

ing informs us that it was a complete failure, so far, at least, as his own farm was concerned. Either the seed never germinated, or else the frosts during May and early June must have nipped it off. We expected red-clover seed would have given a better account of itself.

THE DAIRY.

Overrun in Milk and Cream.

The overrun from cream is several per cent. larger than the overrun from milk. The reason for this is that in making butter from cream it is not necessary to take the loss of fat in the skim milk into the account.

The overrun from cream is usually about 20.0 per cent., and for milk about 15.0 per cent. On this account it is possible to manufacture butter from cream cheaper than from milk, if both are paid for on the butter-fat basis.

A second reason for the cream patron receiving more than the milk patron, is that the cream patron has done the skimming on the farm, and relieved the factory of this work. It has been proposed that the cream patron can be placed on the same basis as the milk patrons, by multiplying the pounds of fat delivered by the cream patron by 1.03. This will reduce the cream fat to milk fat, or give approximately the pounds of fat in the milk from which the cream was skimmed.

I do not think it is possible for a farmer to obtain more merchantable butter from a given amount of cream by churning at home in the farm churn than is obtained from the same cream at a creamery. The yield will probably be greater at the creamery than at the farm, because larger churnings are made; the losses are smaller, and these losses in buttermilk and waste do not amount to so much in the large as in a small churning. I do not think you can come to a very satisfactory conclusion by attempting to churn a portion at the factory and then at the farm, comparing the results of the two churnings. This would be all right if large churnings were made.

Under present regulations concerning the composition of butter it is not possible to obtain an overrun of 25 per cent., no matter what the test of the cream is or the expertness of the butter-maker. An overrun of 20 per cent. is about all that it is possible to get at the present time and make legal butter. This is the overrun from cream; the overrun from milk will be several per cent. less than this.—[Prof. Farrington, in Hoard's Dairyman.

Experience with Casein at Kerwood Creamery.

In view of the efforts that have lately been made by one or two American companies dealing in dried casein to convert Canadian cheese factories into creameries or skimming stations, with casein manufactured from the skim milk, we are fortunate in being able to place before our readers a few facts from the experience of a careful and competent creameryman, Wm. Waddell, proprietor of the Kerwood combined creamery and cheese factory. This plant usually makes both butter and cheese during the summer, every patron having the liberty of changing over whenever he pleases. Both whole milk and cream are received to be made into butter. This summer, owing to the relatively low price of cheese, this part of the factory was closed down at the end of August. Previously equipment for the making of casein had been installed, and its manufacture was commenced Aug. 8th. Patrons who wished got their skim milk back as usual. The others were paid for their skim milk at the rate of 15c. per cwt. of whole milk, equivalent to about 15 cents per 90 pounds of skim milk. If there was any wastage, it came out of the skim milk devoted to casein-making, and was thus at the creameryman's expense. During August, 4,000 pounds of dried casein was made from the skim milk from 123,000 pounds of whole milk. It sold for 7 cents a pound, and the proceeds amounted to \$280.00, of which \$184.50 went to the patrons in payment for the skim milk, leaving \$95.50 to pay the creameryman for labor, fuel and acid, plus interest and depreciation on an investment of \$600 (which in this case did not have to include separators, as it would in the case of an ordinary cheese factory converted to a casein plant). Expenses were further reduced by using exhaust steam for drying the casein during the time of churning. This would not be feasible at a cheese factory converted into a skimming station. At this rate, Mr. Waddell figures that, while he stands to lose nothing by making casein, neither is there any particular profit in it for him. A cheese factory turned over to a casein plant could not, he thinks, afford to pay 15 cents for 90 pounds of skim milk, unless the price of casein were increased. As a matter of fact, we have heard of one factory that is said

to be paying only eight cents. We cannot vouch for this, however.

