



FARM AND DAIRY & RURAL HOME



We Welcome Practical Progressive Ideas.

Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.—Lord Chatham

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To Get Clean Milk With a Milking Machine*

It Involves Proper Solutions, General Cleanliness and the Proper Cooling of the Milk When Drawn

IN chloride of lime we have a cheap and effective germicide from which a very satisfactory solution can be made for sterilizing milking machine parts. One pound of chloride of lime (full strength 33 per cent. available chlorine) to 100 pounds (ten gallons) of water.

To make solution, mix in enamel pail, crock or wooden tub, one pound of chloride of lime to ten pounds (one gallon) water; allow to stand over night, giving an occasional stir; pour off the clear liquid and add sufficient water to make one hundred pounds (ten gallons). Full strength chloride of lime can be bought from any of the dairy supply houses, but up in cases containing twelve bottles, each bottle containing three and one-half pounds, with full directions for use. Price, about \$3.00 per case. That sold in pound and half-pound cardboard packages by drug stores is usually low in strength and high in price and is not recommended. Immerse rubber tubes and test cups in this solution, made up as above. It will be good for about two weeks in summer and three weeks in winter.

Caution.

Do not make the solution too strong by use of too much chloride of lime or too little water. As long as it will turn blue a strip of starch-potassium-iodide test paper dipped into it, its germicidal properties are o.k.; as soon as it fails to produce this change its germicidal properties have gone, and it must be thrown away and a new solution made.

Chloride of lime solutions made as above have been used on the Ontario Agricultural College dairy barn during last summer with every success.

These solutions have been found sterile at all times when they gave a blue coloration with the test paper, and the tubes were also found to be sterile on each occasion when a test was made.

We have found no advantage in adding salt to this solution, and have given up using it in our barn. Both the metal and the rubber parts appear to be well preserved after lying in a chloride of lime solution for the greater part of a year.

The addition of some salt may be necessary to keep the solution from freezing during the winter if the solution is kept in a very cold milk-house or barn.

Care must be taken not to make the solution too strong by using too much chloride of lime or too little water, or we shall find that the metal parts will become corroded and spoiled.

Now let us turn to the other factors which have an influence on the quality of the milk, besides the cleanliness of the test-cups and rubber tubes.

General Cleanliness of the Machine.

The metal parts should be thoroughly washed

and scalded each time after use, and then should be put in a clean place out of the reach of dust and flies, where they should remain until required again. The test-cups and tubing should be fitted on to the machine and well rinsed out before and after use every time; warm water should be used for rinsing before milking; to remove all traces of the chloride of lime; warm water and washing powder should be used first after milking, and then hot water, putting the tubes in the sterilizing solution again.

All test-cups should be taken apart at least once a week and given a thorough scrubbing with hot water and washing powder, and the tubing must be well scrubbed out with the brushes provided as well. They should then be rinsed in hot water before putting together and returning to the chloride of lime. If this can be done twice a week so much the better, but it MUST

be done at least once a week if satisfactory results are to be obtained.

A point that is often overlooked is the necessity for having the test-cups and rubber tubing completely immersed in the chloride of lime solution; a sufficiently large container and a sufficient quantity of solution must be used, as we do not get the required results if these parts, as we often see them, are sticking up out of the solution into the air. We must be careful to see that the solution fills the tubing, and not, as we find in some cases where the ends dip into it but the centre of the tube remains filled with air.

Cleanliness of the Barn.

Feeding, bedding, or brushing up should never take place within two hours before milking. The dust raised by these operations takes a long time to settle, and if these operations are conducted shortly before milking, a very considerable quantity will of necessity find its way into the milk cans and pails. For this reason, also, uncovered cans and pails, with or without milk in them, should never be left standing in the barn, but should be removed to the milk-house.

In barns where high grade milk is produced the tests and udder of every cow are washed before milking begins. This practice might well be adopted by milking-machine users, as dirt from the test and udder often gets drawn into the tubes, and we should avoid this if we can. The test-cups for this reason should also fit snugly, and not be so large that they are sucking air from outside all the time. In case they fall off into the bedding, they should be thoroughly rinsed out before being put on a cow again.

Cooling of the Milk.

In spite of our best efforts we shall find that some germs will find their way into the milk after all, and it is only by promptly cooling to a suitable temperature that we can hold them in control. It is useless going to a lot of trouble to produce clean milk and then be careless about cooling it, as all our efforts are quickly undone.

At the O. A. C. dairy barn, without adopting any unusual precautions, we have secured milk daily from a group of 10 to 15 cows, with a bacterial content of from 8,000 to 10,000 per c.c. Ten samples of machine milk secured from farmers in the neighborhood of Woodstock one morning averaged three and a quarter million bacteria per c.c.; the bacterial content of hand-drawn milk sent to the same factory that morning was less than a quarter of this figure. From this and from other evidence in our possession we have come to the conclusion that the quality of machine milk in Western Ontario can be and must be improved.

To produce clean milk with a milking machine is not as easy a matter as most people at first would suppose, but with proper care and attention to essential details it can be very certainly done.

The Hand Separator

THE hand separator is the greatest curse of the dairy industry." The speaker was one of the most extensive butter manufacturers of the Province of Quebec. His opinion, therefore, commanded some weight. "Why?" I asked.

"Because it lost us the British market several years ago, and has so reduced the quality of our butter that we can't meet foreign competition on our own markets when it comes, as come it will. Yes, I know we have the British market now, but I can keep it when the war is over! I know we can't."

"All the milk in these townships used to be skimmed at the creamery," continued this sworn enemy of the cream separator. "It was delivered daily and was delivered sweet. We had good cream and made good butter. Now the farm separator does the job. Usually it stands in the stable. Usually it is washed once a day. Usually the cream is delivered once or twice a week. We can't make good butter under conditions such as these."

It was the abuse of the cream separator to which this creamery man objected. Warm weather is now approaching and in warm weather abuses multiply. A word in season to all creamery patrons would be,—wash the separator twice a day, cool the cream immediately and keep it cold and ship to the creamery at as frequent intervals as possible. The cream separator has been a wonderful convenience. Let us not abuse it.—F. E. E.

*Part of address given at Western Ontario Dairy-men's Association Convention.