

CIRCULAR No. 78
AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF ILLINOIS.

CLEAN MILK.

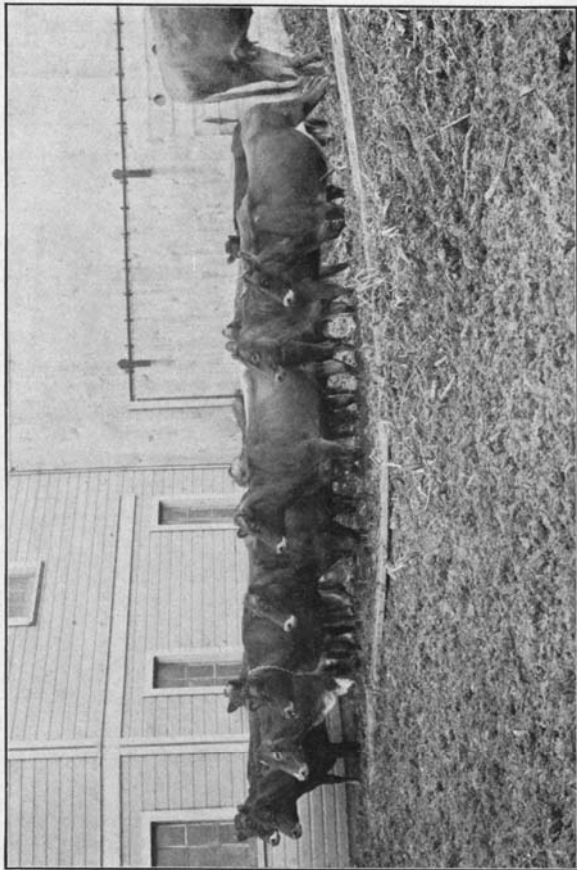
BY WILBER J. FRASER, Chief in Dairy Husbandry.

Unless carefully produced, milk is impure, and is often unfit for human food. It is subject to contamination in so many ways in the course of its production and distribution, that it is practically impossible for the customer to secure it

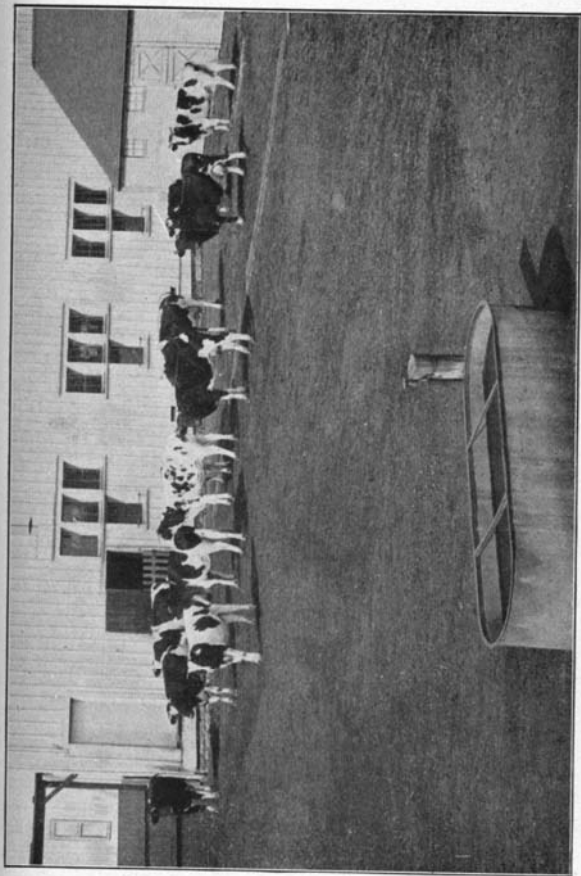


... and handled with the utmost care. Since it is an ideal medium for the growth of bacteria, the greatest precaution should be observed that no germs, especially those causing disease, gain access to it. There is no secret connected with the production of sanitary milk. Cleanliness in every operation, from first to last, and thorough cooling as soon as drawn are the only requisites. The result is nothing more nor less than simply *clean milk*.

WHICH WAY IS THE HERD CARED FOR THAT IS PRODUCING YOUR MILK?



AN UNGRADED YARD IN WHICH THE MANURE IS ALLOWED TO ACCUMULATE AND THE COWS ARE OBLIGED TO WADE KNEE DEEP IN THE FILTH EVERY DAY.



