THE PRODUCTION OF CLEAN MILK
ELDRED ROBERTS, '31

Clean Milk Requires Modern Dairy Equipment; Principal Sources of Contamination; Precautions To Observe in Handling The Milk

HERE is a large field for usefulness to humanity today in the production of milk for public consumption. Milk is the ideal food for infants, growing children, old people, and invalids. Milk contains those elements which build up the tissues of the body and aid in repairing body losses. Investigations in nutrition have shown that milk contains certain other substances which are essential for the proper growth of the human body. But milk must be clean and pure to be wholesome so that it can perform these wonderful duties.

It is very vexing to the housewife to have milk sour shortly after it has been received. To the housewife this is sure proof that the milk has either been produced under unsanitary conditions or is old. This experience is likely to cause her to reduce her milk order while good clean milk, properly cooled, with good keeping qualities increases milk consumption because of the faith in milk as a food that it encourages.

Today there are so many substitutes for dairy products on the market that clean milk has really become a necessity to keep the dairy industry on a par. Public opinion demands strictly sanitary food, and milk must be in a good sanitary condition to satisfy this demand.

Sources of Contamination

The principal sources of contamination of milk are: the dust from the air, the dirt from the udder and flanks of the cow; and contamination by the milker and milk utensils. If the cow is not healthy some bacteria come from the udder of the cow.

One of the most primary things in the production of clean milk is a healthy cow. With the best of equipment and the most sanitary of methods, an unhealthy cow can not produce good, clean milk. In most cases cows used in milk produced for public consumption are officially examined for disease, and are not used if there is any doubt as to their health.

Milkers should be chosen with regard to their cleanliness, for they are the ones that handle the milk. Clean clothes worn by the milker, and the use of dry hands while milking both help toward cleaner milk. A bucket with the top partly covered aids toward keeping out some of the dirt from the body of the cow while milking.

The dirt on the flanks and udder of the cow is an important source of contamination. Clipping of the long hair from the udder and flank aid materially in keeping dirt particles from falling into the milk pail. These parts of the cow should be wiped clean with a damp cloth just previous to milking as another step in producing cleaner milk. They may appear clean, but it is always a good practice to wipe them off.

Grooming and feeding of the cows should not be done just previous to milking as this fills the air with unnecessary dust. Hay should be fed in the barn only when bad weather necessitates it.

The Dairy Equipment

An ample supply of water in the dairy barn and milk house is a factor that is very important. Without sufficient water the job of keeping things clean is greatly increased. Also clean troughs of fresh water have their advantage over stale, dirty, adobe holes. The cows will keep clean and fresh water, inviting the cows to drink, will increase the production. Impure water is a source of contamination and should never be used in the dairy. Under no circumstances should ditch or other surface water be used.

Well drained corrals and lots from which the manure is frequently removed aid materially in keeping the cows clean as well as the barn. The removal of the manure from the corral to the fields aids in the general appearance of the dairy farm besides helping toward producing clean milk.

A modern dairy barn is a great help in producing clean milk. The barn does not have to be expensive, but it must be sanitary. The day of corrall milking is past if sanitary milk is to be produced, hence a barn is one of the basic necessities. A concrete floor is very necessary and should be constructed so as to be easily and thoroughly cleaned. Notches are often placed in the concrete floors to keep the cows from slipping.

A milk house should be provided so the milk can be handled apart from all other operations. Convenience to the barn and freedom from dust and odors are points to be looked for in a good milk house. Screens should be provided to keep the flies out. Flies are perhaps as dirty a thing as the dairyman has to contend with as they carry bacteria and filth. Proper ventilation is necessary to remove all odors from the milk-house and to give a fresh clean smell to it. A steam sterilizer and a hot

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water heater in connection with the milkhouse are wonderful assets to
ward keeping the equipment free from bacteria.

Milk utensils are the most impor-
tant source of contamination, and it
is very important that they be kept
and sanitary. Dirty utensils are
the breeding places for bacteria,
and seamless ones are to be desired.
The utensils should not be used for
other purposes than the milk. A brit-
tle brush is much better to clean
utensils than a rag. After they have
been washed and rinsed they should
be put in the sun to dry ,as the sun
is a good disinfectant and helps great-
ly in preventing odors. It is better
to use battered or rusty contain-
ers. They are harder to clean and
rusty ones may injure the flavor of
the milk or cream.

Milk, when first drawn, should be
thoroughly strained to remove any
foreign matter. Strainers that have
linen or fine gauze mesh are very
satisfactory. Also immediately after
the milk is drawn, it should be cool-
ed to 50 degrees F, or lower to check
the bateria growth. At 70 degrees F.
bacterial growth is very rapid.

In the sale of cream the milk should
be separated immediately and cool-
ed at once. A few precautions in
keeping cream are as follows: A
cloth should be kept on the can in-
stead of the lid; it should be stirred
daily; fresh cream should never be
put with other old cream until cool-
ed; it should be kept clean and cool;
it should be delivered to the cream-
ery at least three times a week.

A good general appearance of the
dairy farm encourages the farmer
himself. It draws compliments from
his friends, and it helps in the pro-
duction of a cleaner milk. When the
city man comes to the dairy farm he
sees something that boosts the milk
consumption when he sees a good,
clean, well kept farm.

Only a few points for the produc-
tion of clean milk have been brought
out in this article, but the dairy busi-
ness will be better off when every
producer of milk realizes he is bene-
fitting himself as well as the con-
sumer when he produces clean whole-
some milk.

So what say, Mr. Dairyman, to a
cleaner and better can of milk and
cream at the creamery depot to-mor-
row morning? It is for the future
good of the dairy industry.

ARIZONA AND THE COLORADO
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fore congress for the second time. It
is not necessary to go into the many
objectionable features of the bill,
which would affect the future policy
of the United States. The bill fails
to recognize the rights of Arizona and
should it be passed would remove
one of the greatest resources for fu-
ture agricultural growth. Arizona is
not in the position to use the waters
of the Colorado at the present time,
nor perhaps for many years to come.
Nevertheless this fact should not
necessitate the turning over of her
greatest heritage to her neighbor on
the other side of the Muddy Colorado.

NEW CORN DISCOVERED

A new variety of corn, said to be
immune to the attacks of the Eu-
pean corn borer, has recently been
imported from South America. The
name of this corn is Margo. Repeated
tests show that the borer does not
like it at all, and will starve before
eating it. Preliminary tests indicate
that it is the acidity of the stalks
which repels the borer.

The difficulty with the Margo corn
as far as its use in the United States
is concerned is that it takes 200 days
to mature. Scientists assert that it
will be possible to produce a hybrid
strain which will mature within 100
to 140 days by crossing with our do-
meric varieties; and that the qual-
ties of Margo, which are so objection-
able to the corn borer, can be retained
in the hybrid.

Uncle Ab says it takes a head to
plan ahead.