

and from my experience as instructor at the creameries for the past three years, I claim that the quality is not due to the system of making, but is injured largely by the same means by which the quality of our cheese is injured, the cream being improperly cared for at home and the butter held too long in unsuitable storages before being sold. It is quite customary to hold the butter at the creamery for three or four weeks, and often six or eight weeks, and the result is the flavor of the butter is wrong before it leaves the creamery, whereas at the separator creameries the butter in nearly every case is sold weekly and consumed while it is still fresh. I have recently interviewed three of the largest exporters of Western Ontario butter on this subject, and their experience is that when they can purchase the cream-gathered butter each week, while it is still fresh, and place it on the market immediately, in nearly every case it has given good satisfaction. They also give it as their opinion that if the butter at the separator creameries was held at the factory under the same conditions as at most of the cream-gathered creameries, there would be little or no difference in the quality of the butter. If you look up the records of the best expositions in Ontario for the past five or ten years, you will find that the majority of prizes have been taken by the cream-gathered creameries. At the July contest at the Pan-American, the Ayton creamery exhibited their butter (which was not specially made for the purpose, but was merely selected on shipping day, and was one month old) and received the highest score. The same creamery also won two firsts and the silver challenge trophy for the best butter at Toronto, and two firsts and gold medal at Ottawa Exposition last year, which goes to prove that if the farmers were educated properly in caring for their cream, the factories properly equipped, and the butter well made and properly cared for afterwards and put on the market while still fresh, we would have no difficulty in producing butter on the cream-gathered system that would compete successfully with the finest goods offered on the market.

To improve the quality of our butter by checking the extension of the cream-gathered creameries or converting the present ones into separator creameries would be as impossible as to improve the quality of our cheese by preventing the sour whey going home in the milk cans when the farmers demand it, and instead of a useless attempt to abolish the system and advocating a system which could not exist, we should unite our energies to improve the present conditions under which most of our butter is made. To see that the cream-gathered system is rapidly growing in favor, and is here to stay, we have only to note the prosperous condition of the majority of cream-gathered creameries and the enormous sale of hand separators, thousands of them being sold in Ontario last year. It is the only system which can be profitably adopted in the northern counties or the Western Provinces, where dairying is not a specialty, and in the United States it has largely replaced the separator system. Between 5,000 and 10,000 hand separators were sold in the State of Iowa alone last year. It is my opinion that the hand separator will effect a greater improvement in the quality of Western Ontario butter than any other means, for the reason that they deliver the cream in the best possible condition, and if it was properly taken care of by keeping it cold and sweet and free from bad odors, the finest quality of butter could be made at a minimum of cost.

If the manufacturers of hand separators could secure agents as well skilled in teaching the farmers the proper methods and the benefits of caring for cream, together with the literature they are already distributing, they would be more effective in improving the quality of cream-gathered butter than the dairy schools and travelling instructors combined, for the reason that the agent comes in contact with each individual patron, which is impossible on the part of the instructor, and if a farmer is at first taught to care for his cream properly, he is likely to continue doing so, and there is no good reason why the cream, after being skimmed from the milk by a hand separator, which tends to purify the cream, could not be delivered at the creamery in as good or better condition as a large quantity of milk, and at very much less expense.

The three greatest objections to the cream-gathered system are: 1. Cream is not collected often enough, and is frequently drawn too far. 2. It is often sour and tainted when it reaches the creamery. 3. The butter is usually held at the creamery too long before selling. Time will remedy the first difficulty. As the farmers engage more extensively in the business, which will increase the amount of cream and enable the factorymen to collect it oftener, a proper system of educating the farmers will improve the condition of the cream. Our experiments at the Western Dairy School indicate that sour cream can be pasteurized successfully, which will also free it from bad odors and greatly improve the flavor and keeping quality of the butter. The practice of holding the butter too long at creamery could

be largely overcome by appointing the maker salesman. The butter would then be sold at an early date, and before it was injured by age or heat in storage.

The plan we have adopted at creameries in which I am interested, is to send printed instructions to each patron on the benefits and use of hand separators, which we strongly advocate, and proper methods of caring for cream to keep it sweet and free from odors. Each patron is visited once during the season, if possible, and local meetings of the farmers are held at different points in the district. We are also arranging to ship our butter each week direct to the British market, where it will be consumed while it is still fresh. We are paying good salaries to expert makers, and I am positive that by these methods we can produce the quality of butter the market demands, and make the business much more profitable to the farmer than could possibly be done in the same districts under the separator system.

ARCHIBALD SMITH.

Middlesex Co., Ont.

Against the Cream-Gathering System.

To the Editor "Farmer's Advocate":

Sir,—The letter of Mr. I. W. Steinhoff in your April 1st issue, on the subject of creameries under the cream-gathering system, is, to my mind, a timely warning. It takes the same ground upon which I have always stood in creamery matters, but I have held my peace for some one with a broader experience to open the fire, and I am glad to know that Mr. Steinhoff has made the onslaught. I think that every person interested in Canada and her reputation should raise his voice for the maintenance of a system in any line of Canadian production which will be the greatest credit. I do not think his statements are at all too strong. Previous to 1885 we had nothing in the butter line to send to England worth mentioning, and the great bulk of butter that was made and handled in country stores from farm dairies had to be used up as soap grease and the like. The gathered-cream creamery in those days did much good to reduce the bulk of butter disposed of as above mentioned. In 1891, the system of instruction inaugurated by the Government (travelling dairy), and followed for several years, did a grand work in the improvement of the dairy butter of our fair Canada, but it was not till the inception of creameries operated on the separator system that Canada's reputation as a producer of finest butter began to forge ahead, as did our reputation as cheese producers.

