

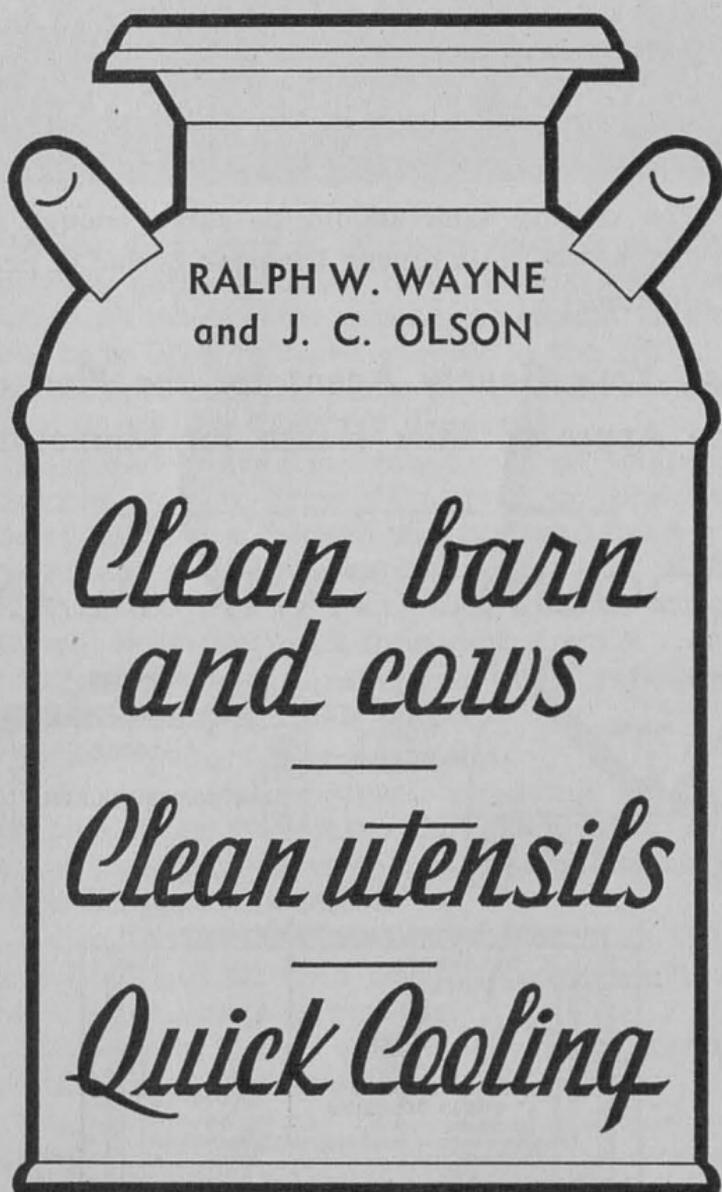
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*produce*  
**QUALITY**  
**MILK**



UNIVERSITY OF MINNESOTA  
*Agricultural Extension Service*  
U. S. DEPARTMENT OF AGRICULTURE

