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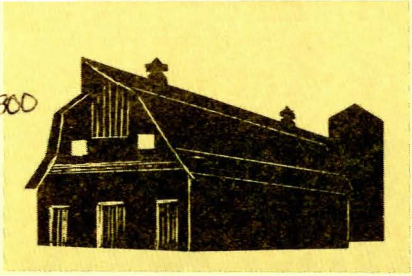

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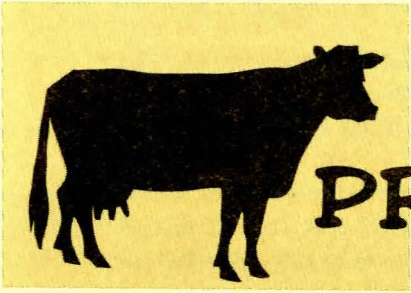
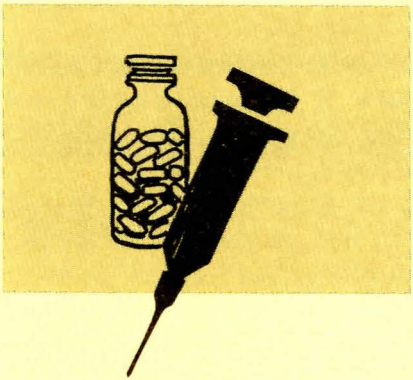
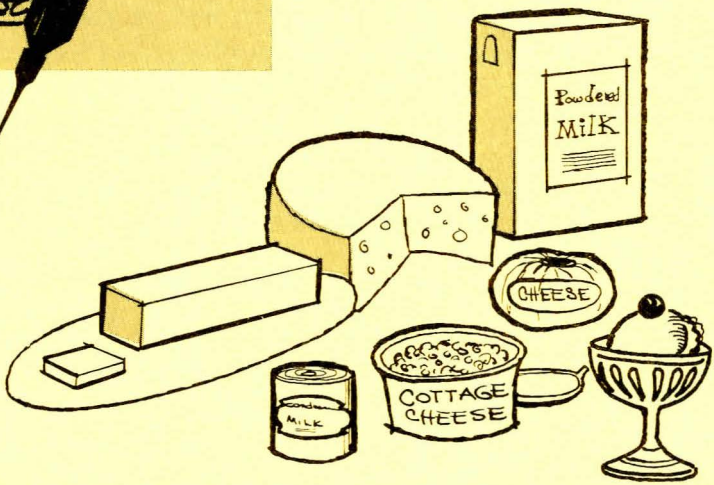


PRODUCING Good Quality Milk





Extension Service, University of Nebraska-Lincoln College of Agriculture Cooperating with the
U. S. Department of Agriculture and the College of Home Economics
E. F. Frolik, Dean J. L. Adams, Director

EC 72-2300

PRODUCING
Good Quality Milk

By T. A. Evans
Extension Economist (Food Marketing)

Milk is a highly nutritious food, extensively used and essential to the human diet. To preserve its special characteristics and maintain its quality milk must be handled with extreme care—whether it is to be consumed in the fluid form or is to be made into dairy foods such as butter, cheese, ice cream, etc.

Milk can be easily contaminated through careless production and handling. The practices discussed here, if followed carefully, will result in a product acceptable to the dairy plant, the marketing association, regulatory agencies and the consumer.

The following recommendations are designed to promote good sanitary practices in milk production and to assure a continuous supply of milk of consistently good quality.

HERD HEALTH

Maintain a TB-free herd. Have all animals in the herd tested as required by law. Remove reactors from the herd. Add only TB-free animals to the herd.

Maintain a brucellosis (Bang's) free herd. Have herd tested as required by law. Vaccinate all calves between 90 and 239 days of age. If cows abort from any cause, consult your local veterinarian.

