

## Cheese Department

Makers are invited to send contributions to this department, to ask questions on matters relating to cheese-making, or to suggest subjects for discussion. Address your letters to The Cheese Making Department.

### District Dairy Meetings

The Dairymen's Association of Eastern Ontario has arranged a series of district dairy meetings to be held during November and December as follows:

Peterborough, Nov. 4th; Lindsay, Nov. 5th; Campbellford, Nov. 5th; Perth, Nov. 17th; Kemptonville, Nov. 18th; Vars, Nov. 19th; Vankleek Hill, Nov. 20th; Lancaster, Nov. 23rd; North Williamsburg, Nov. 24th; Avonmore, Nov. 25th; North Gower, Nov. 26th; Cobden, Nov. 27th; Madoc, Dec. 1st; Belleville, Dec. 2nd; Napanee, Dec. 3rd; Ganouque, Dec. 4th; Kingston, Dec. 6th.

Henry Glendinning, Manilla, Ont., and Chief Instructor Publow will give addresses at all these meetings. The local instructors will also be present as well as some representative of the Dairymen's Association. The director to represent the district on the Board of the Eastern Dairymen's Association will be elected at each of these meetings, and a large attendance is looked for.

### The Whey Butter Business

Throughout the past season, the whey butter question has aroused considerable interest among patrons and owners of cheese factories. Now that the season is about over, many who did not take up this work with pasteurizing whey butter are interested in the success that has been met with by those who have experimented more or less with whey butter. Professor Dean of the Ontario Agricultural College, in a circular letter sent out to the press has the following to say regarding this venture.

In order to meet the competition from creameries and condenseries, some Canadian cheesemakers have been compelled to go into the manufacture of "whey butter" or go out of the cheese business. It is well that we are able at times to agree with necessity. Some men are so "pig-headed" that they continue to root among the prickles. Most men prefer to root where it is softer and the acorns more plentiful. Then, too, in the dairy business, men must look after the small items. A quart of milk, a pound of butter or a pound of cheese do not seem very much but the man who does not give close attention to these units is likely to miss his hundreds—he is sure to miss the millions. The man who neglects the small profits to be made from whey butter may be missing the only profitable part of the business as we have heard some cheese makers say that the whey butter was about the only "pure profit" they had in manufacturing milk into cheese at "our rates."

In our judgment, it will not pay to manufacture whey butter unless the factory is receiving at least 5,000 to 10,000 lbs. of milk daily. It is a question if it will pay then in case the factory has to purchase a separator and other butter-making machinery. The amount of whey which may be made for a daily delivery of say 10,000 lbs. of milk to a Cheddar cheese factory will vary according to the conditions of manufacture, percentage of fat in the milk, etc. In the average, a man should not expect more than 60 lbs. of butter daily from 10,000 lbs. of milk. In many cases it will be less. If the maker be skillful and the milk in good condition, not testing over 3.6 per cent. fat, the amount of whey left in the curd will not be so great as under conditions where the milk is over-ripe, grassy or contains four per cent. fat or over, which conditions always cause a greater loss of

fat in the whey, other things being equal.

### THE MONEY IN IT

Assuming that the 10,000 lbs. of milk produce 1,000 lbs. of cheese and that the whey test 2 per cent. fat, we have 18 lbs. fat recoverable in the whey. If we add one-sixth to this fat in order to calculate the probable amount of butter which may be made, we have 21 lbs. butter. If the butter be worth 20 cents a pound, which is about the lowest price we have received during the past season, it is a value of \$4.20 for one day's whey butter, this multiplied by 200, which is about the average number of days which a Cheddar factory will run in a season, we have a sum of over \$800.

Some Canadian cheese-makers consider that this amount of money pays them well for time and expense in manufacturing the butter, especially as most of these men already have a butter-making plant on hand for the making of butter in winter.

What effect the making of whey butter will have on the Canadian cheese market remains to be seen. So far as our own experience goes, we do not see that it is likely to have any harmful effect unless the butter is sold as Canadian creamery butter. This however is not likely to happen as the amount made in any one factory is not large enough to warrant exporting. There are several factories combining all but are doing at Pictou, Ont., then the quantity of butter is likely to be sufficient to have some influence on the butter market. Some advocate branding all butter made from "whey cream," as whey butter. The quality is such that it will scarcely grade above seconds in any market.

### Pasteurizing the Whey

One of the difficult problems in cheese making for years past, has been the disposal of the whey, in such a way as not to injure the quality of the product. In many factories to-day the whey is still a hindrance to the making of the finest cheese. It is the source for bad flavors communicated to the milk through the cans when they are subsequently washed.

