

test and divide by 100, to ascertain the pounds of fat in the cream. To the pounds of fat add the overrun, to estimate the pounds of butter. Example: 120 pounds cream, test 30 per cent. fat; overrun = 18 per cent.; $120 \times 30 \div 100 = 36$ pounds fat; 18 per cent. or 18-100 of 36 = 6.48 pounds, or practically $6\frac{1}{2}$ pounds; $36 + 6\frac{1}{2} = 42\frac{1}{2}$ pounds of butter. A common rule in calculating the fat in milk into butter is to add one-sixth to the fat. Example: A cow gives 50 pounds of milk testing 3.5 per cent. fat; $50 \times 3.5 \div 100 = 1.75$ pounds fat; $1-6$ of $1.75 = .291$; $1.75 + .291 = 2.041$ pounds butter, or practically 2 lbs. butter.

Q. Should cream testing 36 per cent. fat one month drop to 24 per cent. the next month?

A. This is not likely to occur, unless there was some unusual circumstance to cause this variation.

MANUFACTURING.

Q. If butter sells for an average of 20½ cents per pound for the month, and the patron is paid 20 cents per pound fat, what is the cost of making a pound of butter?

A. It would be impossible to answer this question without knowing what is the overrun for the month. The statement furnished does not say what the overrun is. As one statement which a member has shows an overrun of 23 per cent. for one month, which is very high, we may assume an overrun of 20 per cent. This is about the maximum in average creamery work. On this basis, then, the manufacturer received for making 100 pounds fat, 20 pounds butter at 20½ cents, equals \$4.10. In addition, he received ½ cent. per pound fat, deducted from the price received for butter, or 50 cents on 100 pounds fat, making a total of \$4.60 received for manufacturing the 100 pounds fat, or, at the rate of 4.6 cents per pound of fat. This is at the rate of 3.833 cents per pound for the 120 pounds butter made from 100 pounds fat delivered by the patron, but it will be observed that the manufacturer got the 20 pounds of overrun. The actual rate to the farmer was 4.6 cents per pound fat. We do not like this plan of taking the overrun as part pay for making, and we are glad that most of the creameries have abandoned this plan.

Q. How much per pound of butter is fair for a creamery to charge for hauling and making? Who should receive the buttermilk?

A. In average creameries the cost of hauling and making is about 4 cents per pound of butter. Large creameries can do the work for less; small ones would require to charge more in order to make it profitable. Cream haulers charge from \$3.00 to \$4.00 per day, and other wages and the cost of supplies are in proportion. In addition to the 4 cents, it is customary for the creameryman to retain the buttermilk. The expense of returning this to patrons is too great, and the sales do not, as a rule, make it very profitable. The buttermilk at the Dutton creamery last year sold for \$190. This sum, divided among the patrons, would be a very small amount for each. However, one member thought the patrons ought to receive this.

Q. What points should a monthly statement to creamery patrons contain?

A. We cannot do better than refer to the plan of stub and cheque used by your own creamery. We should advise adding an item showing the cost of manufacturing, and also one showing the overrun. "Cream-drawing" item is not necessary, unless patron is paying extra for this.

Below is a copy of the stub:

No.
Name
Month
Cream lbs.
Test
Butter lbs.
Price per lb. Butter cts.
Average price per lb. Butter cts.
Cream Drawing
Butter received, lbs. \$.....
Value, \$.....
Cheque, \$.....

H. H. D.

REMEDY FOR LONG-CHURNING AND CREAMY BUTTERMILK.

The "Discouraged Farmer's Wife" has good cause to feel so, when after a couple of hours' hard churning she finds that although the butter has come the buttermilk runs out from the churn creamy in appearance, showing that the churning has been anything but exhaustive.

I think the two cows in the herd which have been milking for a year are causing the trouble. Occasionally a cow a long time milking will put into her milk a sticky, viscous substance, which makes it very difficult for the fat globules to stick together, and in some cases apparently prevents them from doing so entirely; besides, the fat in milk from cows which are to freshen shortly is different in composition than that

from cows which have lately come in. The longer the time in milk, the harder the milk-fat is, and, consequently, the higher the churning temperature before the fat will be in the proper condition to separate from the buttermilk. It appears to me that this is the cause for the creamy appearance in the buttermilk. The cream from the two long-time milking cows needs a higher temperature, and is not churned when the other cream has formed into butter, and so is lost in the buttermilk.

The sticky substance found in such cream would also have a retarding influence on the other cream, hence the long churning.

Another factor which is not always considered might be adding to the difficulties. Very often when the cows freshen in the spring, and when the grass stimulates the milk flow, no change is made in the adjustment of the separator cream screw. Usually the fresher the cows in milk and the heavier the flow, the lower the percentage of butter-fat, and so the necessity for turning the screw so as to have less skim milk in the cream. I like cream which yields from two and a half to three pounds of butter to the gallon.

