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firm enough to mould. The draining can be hurried on by scraping down more often.

When the cheese are ready to mould the cream should be of a stiff pastry consistency, but not sticky. Salt is now added, at the rate of 1 oz. of salt to every 4 lbs. of cheese. Sprinkle the salt over the cheese, and work in with a knife or spatula.

The cheese are now ready to mould. Line the tins with wax butter paper and press the cheese in with a knife or spatula; when full, fold over the ends and shake out of the mould.

When cheese are finished they should be kept in a refrigerator or cold storage.

FRANK G. RICE.

[Note.—In "The Farmer's Advocate" of March 24th appeared a short article noting the manufacture of four kinds of soft cream cheese in the Dairy Department of the Ontario Agricultural College, the work being in the hands of Frank G. Rice, a graduate of the Midland Agricultural and Dairy College, England, who had been at Guelph since a year ago February. A regular and steadily developing demand for these cheese had been worked up in Toronto. We understand that during the hot weather some difficulty has been found in keeping the cheese, and consequently the orders have fallen off of late. It may be found necessary to use some sort of preservation to keep these soft cheese during hot weather. In accordance with our promise to publish details at a convenient opportunity, we herewith publish a description of making double cream cheese.—Editor.]

### Cleanliness Amongst Creamery Patrons.

A large degree of the success of the Canadian dairy industry must depend upon the patrons—the men who produce the milk upon the farm. Certainly it is worth while to do our utmost to make it a success, and not to be always grumbling and finding fault.

Care must always be exercised. Do your utmost to keep your cream sweet, for the best results are obtained thereby. Keep your cream test from 33% to 35%, for when it is down to 20% and 25% there is by far too much milk left in the cream, and this, of course, causes it to sour more quickly than it otherwise would.

It is very disagreeable to the buttermaker to have the cream so sour that it can scarcely be turned out of the cans, or when it does go it is liable to splash over everything. Sweet cream tests higher than sour, so that it is to the patron's own interest to take proper care of it.

In the first place, keep your milk pails and your separators clean, and free from all dirt. It is just as easy to keep them clean and sweet by well washing them as to only half wash them and allow them to become filthy. I have had pails handed to me to milk in that looked as though they had been washed once a month instead of twice a day, as they should be. So it is with regard to washing separators. Some think it is too much bother, and takes too much time to wash them twice a day, as should be done, for you cannot keep them clean unless you do. Just try the new way and see if it is not better.

The moment we are through milking we commence separating, and as soon as all is separated the cream is taken away and set in a tub of cold water, and there left until well cooled down; then it is taken to the cellar and left there until the cream hauler calls for it.

Never pour the warm cream in with the cold, but cool down before mixing.

Wash your separator as soon as possible after using it, as it will be much easier washed, and there is then no chance for any of the impurities to dry on. After thoroughly washing, scald it well. Do not leave any drops of milk around on the floor, but clean everything thoroughly, for does the old adage not stand true under all circumstances, that "What is worth doing is worth doing well?"

There was rather a peculiar incident happened in one of the factories of our land recently. One lady had a pail of cream which was tainted and unfit to send to the factory, but at the last moment she managed to thrust it upon the cream-hauler, and he failed to take a sample. Of course this was mixed with other cream, and when it was churned the butter was of an inferior quality. Now, that butter had to be sold at a reduction, and caused a loss of several dollars to the factory, whereas if she had kept it at home and churned it it would have only meant a few cents loss to her. And what is a few cents to one's pocket?

SUBSCRIBER'S DAUGHTER.

Howland, Ont.

### Cheese vs. Butter.

In a combined cheese and butter factory, what factors should be considered in figuring whether to make butter or whole-milk cheese? How would you figure comparative profits under present market values, say June 7th?

