



Ready to lay

Whether she will make a profit or not is now a matter of feeding. You have it in your own hands to make your pullets lay through the winter.

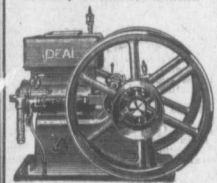
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Butter and Cheese Makers are invited to send contributions to this department, to ask questions on matters relating to cheese making and to suggest subjects for discussion.

"**M**OULDINESS in Butter" was recently studied by the United States Department of Agriculture, and the results published recently:

Mould may cause deterioration in butter either by developing on the wrapper and spoiling the appearance, or by growing in the butter itself and producing thereby such changes as render it unfit to make the butter unsealable. The nature and conditions of growth of such moulds were studied; it was found that imperfectly washed butter, containing a high percentage of water, is particularly favorable for mould growth. The use of a medium of growth and that of the water content also encouraged the development of mould as did storage in very damp cellars; but practically all risks of damage from this cause were eliminated by the presence of 2.5% of salt in the butter, which corresponds to the use of 12 to 15 per cent. brine.

THE Cornell Experiment Station has been making some interesting investigations on the shrinkage of print butter and has issued the following summary as a result of the work:

1. The variation of pore space, which ranges from .5 of 1 percent to over 6 percent in a freshly made butter, is important in the printing process.
2. Print butter gradually loses weight in storage.
3. The rate of loss depends principally on the temperature and humidity of the storage place.
4. If the temperature is kept down to 50 degs. F. and the humidity is kept above 90 percent at least a month, and perhaps much longer, will not materially increase the weight. It approximates the limit set by the New York law, provided the prints are packed in boxes.
5. If the temperature is 60 degrees F. and the humidity is 85 percent or below, the shrinkage will approximate the limit set by law in a space of 10 days to two weeks, even if the prints are packed in boxes.
6. The shrinkage is not inversely proportional to the weight of the wrapper used, as is generally supposed.
7. The degree of shrinkage depends to a considerable extent when the prints are packed in cartons. The other two methods of packing, however—leaving the prints dry after placing them in boxes, or sprinkling them with water—produce about the same effect on the degree of shrinkage.
8. In the average small store refrigerator, the loss will approximate the limit set by law in a space of ten days. If the prints are piled loosely on the shelves

WHY not make the cheese factories and creameries of the land also the central egg depots? Several factories in Canada have already taken up eggs as a sideline, and most of them are finding it a profitable one. A great difficulty in the handling of eggs at a cheese factory, however, is that the maker is usually too busy when the eggs are brought in in the morning to count

them. Receiving the milk is job enough for one man. Perhaps this factor explains more than any other why so few factories, which seem to be the logical *evc* centres for their community, have not taken up this line of work.

Perhaps the difficulty might be solved in this way: Why should not each patron have a number and when he brings in his eggs in the morning the clerk bears his number, the maker would then put down the number of dozen opposite the patron's number on a card tacked on the wall of the receiving stand. It would be necessary to insist that round dozens of eggs only be sent in. In the afternoon, when there is no available, the eggs could be counted and according to color and size, and shipped. At the moment it would be necessary to grade almost every day to eliminate bad eggs. Patrons would soon learn that it is useless to deliver bad eggs, and thereafter only an occasional grading would be ne-

The chances for most profit in the egg handling sideline is where the shipping station is near, and eggs could be sent daily to the city market. There are always fancy grocers who would pay a fancy price for fresh eggs received daily, and the trade might be made an advantage to both patron and maker.—G. F.

A CREAMERY that uses a steam engine and permits exhaust steam to escape unused is wasting a valuable by-product. Exhaust steam can be used successfully for heating milk, cream, boiler-feed water, wash water and the building. The heating of boiler feed water and wash water only will be considered in this circular.

In the majority of small creameries the boiler is fed by means of an injector, but this is not an economical apparatus for this work, because it requires live steam for its operation. It cannot handle hot water. For every 10 degrees that the water is heated before being injected, one per cent less fuel is required to generate a given amount of steam, and for each 10 degrees F. increase in feed water temperature the boiler capacity is increased approximately 1 per cent. When hot feed water is used, the pressure on the boiler can be more easily maintained, and there will be an additional saving of fuel, attributable to even firing.

The heating of feed water from a temperature of 60 degrees F. to that of 200 degrees F. by means of exhaust steam will reduce the fuel consumption about 13 per cent, or will reduce a \$500 fuel bill to \$435.

The use of exhaust steam for heating wash water will still further reduce the fuel cost. It is estimated that the average dairy washes from 100,000 to 300,000 pounds of butter annually a maximum of 800 gallons of hot water are used daily. It is estimated that the wash water with live steam from the boiler at a temperature of 200 degrees F. to that of 170 degrees F. requires approximately 127 pounds of fuel per gallon of water heated. If the exhaust steam there is not set saving of 127 pounds of coal a day, or, if operating 300 days a year, an annual saving of 25,100 pounds. At \$5 a ton that is a saving of \$125.50. To obtain this size the heating of the boiler feed water from a temperature of 68 degrees F. to that of 300 degrees F. requires a saving of approximately 8100 annually. A boiler equipped consisting of a 20 horse power heater, a hot water storage tank of 220 gallons capacity, and a boiler feed pump, will effect an annual saving of \$195.

*A circular issued by the Dairy Division, U.S. Dept. of Agriculture.



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