Follow a recommended mastitis control program. Use a strip cup regularly on all cows. Abnormal milk is that which appears watery, lumpy, stringy or bloody or contains flecks or specks. If the udder or the milk appear abnormal, consult a veterinarian. Discard all milk from abnormal quarters. If animals are treated for mastitis, the milk from treated cows should be kept out of the milk supply for a minimum of 72 hours or as recommended on the label. Check with your veterinarian or dairy fieldman relative to a "teat dipping" program and treatment of dry cows.

It is best to raise your own herd replacements. When animals in milk are brought into the herd, isolate them from the rest of the herd for at least 30 days. Since this practice is not always practical, it may be desirable to add bred heifers or dry cows if replacement animals are added to the herd.

SANITARY CONDITIONS IN BARNS AND YARDS

Provide Adequate Light in Barn

Provide for both natural and artificial light in areas where cows are housed and milked. For natural light a good standard to follow is to allow four square feet of window space for each 60 square feet of floor space.

Provide Adequate Ventilation in Barn

Control ventilation either by an adjustable flue system or by windows hinged at the bottom. Avoid drafts or strong air currents.

Keep Barn Clean

Have manure removed twice daily at least one hour before milking time. Do not feed dusty feeds in milking parlor. Keep milking area cleared of dust and cobwebs. Have walls and ceilings painted or whitewashed at least annually. Remove manure daily. Do not permit swine, fowl or other animals in milking barn.

Keep Yards Clean

See that yards are drained away from barns and water supply and that yards are free from mud holes. Do not permit manure to accumulate for more than four days. This will minimize breeding of flies. The standard material for surfacing yards is concrete.

SANITARY CONDITIONS IN THE MILK HOUSE

Control Flies

See that doors, windows and other openings are tightly screened. Screen doors should open outward and be self-closing. Provide screens for windows that can be opened. *Use only those insecticides*

approved for use on dairy farms. Read and follow directions on the container.

Provide Adequate Light

Allow window space equal to 10% of the floor space. Provide adequate artificial light. The usual standard is a minimum of 10 foot-candles of light on all working surfaces from natural and/or artificial light sources.

Provide Adequate Ventilation

Have an adjustable outlet flue in the roof of the milk house. Ventilate with windows when necessary. Mechanical ventilation may be desirable to keep milk house dry and free of odors.

Provide Adequate Drainage

See that floor is tight, smooth and impervious to moisture. Have floors slope to a drain. Concrete is standard material for floors. Have a bell type drain connected to a drainpipe leading well away from milk house. A six-inch glazed tile makes a suitable drain when laid two feet underground with sufficient fall to prevent clogging.

Provide Sanitary Equipment

Milk utensils should be of smooth, durable material which does not affect milk. They should be free from rust and dents and be of easily cleanable construction. Do not use utensils of galvanized iron. Cans, if used, should have tightly fitting covers which provide no place for water or dirt to accumulate. A metal rack for holding inverted utensils should be provided.

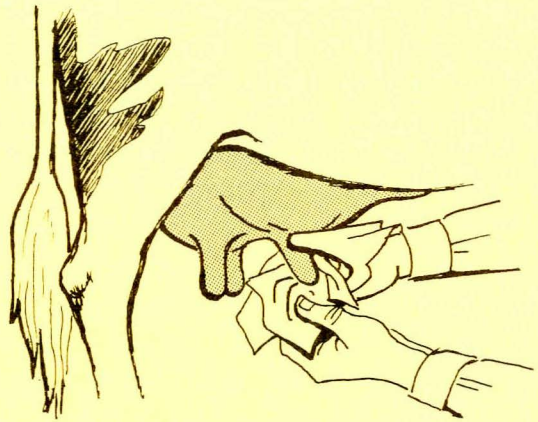
Guard Against Contamination of Milk by Water Supply

Have water tested yearly or oftener for possible presence of harmful bacteria. Do not use water from contaminated supply. Locate and remove sources of contamination. Have wells or cisterns properly constructed to prevent entrance of surface drainage, dust or dirt. Consult your dairy fieldman or county Extension agent as to how to protect your water supply against contamination and where tests can be made.