A WELL-GRADED YARD COVERED WITH SIX INCHES OF CINDERS FORMING A HARD SURFACE, THUS KEEPING THE COWS OUT OF THE MUD.

STANDARDS FOR GOOD MILK.

Any milk that shows a sediment on the bottom of a transparent vessel upon standing one hour is not fit for human food. The consumer has a right to demand that the milk furnished him be clean; that it keep at least twenty-four hours after being delivered to the consumer, if held at a temperature of 60° F. or below; that it contain no disease-producing germs or any form of preservative; and that it have a certain known composition, which is uniform from day to day.

THE VALUE OF GOOD MILK.

Milk that is free from dirt, and in which the bacterial content is exceptionally small, is a healthful and economical food; such milk is essential for infants and invalids, besides being much more healthful and palatable for all. In fact, a clean milk supply is just as necessary to correct living as is a pure water supply or wholesome food of any kind.

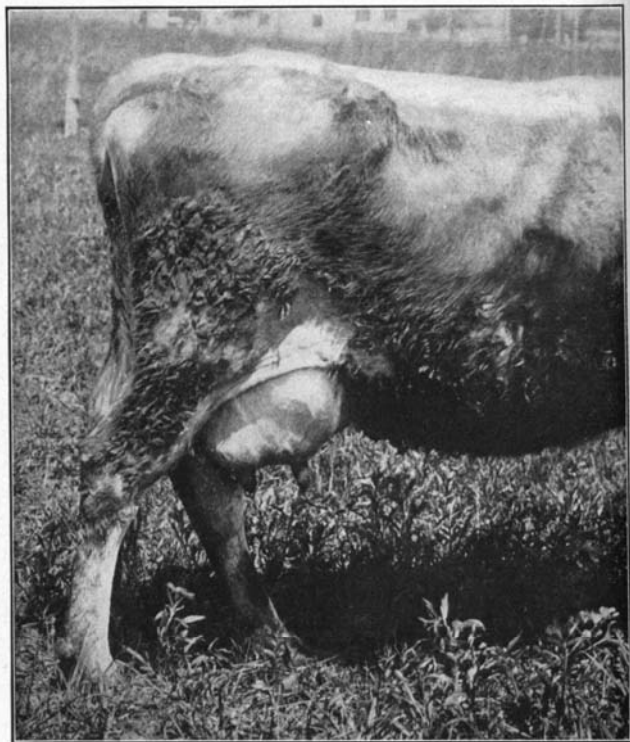
The question, then, of an improved milk supply rests not only with the producers, but largely with the consumers as well, and when they demand clean milk, and are willing to pay the extra cost of production, such milk will be supplied. Even at an advanced price, milk is cheaper than meat when food equivalents are fully considered.

THE BARNYARD.

In the production of clean milk no one thing is of more importance than keeping the cows out of the filth. Many yards into which dairy cows are turned each day for their drink and exercise are knee-deep with mud and manure during the winter and spring, if not nearly the entire year. In summer when the cows are on pasture they would keep comparatively clean were they not obliged to wade through a filthy yard in going to the stable for milking.

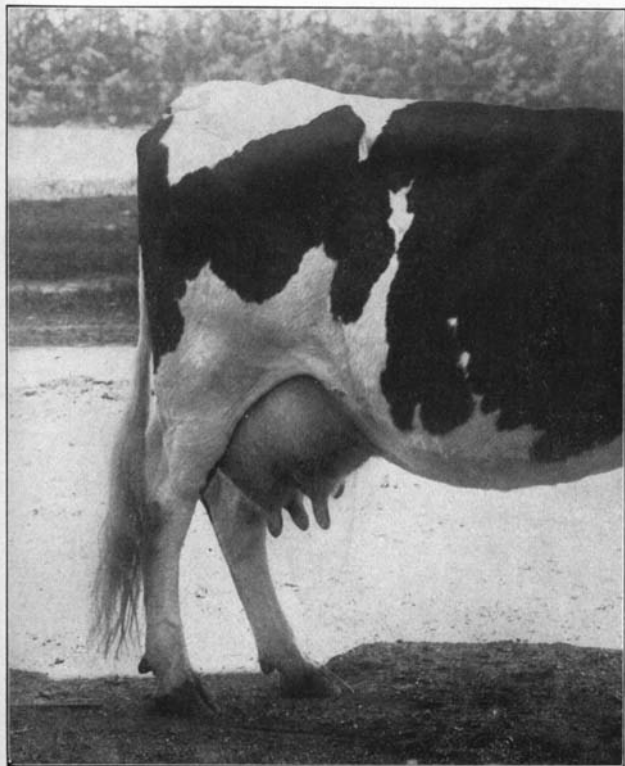
The yard should slope from the barn, and be covered with gravel or cinders sufficiently deep to form a hard surface. Manure should not be allowed to accumulate against or near the barn, and no swine pen should be nearer than two hundred feet on account of the odors from it being readily absorbed by milk.

