subject is handled by Mr. Rindt and I do not want to intrude on his subject. I feel, however, that the majority of the cheese makers do not spend enough time at their patrons' barns.