KEEPING COWS CLEAN

Provide plenty of clean, absorbent material for bedding, such as straw, shavings or similar materials. Remove when soiled.

Keep hair on udder, flanks and belly clipped short. Clipping should be done as needed.



MILKING

Wear clean outer clothing made of washable material. Keep milking clothes clean.

Wash udders which have become excessively dirty. Wipe udder, teats and flanks with a paper towel soaked in a sanitizing solution. It is desirable to use a separate paper towel for each cow.

Use a strip cup. Before starting to milk, strip one or two streams from each quarter into a strip cup, noting whether the milk from each quarter appears to be normal. Once the cow has "let down" her milk, attach the machine promptly. Remove the machine as soon as the cow is through milking. Teach cows to machine strip. Hand stripping is neither sanitary nor necessary.

CLEANING AND CARING FOR MILKING MACHINES

Rinse With Cold or Warm Water

Immediately after each milking, place teat cups in cold or lukewarm water and, using vacuum, draw water through the

machine. Break the flow occasionally by pulling the teat cups out of the water, then quickly immersing them again. Shake the milker thoroughly, then empty. Use fresh water for each unit.

Clean Thoroughly

Suck through the milker hot water (130^{0}F) to which a cleaning agent has been added. Consult your dairy fieldman relative to a cleaner that will work satisfactorily in your water. Brush the pail head, teat cups and rubber parts with this cleaning solution. Use special brushes provided by manufacturer for scrubbing teat cups. Drain water from all units. Completely disassemble milking machines after each milking and wash all parts individually.

Rinse With Hot Water

Following washing, draw two to three gallons of good hot (150^{0}F or more) water through the machine. Do not raise teat cups out of water during the rinsing process.

Store Carefully

Put milk tube on claw and place teat cups on a rack which holds a lye solution, or store them dry in a place free from dust and dirt.

Sanitize Just Prior to Use

Run a pail of sanitizing solution through the machines before milking. Consult your dairy fieldman relative to an approved sanitizing agent. Thoroughly drain machines.

COOLING AND STORING MILK

Cool

Cool immediately to 40^{0}F or under by means of mechanical refrigeration.

Keep Cool and Covered

Keep milk at 40^{0}F or under until picked up. Keep tightly covered to protect from dust and dirt while in storage.

GENERAL SANITARY CONDITIONS

Guard Against Human Contamination of Milk

Some human diseases such as diphtheria, septic sore throat, typhoid fever, etc., can be transmitted by the milker to the cow's udder. These bacteria may then grow and multiply in the udder and be secreted with the milk. Persons drinking this milk may contract the disease. For this reason persons with a contagious disease or who have a sore throat should not be allowed to come in contact with milk or milk utensils. Consult a doctor about suspicious cases of sickness.

Control Flies

Remove manure daily from feeding, resting and holding areas. Be especially careful to remove material from under fencerows and around feed bunks and other places where flies can hatch. Be sure that fly sprays are approved for use on dairy farms. Remember—good sanitation is the most effective fly control measure.

Keep Premises Clean

Allow no piles of refuse to accumulate. Keep surroundings neat and clean.

PREVENTING OBJECTIONABLE FLAVORS AND ODORS IN MILK

Arrange a Feeding Schedule

Arrange feeding time so that strongly flavored feeds such as silage will be fed following milking.

Inspect Pastures

If plants having milk tainting flavors and odors, such as garlic, wild onion, peppergrass, pennycress or Frenchweed, and similar weeds, are found, either destroy them or do not permit cows access to such pasturage.

Arrange a Pasturing Schedule

Arrange pasturing schedule so that cows are removed three to four hours or longer before milking time. Keep cows off badly infested pastures. Start a weed eradication program; consult county Extension agent or dairy fieldman on method of weed eradication.

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