WHICH COW REPRESENTS THE SOURCE OF YOUR MILK SUPPLY?



AFTER A RUN OF THREE WEEKS ON PASTURE, IMAGINE THE
FILTHY CONDITION DURING WINTER!

HOW MUCH MORE WOULD YOU PAY FOR MILK FROM COWS
KEPT LIKE THIS ONE?



CLEAN EVEN IN MIDWINTER.

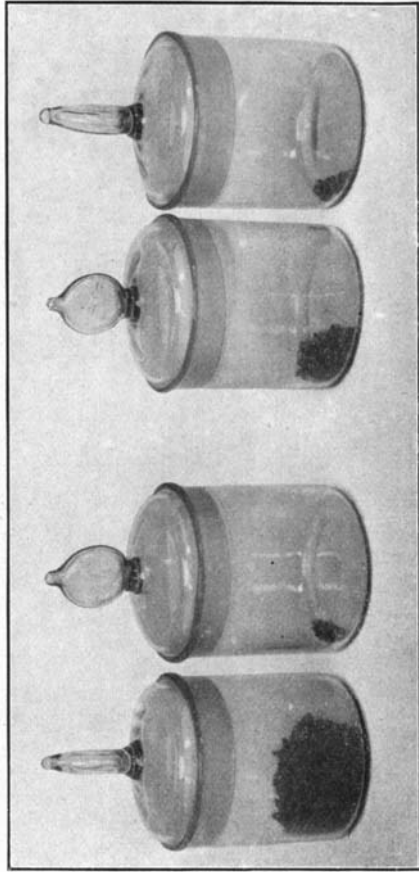
AMOUNTS OF DIRT CAUGHT UNDER WASHED AND UNWASHED UDDERS DURING MILKING.

UDDER MUDDY.

BEFORE WASHING. AFTER WASHING.

UDDER SLIGHTLY SOILED.

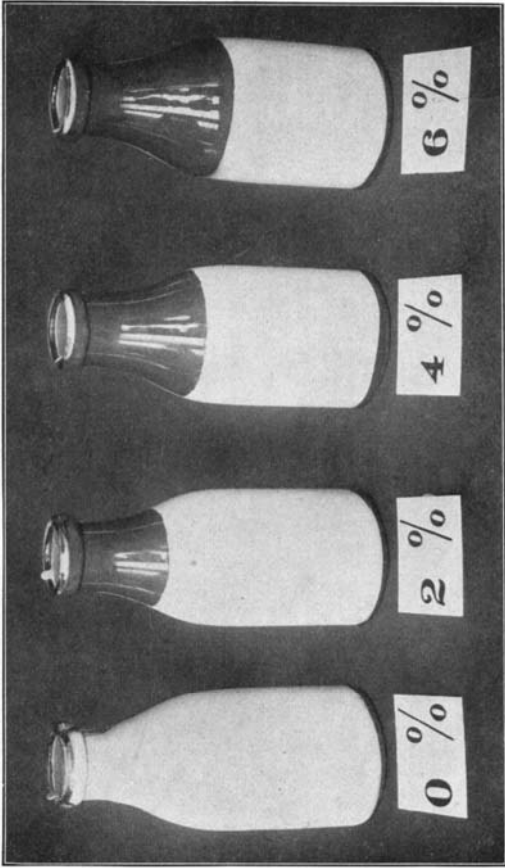
BEFORE WASHING. AFTER WASHING.



THE AVERAGE WEIGHT OF DIRT WHICH FALLS FROM MUDDY UDDERS DURING MILKING IS 90 TIMES AS GREAT AS THAT WHICH FALLS FROM THE SAME UDDERS AFTER WASHING, AND WHEN UDDERS ARE SLIGHTLY SOILED IT IS 18 TIMES AS GREAT.

