Sanitary Production and Care of Milk

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Although a Great Deal of Improvement Has Been Made in the Sanitary Handling of Milk During Recent Years, the Production and Delivery of Clean Milk to Consumers Is a Problem Which a Number of Dairymen Have Yet to Solve

For fear that the above statement may be misunderstood, it will be well for me to state that I do not mean to infer that we do not in general have a wholesome supply of market milk. Those dairymen who have been unable to master the sanitary milk problem have to a large extent been forced out of the market milk business, and are disposing of their product for the manufacture of dairy products which are pasteurized before being manufactured.

Assuming that the cows are healthy, there are only two essentials for the production of good milk with a low bacterial content, viz., sanitation and quick and efficient cooling. Good milk should be of average composition, clean, and meet the requirements for bacteria. The average composition of milk as determined by 280,000 analyses made by Richmond is:

Water, 87.35%; fat 3.75%; milk sugar 4.70%; proteins, casein 3.00%, albumen .15%; ash .75%.

Fat is the most important constituent of milk, and the amount of fat generally determines the quality of milk with the consumer, so far as composition is concerned.

The federal government and most state governments require milk to have at least 3.25% fat. In general, I would say that milk which contains 3.5% fat would be satisfactory for use as a beverage, while for cooking, use on cereals, etc., 4% or higher would be desirable. Milk high in fat is also high in other solids.

So much for the composition of milk. We are concerned today mostly in the factors which go to produce clean milk.

The principal sources of contamination of milk are the dust of the air, the dirt from the udder and flanks of the cows, and contamination by the milkers and milk utensils. Some bacteria may come from the cisterns and ducts of the udder.

The long hairs of the udder and flanks should be kept clipped to prevent accumulation of dirt in this region. The udder and flanks should be wiped with a damp cloth just previous to milking, regardless of how clean they may appear to be.

The most prolific sources of bacteria are the milk pails and other dairy utensils, in which the bacteria remain alive from one milking-time to the next. On an ordinary farm these utensils are rarely, if ever, washed bacteriologically clean. Milk utensils should not be used as containers for any other than milk. As soon as the milk has been emptied the utensils should be rinsed in cold water and thoroughly washed in warm water containing an alkali washing powder, such as Wyandotte or Gold Dust. Use a bristle brush to wash milk utensils. Never use a rag and soap. Never mop out milk containers with a cloth. There are two articles universally used in the home which have no place in the care of milk utensils, viz., the dish rag and the dish towel. After the

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utensils have been washed they should be thoroughly scalded with boiling water and placed where they can air and sun. Let the utensils dry from the heat which they have absorbed from the hot water. Do not dry them with a cloth. The above instructions for the care of milk containers apply also to the care of the cream separator. It should be washed immediately after it has been used.

Only good, smooth-surfaced containers should be used in the handling of milk. Containers which are battered or rusty are hard to clean, and, too, rusty containers may affect the flavor of the milk.

So much publicity has been given to the bacteria count of milk during recent years that there is a possibility of too much importance being given to the bacterial content of milk by both the consumer and the producer. Milk which has been produced in unsatisfactory conditions, old milk, or milk which has not been properly cooled and kept cold, is likely to show a high bacterial count. Milk held at a high temperature for only a few hours is sure to contain a large number of bacteria.

Bacterial count without dairy inspection and investigation as to care of milk after it is produced is not of much value in determining the quality of milk.

The kind of bacteria is of much more importance than the number of bacteria. I dare say that there is not one person in this audience who does not know something of the medicinal value of buttermilk. Yet, figuratively speaking, good buttermilk is saturated with lactic acid bacteria. Surely a few thousand lactic acid bacteria will not be of any material detriment to sweet milk so far as wholesomeness is concerned.

One should bear in mind, however, that milk with a very high bacterial content is likely to prove detrimental to infants.

As stated above, however, sanitation in the dairy, and quick and efficient cooling, will produce milk with a low bacterial count, and the dairyman should take this precaution and produce milk containing a minimum of bacteria. Milk with a high bacterial content will not possess good keeping qualities.

It is quite general for people to imagine that milk is a common carrier of such contagious diseases as typhoid fever, scarlet fever, diphtheria and septic sore throat, and the first thought in an outbreak of one of these diseases is that it came from the milk supply. Although it is true that these diseases have been traced directly to the milk supply, the milk was contaminated from some outside source, such as the water supply, or from an infected person handling the milk. Any food which is consumed raw may be infected under the same conditions and be the source of the spread of these diseases. The fault, therefore, lies with other factors rather than with the milk. Fortunately, however, we have a process of treating milk, known as pasteurization, which eliminates the danger of the spread of these diseases through the consumption of milk.

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