It will be seen, therefore, that the Kerwood creamery is especially adapted to produce casein economically. What do its patrons think of the business. About 40 of them started in August, allowing their skim milk to be made into casein. Since then the number has decreased, till now there are not over twenty-five who do not take their skim milk, instead of the 15 cents per 90 pounds of skim milk. This may be partly explained by the fact that quite a number of patrons in former years have been in the habit of turning over from cheese to butter at this season, in order to have the skim milk at home. Still, it is evident that they cannot be enamored of the casein-and-why proposition; and, if such is the case at this creamery, how much is to be said (from the patron's standpoint) of converting cheese factories into skimming stations, possibly in a few years to find the business discontinued, and the skimming and casein equipment at a discount? If some of our cheese factories need to be converted into creameries, well and good, but by all means let us keep the skim milk to feed—or demand a much higher price for casein.

Cool-curing at the Bronk Factory.

In the course of our inquiry, commenced a year ago this past summer, to ascertain the experience of cheese factories where cool-curing rooms had been provided, we visited a good many more factories than could be conveniently described within a reasonable length of time after the visits were made, as our several trips of inspection were all taken in midsummer, when the effect of cool-curing could be best observed and

season of rapid growth, and also at times of great warmth. The result was abundant pasture, especially clover, and, as a result, a large flow of milk. Our maker lost control of the situation, and during the hottest part of the season our cheese began to develop bad flavors after standing on the shelves for some time. The district inspector visited the factory, and he called in Mr. Publow, but neither one seemed able to cope with the difficulty, or, rather, suggest remedies that would enable the maker to cope with the difficulty. The result was a loss of several hundred dollars to the patrons of the factory and the maker's prestige. I may here say that he had made for a number of years in a factory less than two miles away, and his cheese was, if anything, above the average. He, however, had the advantage of a good curing-room, though not of cooling by means of ice. Also, I may say that at that time our curing-room was a frame structure, very good in its way, but raised some distance from the ground, and painted red, while it was in the same building and closely adjoining the make-room, which would have a tendency to raise its temperature.

The following season, a new maker, by a more careful selection of the milk as it came into the factory, freed the cheese from its more objectionable features, but there were times when the grease would run from the cheese to the shelves, and it was necessary to procure ice to temporarily reduce the temperature.

From this you will see that any progressive factory would be ripe for a remedy for this state of affairs, so that when Mr. Somerville, of the Department of Agriculture, agitated the matter, the more progressive patrons pushed it through, and the following season saw us equipped with,

I think, an up-to-date curing-room, with ice-house attached built after plans supplied by the Department.

The cost of remodeling our plant was about \$900. This included taking out the floor of the curing-room, leveling the surface to the same level as the make-room, putting in cement floor, insulating curing-room, and putting up the ice-house.

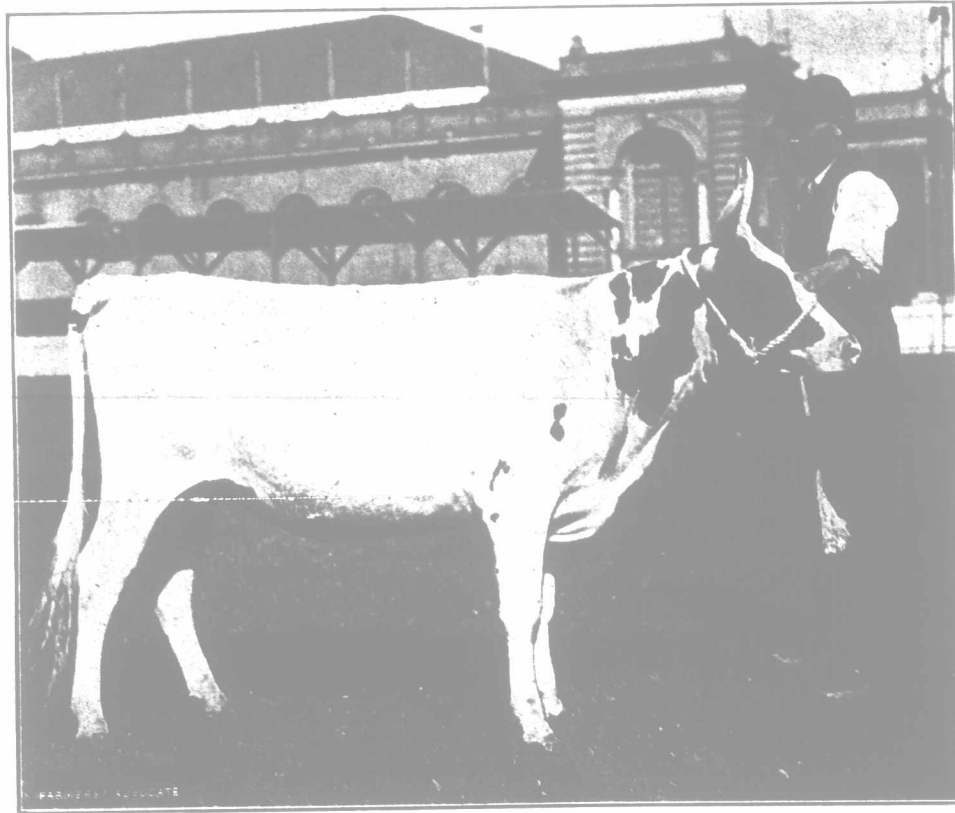
The only way we found of determining saving in shrinkage was to leave some of the cheese outside the storage room in about the same condition as they were in the old curing-room, and comparing weights going into and coming out of storage. We found the result favorable, if not,