NECESSITY OF WASHING UDDERS BEFORE MILKING.

Milk as ordinarily produced gets the greatest amount of contamination during milking from udders not washed. To determine the amount of filth that gets into milk in this way, seventy-five trials were made at different seasons of the year with three classes of udders, those apparently clean, those soiled, and those muddy. With udders that were apparently clean, it was found that an average of three and one-half times as much dirt fell from the unwashed udders as from the same udders after they were washed. With soiled udders the average was eighteen, and with muddy udders ninety times as much dirt from the unwashed as from the washed.



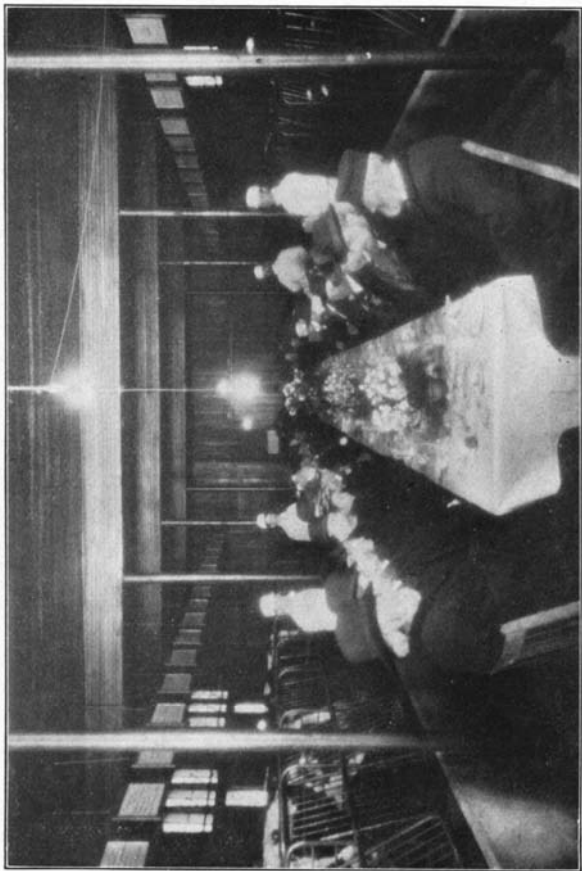
STANDARDIZED MILK, SHOWING THE AMOUNT OF CREAM ON MILK CONTAINING THE DESIGNATED PERCENT OF BUTTER FAT.

STANDARD MILK.

By standard milk and cream is meant that which has a certain known composition, thus establishing a true basis for valuation.

Let it be clearly understood by producers, consumers, city councils, and everybody that in these days the dealer can furnish the customer with milk of any desired richness, without regard to the quality ordinarily yielded by the cow, and all milk should be either so standardized, or else bought and sold according to its natural composition.

Selling milk by measure without regard to quality is unjust to the producer as well as to the consumer. While the fallacy of the system is apparent to a few, the majority of people seem to think that milk is milk, and that one quart is worth as much as another, so long as it is still sweet.



SERVING A DAIRY LUNCH TO THE STATE DAIRYMEN'S ASSOCIATION IN UNIVERSITY
OF ILLINOIS DAIRY BARN, JANUARY 6, 1903.

REFRESHMENTS SERVED IN DAIRY BARN.

At the meeting of the Illinois State Dairymen's Association, held at the College of Agriculture, refreshments were served in the dairy barn; the object being to impress upon the dairymen of the state the fact that dairy barns are places where human food is produced, and that they should, therefore, be fit places in which to prepare and eat food as well.

THE CONSUMER'S RESPONSIBILITY.

That milk may reach the table in first-class condition, the consumer has responsibilities as well as the producer. The milkman is frequently blamed for many things for which he is not responsible. However perfect the condition and low the temperature of the milk when delivered,

it cannot long remain in good condition unless carefully handled. If milk is to keep, it must be stored in utensils that have been thoroughly washed and scalded and held at a low temperature, at least 60° F., and below if possible.

If milk is not delivered in bottles, care must be taken to protect it from dust, and it must be placed where there are no odors to be absorbed. Bottled milk, being sealed with a pulp cap, cannot absorb odors, and *should be left in the bottle until used*, not emptied into an open dish.