Some years ago a strong effort was made not to return the whey to the patrons, but to sell it in bulk to parties who would take it away or feed it to hogs at such a distance from the factory as not to interfere with the work. Some factories adopted this method, and a number have continued to sell the whey ever since. That these have been the factories that have made the finest quality of cheese, goes to show that the returning of the whey in the milk cans has been injurious to the business as a whole.

But notwithstanding the experience of the few factories which greatly improved their output by selling the whey, there have been many who did not make progress. Patrons wanted the whey at home for feeding purposes and the factories had to return it or quit the business. The practice of returning the whey is now nearly altogether the practice, resulting in the perpetration of a system that is not conducive to the best results in cheese-making. Some of the more enterprising factories prepared to deal with the question as best they could by elevating the whey tanks, keeping them clean, and in other ways endeavoring to lessen the evil effects of the system. A great deal was accomplished by these efforts. But there remained hundreds of factories which made little or no attention to the whey tanks so long as the patron had his proper quota returned to him in the milk cans every morning. So filthy did some of the tanks become that not only the quality of the cheese was endangered by them. Considerable improvement has been effected in recent years by the efforts of the in-

structors, and whey tanks are much better looked after than they were five years ago. They are still a source for flavors that injure the cheese, and for many years, have been bound to give trouble.

A year ago the Bright factory, in Western Ontario, began pasteurizing the whey. As Mr. Johnston's letter in this issue shows, the results have been satisfactory from every point of view. A bitter or "yeasty" flavor in the cheese, which had been a source of trouble for many years, disappeared as soon as pasteurizing began. The milk arrived at the factory in better condition, patrons could clean their milk cans easier, and the whey returned was better for feeding purposes. Other factories which began pasteurizing the whey had the same experience. This year there are a number of factories in Western Ontario pasteurizing the whey, with very satisfactory results as the letters from several makers in this and succeeding issues will show.

Considering the very great benefits resulting from pasteurizing the whey, the cost of the work is small. The cost is about 50 cents a ton of cheese made, or from 50 cents to \$1 for each patron. It is worth this to the patrons if it did nothing more than enable them to clean the milk cans easier. But the greatest benefit will result from an improved quality of milk. One of the greatest sources of bacterial infection is removed, and to this extent the patron benefits in the improved quality of the output.

Pasteurizing of the whey is of value to the patrons nearly altogether. The maker does not benefit excepting in so far as it gives him a better quality of milk to work with, thus lessening his anxiety and worry as to what the finished product will be. The factory owner does not benefit, only so far as pasteurizing the whey at the factory to turn out a quality of cheese that better suits the market. It is the patron who benefits directly from the cost of pasteurizing the whey, and it is the patron who should pay for it. As we have shown, the expense is not large, and every patron should insist upon having the whey at his factory pasteurized. He will find it easier to clean his cans for the milk, and the finished article will be in greater demand on the market.

### Feeding Value of Whey Doubled

Editor, The Canadian Dairyman and Farming World:—In regard to pasteurizing whey, I would say that I have been doing a little pasteurizing and find it very beneficial to the flavor of cheese.

During the past four years we have been troubled off and on with bitter or "goosey" flavor and this year we commenced pasteurizing the whey. I immediately put in the pasteurizing pipes and the third day we had it completely stamped out and we have not had any of the flavor since accepting one day, that was yesterday.

and we only use the plant when needed—I pasteurize about two days in the week. I started last June with this way of handling or heating the whey and am thoroughly convinced that it is O. K. In July I put in the outfit in my Oliver factory and experienced the same results.

The tanks are easily cleaned. The cheese are a great deal finer in flavor and nicer in texture and body.

We use brass rotary pumps for elevating the whey and we have our pipes so arranged as to heat the whey while delivering from the pump. We therefore never lift through the pump the hot whey. We heat to 164 degrees. We also use a lot of our exhaust steam in the pipes, or tank, and can also heat the whey in the ground tank to 160 degrees. I think that, as we have our pipes constructed, it is economical on fuel.

I am certain that the feeding value of the whey is doubled by the heating as it goes back to the patrons in good condition. I charged the patrons nothing this year for pasteurizing as it was as an experiment that I tried it. W. J. Atkinson, Cheese Manufacturer, Middlesex Co., Ont.

The total number of cheese and butter factories in Canada in 1900 was 3,576, and in 1907, 3,516. The provinces where fewer factories existed in 1907 than in 1900 are Prince Edward Island (43 instead of 47); Nova Scotia (13 instead of 23); New Brunswick (53 instead of 68); Ontario (2,999 instead of 1,336); and Manitoba (51 instead of 69). In Quebec the number increased from 1,992 in 1900 to 2,074 in 1907; Alberta, 18 to 33; in Saskatchewan, 5 to 7, and in British Columbia, 8 to 13.

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