

1,000 to 2,000 pounds cheese annually. A leading American dairy journal said, recently, regarding the new Hart casein test, that it promised to do for cheesemaking what the Babcock test had done for buttermaking, in developing a special butter cow, giving milk with a high percentage of fat. The writer goes on to say that he sees no reason why a special cheese cow may not be developed; i. e., a cow which gives milk containing a relatively high percentage of casein. We are pleased that the position we took some fifteen years ago, that milk for cheesemaking should be paid for on a different basis from that which is adopted for the payment of milk for buttermaking, is now being recognized as the correct one.

UNFAIR SYSTEM OF PAYING FOR MILK AT CHEESE FACTORIES.

At present, patrons of cheeseries are at a disadvantage, as compared with patrons of creameries, in the matter of a just system of dividing proceeds from sales of products. Almost invariably, creamery patrons are paid according to the butter value of milk or cream, while patrons of cheese factories are paid chiefly according to a system which places a premium on dishonesty, or else are paid according to a plan which places too great a premium on but one milk constituent, viz., the fat. It is well known that both fat and casein of milk are essential in the manufacture of cheese, and both these constituents should be recognized in any system adopted for paying patrons of cheeseries. It is little wonder that some of the best patrons of cheese factories have withdrawn their support from an institution which has for its motto, "Every man for himself, and the devil take the hindmost." We welcome the advent of a test which enables a person to ascertain the percentage of casein in milk quickly and accurately.

SKIM MILK THREE OR FOUR TIMES AS VALUABLE AS WHEY.

The patrons of creameries have an advantage over patrons of cheeseries in that the by-product (skim milk) is a more valuable food for stock than is the by-product (whey) from cheeseries. As the importance of live-stock interests grows, the importance of skim milk for young stock will be more appreciated. The relative food values of skim milk and whey is probably 4 or 5 to 1; i. e., if whey be worth five cents per hundred pounds for feeding purposes, then skim milk will be worth 20 to 25 cents per 100 pounds. Some would place whey as being worth not more than one-third the value of skim milk.

HEATING THE BY-PRODUCT AT CO-OPERATIVE FACTORIES.

Wherever these by-products are the result of mixing milk from various farms in the process of manufacture, it is very important that the whey, skim milk and buttermilk shall be pasteurized before returning to the farm, in order to prevent the spread of bad flavors, but more particularly to prevent the spread of disease. The heating of whey, etc., to 160 to 165 degrees F. will destroy most of the bacteria found in milk. Especially is this true when the heating is continued for one-half hour or more.

GRADING OF CREAM.

As a rule, patrons of cheeseries supply better raw material than do patrons of creameries, more particularly patrons of what are known as cream-gathering creameries. Poor raw material is the weakest part of our buttermaking industry. How to get an improvement, is one of the greatest questions confronting our creamerymen. Probably the most effective plan yet devised is to grade the cream, and pay a price according to the quality or grade. Not more than two or three grades should be made, and for each grade there should be a difference of one to two cents per pound fat or butter.

For first grade, we would suggest a standard somewhat as follows:

1. Cream must be sweet, clean-flavored, and test not less than 25 per cent. fat.
 2. It must be delivered in individual cans not less than three times a week.
- Second-grade cream would be all cream which could not be graded as first. In case a third grade were deemed necessary, the advisability of which we very much doubt, all thin, sour cream, of poor flavor, should be put in this class, but it would be better not to accept such at all.

From our own practical experience, we should judge it impossible, or nearly so, to successfully carry out any system of grading cream unless all the creameries in the district will adopt the same method. Co-operation, not competition, is essential in order to improve the quality of the raw material furnished to our creameries.

PATRONS SHOULD PROVIDE ICE.

One other point. It would be advisable for patrons of both cheeseries and creameries to provide a supply of ice, but for those sending cream to our creameries, it is almost essential that they have a large supply of ice for cooling cream. Now is the time to lay up a store for next summer's use. Provide about one ton of ice for each cow

you expect to milk next summer. This need not cost over \$1.00 per ton, or \$10.00 for ten cows. It will prove a profitable investment for all patrons.

MAKERS CONTRASTED.

We are aware that "comparisons are odorous," but, at the risk of injuring some person's feelings, we should like to contrast the men now responsible for the making of cheese and butter.

A few years ago, possibly at the present time, the cheesemakers of Western Ontario would compare very favorably, as a class, with any body of men belonging to similar trades or professions. There remain still a number of excellent men in charge of our cheese factories, but many of the best men have left or are leaving the business. Then, again, the younger men do not seem to be qualifying for the responsible position of manager of a factory. About fifteen years ago, when the dairy schools were established, they were crowded with cheesemakers anxious to learn the latest and best methods. Some of our best men went to the United States before there were any dairy schools in Canada. At this time there were very few buttermakers at the dairy schools, other than those who were making butter in cheese factories during the winter.

What is the condition to-day? At our own school, in connection with the Ontario Agricultural College, the buttermakers outnumber the cheesemakers, yet we have probably ten times the number of men engaged in the manufacture of cheese as compared with buttermakers. Who among the cheesemakers are preparing themselves to take the place of men like Adam Bell, "Billie" Bothwell, George Brodie, The Travis Boys, and "Tom" Grieve, the Boyes Boys, and others who might be named—men who fitted themselves for their work in the best way possible? These men, in the natural course of events, must soon pass off the stage of action. What will become of the great Canadian cheese industry if the coming generation do not think it worth while to obtain the best possible training in order to fit them for their life's work? These are serious questions for the association to consider.

MAKERS DESERVE MORE PAY.