perhaps, altogether conclusive. However, we are very sure that we are at a great advantage over factories not so equipped, even if it is not possible to demonstrate the gain in dollars and cents, which it is not. Though not a cure-all, yet it gives the maker a chance to make a more uniform product; he can make a more mellow cheese in warm weather than was possible before; he can use less acid, and thereby cut out one of the chief faults of our cheese.

One disadvantage to be watched is not to let your maker freeze your cheese, give it some chance to ripen—around sixty is about right; also, don't run out of ice, or your cheese may mold. In the fall, we have to have a little fire to keep up the circulation.

As for price of cool-cured cheese, it is just the same story as that of the bacon trade. I take my bacon hogs to the station, and I get the same price per hundred as the man with scrubs and yearling sows. Just so with the cheese; outside of, perhaps, a little quicker sale, we get no better price for our product than the old sun-scorched factory.

The pork-packer's killer competition in growing bacon hogs; the cheese-buyers are doing their best to hold back the building of cool-curing plants through the country. They say that on our board, for example, there are not enough cool-cured cheese to make a separate class of it. I do not believe that is true. They use the good cheese to sell the poor, and will buy any kind of cheese when the price is 12.



Stonehouse White Rose.

Yearling Ayrshire heifer. First prize and junior champion, Canadian National Exhibition, Toronto, 1910. Bred and exhibited by Hector Gordon, Howick, Que.

compared. One of the plants visited in 1909 was that of the Bronk Cheese and Butter Co., in Hastings County, Ont., which equipped a cool-curing room some three years ago, one part of the old room being partitioned off for a boxing room, and the curing chamber insulated according to up-to-date specifications. Instead of the temperature rising up to 80 degrees, as it used to do, the maker, Edward Carter, told the representative of "The Farmer's Advocate" that he found no difficulty in keeping it down to 58 degrees, and, with a controllable curing temperature, he found it so much more satisfactory making cheese that he would want quite a bit more money to go back to a factory without a cool-curing room. "One never knows when the weather changes in here," he says, and in 1908 the yield improved to an extent that indicated a gain of \$300 over the year before, while the salesman, Jas. Balcanquel, secured the top price on the board. Boring the cheese, one was quite prepared to credit this statement, and convinced that if a premium were paid it would only have been right, the flavor being clean, and the texture smooth and fine. No mold to speak of was met with here. Ice is stored by the patrons, each one drawing a load. There are 70 patrons, and 12 casks to a load fill the chamber. Quite a few of the patrons are cooling their milk. Some interesting details about cool-curing at this factory have been furnished by the secretary, A. E. Huffman, whose letter we quote below:

"The season of 1905 was, in our locality, a