Now, if we are to hold and maintain this reputation, we must stay with the system that gave it to us, and lose no opportunity to improve and perfect it.

Let us look back in review of the position for a moment. When the great bulk of our butter was handled in the stores of our country, it was a difficult matter to get 1,000 pounds of butter of uniformly good quality. This was one of the worst features even after the goods were vastly improved by education.

Under the gathered-cream system this trouble still exists, because, while it is an improved method over the home-dairy system, the cream is managed under just as many systems (many of which are entirely unfavorable) as the butter was formerly, even though many times it may be separated by mechanical methods, as is the case.

One of the greatest difficulties we have to contend with in the dairy business is to get patrons to take proper care of the milk for either cheese or butter, and if the cream alone is cared for under these improper methods, how much worse the results will be may be measured to some extent by the fact that the cream is the essence of the milk from which the finished article is made, and much more easily contaminated after separated than when in the whole milk. Under the management of a separator creamery, the cream is all managed with the same express and the best methods for the production of the best quality possible.

The encouragement of cream-gathering creameries indicates to one the invitation for troubles to assail the export trade in butter in future years which will not be easily handled.

It is true that many prizes have been taken by butter made from gathered cream, but it is not made from the "pool of cream" taken in, but from carefully-selected cream from patrons who take especial care of the same. Patrons can take just as good care of it, if they will, as the creamery, but with more trouble. Patrons can also care for their milk in first-class style, if they will, and deliver a first-class raw material to the hands of the makers of cheese or butter, from which nothing but first-class goods would then be made. If this one condition could be obtained, without exception, for the current year, 1902, we should hear nothing at our conventions next winter about the poor cheese or butter made this season. Our friend, Mr. Dorchester, will not have the opportunity to say we produced the best and the worst cheese in 1902 that we ever produced, but simply stop when he has said the first

Tambton Co., Ont.

S. P. BROWN.

The Production of Milk by the Average Cow.

BY PROF. E. H. FARRINGTON, CHIEF WISCONSIN DAIRY SCHOOL.

In discussing this important part of the dairy industry, I wish to make it plain at the beginning that I am not the champion of any particular breed of cows; my knowledge of the different strains or types of dairy cows is not sufficient for me to enlarge on the advantages of a long-horned cow over a short horn, neither do I pretend to say that a Guernsey, a Jersey, a Holstein or an Ayrshire is the best cow for a farmer to keep. My information on the cow question is confined to observations made at some of the ninety-five farms that are supplying milk to the Wisconsin Dairy School.

In visiting these farms in the past seven years I have not attempted to train myself so that I might become sufficiently expert to tell a farmer all about the different cows in his herd by simply looking them over while sitting in a buggy on the highway, but my efforts have all been directed towards trying to induce the farmer to keep a record of what his cows are doing. This, it seems to me, is going to help him, and I am afraid that if I ever tried to discuss the points of a cow with a farmer I would be in the plight of the professor of agriculture who was once talking with a young lady, and she suddenly turned on him and asked: "Professor, can you tell a good cow?" The professor, without any hesitation, replied: "Why, yes, I think I can." "Then what would you tell her?" said the young lady.

BY THEIR FRUITS YE SHALL KNOW THEM.

I did not wait to hear the rest of this interesting conversation, but without further delay I wish to say that my position on the cow question is expressed in the text, "By their fruits ye shall know them." If a cow gives milk and butter enough in a year to pay for her keeping, and a profit besides, she is worth telling something of a story about; but if her food costs more than her milk brings, the less said about her the better. It is encouraging, however, once in a while to hear someone tell about an unprofitable cow that has been disposed of, and to know that such an animal is no longer being bought and sold among farmers.

The lack of exact knowledge regarding the annual production of each cow in a farmer's herd is in some cases rather surprising. It often happens that the cows are milked and fed in the same way every year, and if the check from the creamery or cheese factory is not large enough to suit the patron, and it never is, then a great many complaints are heard about the price of butter or the cost of feed, and very little, if any, effort is made to find out whether or not the cows are what they should be.

An illustration or two will serve to show the extent to which some farmers make an effort to think or how well informed they are about their cows and other business affairs. I once asked a farmer, who was bringing milk to the creamery, what breed of cows he kept, and he said: "Oh, I don't know, I guess they are Poland-China cows." Another farmer, who was drawing his own and some of the neighbors' milk to the factory, came to see me one day about the price he was receiving for his work. He said he had come to the conclusion that he could not afford to make the trip unless he was paid a dollar and a half a day. I asked him what he was getting, and he said he didn't know, but it wasn't enough. I looked up the records, showing how much he had received for several months, and found from his own creamery checks that he had been paid \$1.75 per day for drawing milk. This was twenty-five cents more than he said he wanted, but he had not taken the trouble to find out how much he was receiving before he came in to make his complaint and demand for \$1.50 per day.

It is too often the case that

FARMERS KEEP NO RECORDS.

whatever, and do not have the slightest idea as to where they are at. They look at the amount of their creamery- or cheese-factory check without thinking that the size of their cows and their own size is responsible for the size of their monthly check. Many of them talk like a woman I met on the street, December 23rd. As I passed her I said, "Good morning, Mrs. Blank, I suppose you are out buying Christmas presents this morning?" "No," she said, "it's too hard times to buy Christmas presents this year; the creamery don't pay enough for the milk." Now, that woman keeps nine cows and the creamery paid her about \$250 in a year for the milk she sent to it. This is between \$25 and \$30 per cow per year that she receives, and she never once thinks that it is the cow's fault or her own fault that she does not get more money, but according to her way of thinking, and there are others that are of the