This topic was discussed lately in the New York Produce Review by four members of its Butter-makers' Discussion Club. H. Weston Parry, of Oxford Co., Ont., answers as follows:

The chief factor to be considered is necessarily the wish of a majority of the patrons. With no great difference between the relative values of butter and cheese, local conditions are most likely to play the most important part in determining which to make. A combined cheese and butter factory usually calculates to make cheese from May 15th to October 15th, and butter the rest of the time. It is not always a question of which pays best, but frequently a mere automatic continuation of the custom of past years. However, it by no means should be considered that most important factors are absent, which tend to make the manufacture of either butter or cheese to be the more profitable at any given time. As a general thing, prices for these products vary in a more or less constant degree. Butter is invariably cheapest in June, and so is cheese. On the other hand, both butter and cheese prices are wont to bear a similar relation one to the other throughout the summer months. Lately, owing to increased home consumption, butter has had the advantage in this country, as far as prices are concerned. Naturally, in a cheese district there will be a majority of patrons whose herds have been built up with the special purpose of cheese production, and their influence is felt when the question of cheese or butter manufacture is mooted. Again, the increasing scarcity of cattle of every description is bringing buttermaking into favor in many a district which formerly saw nothing but cheese.

With butter at 21½ cents on June 7th, and cheese at 10½ cents, we find the patron receives about 78 cents per 100 pounds for his milk from butter, and 80 cents per 100 pounds from cheese, figuring 4½ pounds butter to the hundred of milk, and 9½ pounds of cheese, and 3 cents a pound the cost of making the butter, and 1½ cents the cost of making the cheese, including milk-hauling in both cases. On this basis, the 2 cents in favor of the cheese is wiped out by the buttermilk, and, in view of the high price of stock and hogs, there can be no doubt but that the skim milk is worth nearly double what the whey is for hog-feeding, and a good deal more than three times as much for raising calves and young stock. Figuring whey as being worth 12½ cents per hundred, this gives butter the advantage of 10 to 25 cents for every 100 pounds whole milk, allowing for 80 pounds of both skim milk and whey.

Commenting upon the several answers, the editors of the Review state that the question is one which must be worked out independently in each individual case, and summarize the following factors, not necessarily in order of importance:

1. Relative values of butter and cheese. This ratio varies within rather narrow limits from month to month during the year. It is impossible to lay down as a general rule just what relation between values of these two commodities represents equilibrium. This will depend to some extent upon relative yields secured; i. e., the over-run in buttermaking, and the loss of solids and amount of moisture successfully incorporated in the cheese. Here the skill of the maker plays a very important part; also the requirements of the market catered to. Usually, the relative yields are figured as 1 pound butter to 2.2 pounds cheese, from the same milk. It is not always practical to follow closely every change in the balance of values as one or the other commodity is favored. In cheesemaking, the product is not marketed as promptly as butter (though, unfortunately, the difference seems to be constantly growing less), and by the time goods reach the market, conditions may be reversed. Further, we must consider the value of an established outlet. When the product is marketed through wholesale channels it is often possible to secure for it a somewhat higher average price if shipments are made regularly than when irregular shipments are sent. By frequent changes from butter to cheese, this advantage might be lost.

2. Ability to turn out high-grade products. The skill of the maker, as well as the condition of the raw material, must be considered here. It is doubtless true that, to reach top values on cheese, a better average raw material is required than to top the butter market.

3. Relative cost of manufacturing and materials. This will vary considerably with different localities, and must be figured independently for each individual case.

4. Cost of transportation and marketing of product. This may be an important factor in the problem. Net values, freight and commission charges deducted, should always be taken as a basis for comparison.

5. Manner of disposing of by-products. It is safe to estimate the value of skim milk and buttermilk at twice the value of whey, under same conditions and treatment, when returned to the

farms and properly fed. The value of these by-products when so returned will, of course, depend upon the use made of them, and, from the manufacturer's point of view, one might imagine conditions so deplorable that, in choosing between butter and cheese, no allowance would have to be made for the difference in feeding value of the by-products returned to the farmers. From the patron's standpoint, however, this factor should not be overlooked, if he gets back his share of the skim milk or whey. If the skim milk is used in the manufacture of cheese, or a part skim cheese and butter are made, it is sometimes possible for such a plant to compete successfully with a cheese factory, even though under other conditions prices naturally favor cheese.