We are free to say that the men engaged in the actual making of our dairy products are not sufficiently remunerated for their long hours and heavy work. As regards the work of the two classes, we may say that buttermaking is undoubtedly lighter, pleasanter, and less nerve-racking than is cheesemaking. Cheesemaking requires more muscle, more skill, and longer hours; consequently, the cheesemakers should receive higher pay. Both deserve more pay than they receive at present, but, if any difference is made, it should be in favor of the cheesemaker. But in no case should a second or third-class man expect to receive first-class pay. A man should be rewarded according to his skill, knowledge and honesty, and faithfulness to duty.

FACTORIES.

I need say very little by way of contrasting the buildings in which butter and cheese are made, as this is fully dealt with in the report of the Chief Inspector. There are two points which need special emphasis, viz., that new buildings should be constructed, with a view to controlling the temperature, having good ventilation, durability and convenience; and, secondly, that dairy buildings need constant repairing, else they soon become unsanitary. In addition, provision must be made for the proper disposal of the sewage. As this subject is also fully dealt with elsewhere, we need not dwell upon it.

While nearly all are agreed that the change from the whole-milk to the cream-gathering form of creamery has not been in the best interests of improving the quality of our butter, the cream-gathering creamery is here to stay, for a time, at least, and we may as well plan our buildings accordingly. Where the whole milk is delivered at the creamery or cheesery, we must of necessity have a much larger building than where cream only is delivered; hence, in the latter case, a portion of the funds devoted to a larger building should be used in improving the durability, convenience and sanitary condition. We are bound to say we have not yet seen what might be called a model creamery or cheesery.

FINISHED PRODUCTS.

We have already pointed out the fact that cheese has a higher nutritive value as a food than has butter, and that it is more likely to be a food called for in larger quantities by the British workingman and purchased by the economical housewife who has limited means for the purchase of food. In Canada, however, cheese is regarded more as a luxury, a dessert food, etc., while butter is the more staple article. As our foreign population increases, we shall probably see a change in this respect, because of the fact that Europeans are cheese-eaters.

We have this suggestion to offer the cheesemakers, that they stir their curd less, so as to retain more of the milk solids. A New Zealand cheesemaker, on this point, says: "The toil of

the cheesemaker is enough, without adding this infernal device to break his back and give him cramps in his stomach." From our experiments conducted on this point, we feel satisfied that Canadian cheesemakers are making for themselves unnecessary labor and losing valuable cheesemaking material by so much stirring of the curds. If the work previous to the removal of the whey has been properly done, it is not necessary to stir curds so much as is commonly advised. Make a few experiments, and note results.

We have another suggestion. Many makers mature their curds so much that much unnecessary loss of fat occurs. Again, we would say that, if the work previous to salting has been properly done, it is not necessary to wait four, five or six hours after dipping before the curds may be salted.

By modifying the method of making cheese on these two points, we feel that a finished product will result which will better suit consumers, and one which will better compete with European cheese; besides, it is less laborious. We do not advise any radical changes in methods of making, but throw out these hints, to be followed so far as practicable. Cheese and butter makers need to study the wants of consumers. The middlemen are not always safe guides as to what the people want in the way of foods.

UNSALTED BUTTER FOR BRITISH MARKETS.

If we are to export butter, it would seem that we should turn our attention almost wholly to the making of unsalted butter. A leading firm of London, Eng., to whom we made experimental shipments of butter during 1906 and 1907, in reply to our inquiry as to whether or not the addition of salt to butter for London market had a deleterious effect, say, in a recent communication: "On a market in which the supply of salted and unsalted is about equal to the demand for each, the difference to the value between an unsalted butter, and the same butter, to which say two per cent. of best salt has been added, would be about two shillings per cwt. The risk with unsalted is owing to there being considerably less buyers for saltless than for salted, and every now and again the supply of saltless is in excess of the demand, and has to be sold at a considerable discount on the price of salted."

In our own practical experience in sending butter to London, Eng., market during the past two seasons, we have received about two shillings per cwt. more for the unsalted, as compared with a similar lot salted. In some cases, boxes of butter which were unsalted sold for two shillings per cwt. more than did boxes out of the same churning which were salted.

In most of the unsalted butter some form of a preservative was used. We found that common powdered borax gave as good results as did any of the more expensive commercial preservatives. The quality of preservative used varied from one quarter to one-half of one per cent.; i. e., to one hundred pounds butter we added from one-quarter to one-half pound of borax, either in dry form or dissolved in water; sometimes a preservative was mixed with salt. Full details of these experiments will be found in the annual report of the Ontario Agricultural College for 1907.

In conclusion, let us do what we can to improve the dairy products of 1908, and more particularly the products from our creamery.

INSIST ON A MARKED CHEQUE.

Editor "The Farmer's Advocate":

I am pleased that the subject of paying for cheese at the time of shipment has been brought so nicely before the readers of your valuable paper. I am fully satisfied, in my own mind, that, if the buyers wanted to, they would have no trouble whatever in arranging with the several banks so they could pay by check at the time of shipment. But they have got into the way of paying when they get ready, and do not want to give up that privilege.

I would like to see the following plan carried out on our cheese market, and I think it would be better for everyone concerned, in the end.

First.—All salesmen to sell on the board and on the board only.

Second.—Sell only to reliable firms, not the firms that have the money only, but those who employ straight, honest men to buy, inspect and ship the cheese.

Third.—That the shipper receives a marked check (good, not to exceed) to the amount delivered, at the time and place of shipment.

Middlesex Co., Ont.

SALESMAN.

PLEASED WITH THE BIBLE.

I beg to acknowledge receipt of premium Bible, for securing two new subscribers for the "Farmer's Advocate." I am well pleased with it. I have taken "The Farmer's Advocate" for a number of years, and can recommend it to farmers who want to keep up to the times.

Huron Co., Ont.

AMOS FISHER.