I would advise separating the milk from the two cows in question, last, and keeping it by itself. For such cream I know of no better remedy than to pas-

gested that if officials devoted attention to the air of great towns, they would in all probability find out that infectious air was more in fault than any supply of milk from the country. How long could pure milk, one of the most complex and sensitive fluids, and a ready absorbent of whatever the air resting upon its surface contained, remain pure in the air of slums? Legislation ought to begin among the vast number of milk consumers who live in narrow streets. Prof. Sheldon, however, thought inspectors were on sure ground in their complaints as to dirty milk sent from the country to town, declaring it was undeniable that many milk-selling farmers were lamentably and almost criminally weak so far as a sense of cleanliness in cow-sheds was concerned. The speaker thought an arrangement should be established under which rich milk would secure a price above the average, and considered that coming legislation might be along the following lines:

1. The elimination from dairy herds of all cows convicted of being tubercular, especially in regard to udders.

2. The prevention of milk coming from places where a fever or other contagious malady of any kind happens to have manifested itself.

3. Inspection by means of surprise visits of all cowsheds owned by farmers engaged in the milk trade, with the view of securing clean milk.

4. Strict supervision in respect of the sanitary condition of cowsheds, in regard to cleanliness, to ventilation and air-space, to lighting, to water supply, and to drainage.

Some legislation in respect to foreign milk coming to us from the Continent. Such milk should be microscopically tested—and that pretty frequently—for the tuberculosis bacillus; for it would appear singular to be so strict with our own milk, and to allow that of foreign countries to come in scot-free.

Professor Sheldon believed that the drastic legislation they were led to expect would increase the price of milk, because delinquents would be driven out of the milk trade, and would take to cheese and butter again. All up-to-date dairy farmers would meet legislation with cool heads.

DAIRY CONDITIONS IMPROVING.

The reports of the dairy instructors for June, received by the Ontario Department of Agriculture, indicate improvement along several lines. Factories are observing sanitary conditions to a larger extent. There are some small factories here and there that are not making any advancement in this regard. They are seemingly content to glide along in the old way. They cannot continue, however, and the sooner they go out of business the better for the industry. But the general improvement in this direction is very gratifying, and speaks well for the effective work the instructors are doing.

GOOD RESULTS FROM HEATING WHEY.

The quality of the cheese made so far this season has been good, especially in flavor. Makers are receiving a better quality of milk. More particularly is this the case where the whey is heated before being returned to the patrons in the milk cans. It will pay factories well to heat the whey in every case.

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As a rule, there is some improvement in regard to shipping green cheese. There are some districts, notably in Eastern Ontario, that continue the practice and ship a day or two from the hoops if necessary. But dairymen generally are discouraging the practice, and so far this season there has been less green cheese shipped than usual.

REDUCTION IN MAKE OF CHEESE.

The make of cheese varies somewhat. The instructors in Eastern Ontario, for the most part, report a falling off in the make as compared with last year of about one box per daily make for each factory. In Western Ontario, with one exception, there has been an increased running, as high as six boxes a day at some factories. One instructor reports an average of three to four boxes a day increase for June at all the factories in his group over June of last year. Along the Lake Erie section the make is not as large as a year ago in June. It is safe to assume that for June the make of cheese in Ontario will average up well with that of June, 1907. There is no possibility, however,



Dairy Farm of A. McKay, Lawndale, P. E. I.

teurize it. This may be done daily, or when convenient, so long as the cream is kept sweet. To pasteurize, set the dish containing the cream in a vessel of hot water on the stove. Stir occasionally, and bring to a temperature of from 150° to 180°. Cool quickly, by placing in cold water and stirring frequently. I think the cream so treated could be safely added to the other cream, as the heating of it has greatly increased its churnability. It would be the safer plan to churn it by itself. In that case, add a little of the other sour cream to it as a culture to ripen it. You should be able to churn the other cream at a lower temperature than 60°, and so get firmer butter and an exhaustive churning. Remember never to fill your churn over half full at starting. It is better but one-third full.

I am glad I have had this question to answer through such a public medium as "The Farmer's Advocate." It has been asked me personally several times lately, and I hope the above suggestions may lessen the labors of more than one farmer's wife who is having her strength and patience tried by long, stubborn churnings.

LAURA ROSE.

BRITISH MILK PRODUCERS AND THEIR TRIALS

At the recent convention of the British Dairy Farmers' Association, convened in Derby, Eng., last month, it was emphasized that quickness and improved facilities for transit on land and sea, with open competition, had entirely changed the farming industry in Britain. The production of cheese had largely increased. Cattle-raising was described by at least one speaker as having become unprofitable. The one stronghold left was the city milk supply. At the same time, law and science had stepped in, and were insistent on new methods of production. To enforce these suggestions, Acts of Parliament were being multiplied, and they had to face the fact that new legislation was coming along to deal with the milk supply, so that farmers required an organization to watch their interests, with a view to combating unreasonable proposals. It was the desire of all to protect the public health, but surely the great expense entailed thereby should not fall entirely on the backs of dairy farmers.

Prof. J. P. Sheldon, prefacing a paper with the admission that ample need existed for the vigilance of officials, part of whose duty lay in guarding the public against dishonest purveyors of adulterated or otherwise perverted milk, sug-