6. Supply of raw material. It often happens, when a certain amount of gathered cream is received at a combined plant, that the factory would lose more through loss of patrons by a change from buttermaking to cheesemaking than would be gained even when cheese values were proportionately higher. Again, even in a plant receiving all whole milk, the average fat content of the milk will exert some influence. As a general proposition, the higher the average fat content of the milk, the greater the profit in the manufacture of butter and a skim or part skim cheese.

7. Method of buying milk. This might be a factor in a proprietary factory, when milk for cheesemaking is purchased by bulk at a price based on some other factory, as is the case in many factories in New York State, but milk for buttermaking paid for according to test. The price it is necessary to pay for the cheese milk would enter into the calculations.

8. Wish of majority of patrons. This, under certain conditions, is a factor to be considered, as Mr. Parry points out; but, while it may sometimes be a controlling factor, it may often be an illogical one.

In considering the discussion presented by the Editor of the New York Produce Review, it must be borne in mind that the making of a skim cheese or a part skim cheese is not feasible, it having been tried by various factories, and abandoned as unprofitable. The law requires all such cheese to be branded, and consumers do not take kindly to the product.

Throwing further light upon this question, the situation existing at the Kerwood Cheese and Butter Factory, of Kerwood, Middlesex Co., Ont., is substantially as follows:

Three and a half cents per pound is charged for making butter from milk or cream delivered at the factory. Where drawers are engaged, and a hauling route established, it costs, on an average, about ten cents per hundred to draw the milk and return the skim milk, and, on an average, about thirty-five cents per hundred pounds to draw the cream, of which amount the patrons pay eight cents, and the operator the balance. The three and a half cents for making covers all charges for salesman, secretary, and all other expenses. The buttermilk is also sold, and the proceeds divided amongst the patrons.

For making cheese, two and three-eighths cents per pound is charged, this paying for drawing the milk and all other expenses. Whey butter is made, for which the patrons receive two cents per hundred pounds milk. The balance of the proceeds from whey butter is the charge for making.

As to which pays the farmer best, the results for June last are presented. One patron divided his milk, putting half into butter and half into cheese. He received for that put into butter 79.90 cents per hundred, less 8 cents for hauling, leaving 71.90 net. For milk put into cheese, he received 75.6 cents, plus 2 cents for whey butter, making 77.6 cents net per hundred pounds. Had he delivered the milk to the factory himself, he would have received for butter 79.90 cents, for cheese 85.6 cents, per hundred pounds.

In each case the milk was paid for by test, testing 3.4 per cent.

From the milk put into butter he received skimmed milk; from that put into cheese he received skimmed whey.

It is seen that for the Kerwood factory conditions differ from those of Mr. Parry's district. Buttermilk is sold, not returned; both butter and cheese cost more to make than with him. The cheese patron received for June 5.70 cents a hundred more for his milk, and, on the other hand, received skimmed whey, instead of skimmed milk, from the factory. In direct money returns, the cheese business paid the most. But skimmed whey can have but a small feeding value, while sweet skimmed milk will range upwards of fifteen cents per hundred, depending on the prices of other feeds. Under conditions existing in this particular factory for June, if the butter patrons were prepared to get the best use of the skim milk, their total net returns would apparently exceed those of the cheese patrons. The skill of the maker will always be an influencing factor, but in either case the value of a skillful maker ought to be about equally profitable.

There is this fact, however, to be considered, that if a community is equipped for one line of making, the difference in returns will scarcely warrant the change in plant. Rather will it pay to improve the product in the line already established.