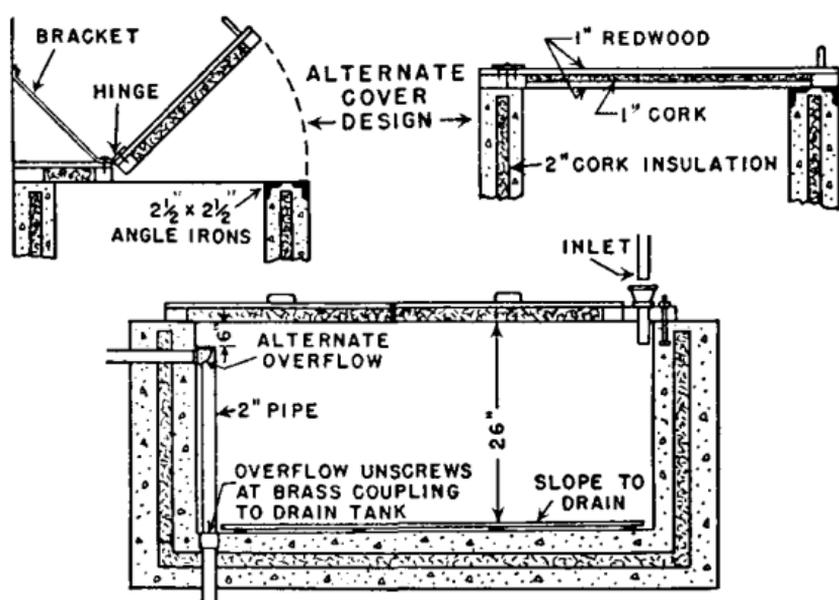
# COOL QUICKLY

*and Keep It Cold*

1. Bacteria that cause souring and undesirable flavors in milk grow ten times as fast at 90° as at 50°. Therefore, cool milk as quickly as possible after milking.
2. Moving water cools 20 times faster than air. Therefore, provide an adequate cooling tank in a milk house built according to recommendations.
3. An adequate tank is one that will lower the temperature of milk to 50° or 55° within one hour after the milk is drawn. A mechanical cooling tank or a mechanical unit installed in a concrete tank is usually the best. Cold running water direct from the well will also do a satisfactory job.
4. Have the water level in the tank high enough so that cans are covered to the neck.
5. The cooling tank should be large enough to cool all the milk during the peak period of production.

Ask Your County Agent for the Plan of the Approved Milk House for Minnesota

## COOLING TANK PLAN



# WHY PRODUCE ? QUALITY MILK ?



- BECAUSE milk and its products are a highly nutritious human food making up 20 to 25 per cent of the average diet.
- BECAUSE high-quality dairy products can be made only from high-quality milk.
- BECAUSE high quality stimulates consumption—the higher the quality the more the demand.
- BECAUSE high-quality products command a premium on the market. There is never too much of the best. Greater competition in the future may close markets to all but high-quality milk.

## **Quality Milk Is Clean Milk with All Its Good Flavor Retained**

Milk as it comes from healthy cows is of high quality, but it can be easily contaminated.

*It has no shell like an egg.*

*It has no hide like a hog.*

*It cannot be shelled, peeled, or washed.*

To be clean it must be produced clean and kept clean.

The attitude and neatness of the dairyman is more important than elaborate equipment in producing quality milk. Equipment only makes it easier to do a good job. Careful attention must be paid to each step in handling milk . . . a single slip-up will spoil the entire effort.

# KEEP IT CLEAN

## *from Cow to Market*

**KEEP COWS CLEAN** One minute before milking wash udder and flank of each cow with a clean cloth and warm water containing chlorine. Clip the rear flanks, udder, and underline frequently enough to keep the hair short and the cows cleaner. Be liberal with bedding.

**KEEP BARN CLEAN** Clean the floor, stalls, and gutter daily, the platform oftener, winter and summer. Use ground limestone on floors and in gutters to keep them dry and to reduce odors. Whitewash walls and ceilings at least once a year. Allow enough windows for good sunlight and provide some system of ventilation. Avoid dust by not handling hay or bedding before milking, and feed silage only after milking to prevent odors in milk.

**CONTROL FLIES** Spray walls, doors, and windows of the barn and milk house with DDT to control flies. Screen all openings in the milk house in summer and fall.

**KEEP UTENSILS CLEAN** Careful attention must be given to washing and rinsing utensils to prevent contamination by harmful bacteria. Follow these directions:

1. Immediately after milking, thoroughly rinse milking-machine teat cups, tubes, pails, and strainer with cold water to remove milk film.
2. Wash utensils after each milking with warm water containing a suitable washing compound. Wetting agents such as Dreft, Vel, Swerl, Nacconol, M.P. 189, etc., are excellent. The usual creamery washing powders, many of which contain a wetting agent, are satisfactory. Soap leaves an objectionable greasy film and should never be used. Brush all surfaces of the utensils with a stiff bristle brush. Discard the old washrag. It neither cleans nor can it be kept clean.
3. After washing, rinse utensils with clean, hot water.
4. Place utensils upside down on a drying rack in the milk house.
5. Just before milking, rinse utensils, including cans, with a chlorine solution made according to manufacturer's directions (see back page of this

folder). The chlorine kills germs and the water removes any accumulated dust.

6. Keep utensils in good condition. Solder any cracks or crevices that may harbor bacteria.

7. Milk cans must be clean. Creamery-washed cans should be satisfactory without further washing, but should always be rinsed with a chlorine solution just before use. Do not use milk cans for returning buttermilk or whey to the farm. Discard or repair cans that are rusty or have open seams.

8. Discard the old-type screen strainer and strainer cloth. Neither can be kept clean. All a strainer does is show how well the job of producing clean milk has been done. If a strainer is used, the filter-pad type is the only satisfactory one.

# MILKING MACHINES

## *Need Special Care*

Unless great care is taken in washing milking-machine parts, unclean milk will result even though all other steps toward production of good milk have been followed exactly to the letter.

After each milking wash the milking machine according to the following directions:

1. Immediately after last cow is milked, while the power is still on, draw clean, cold, or lukewarm (never hot) water through teat cups and tubes into the milker pail. Drop cups into and out of the water several times. Water action and the rush of air help to remove milk from rubber parts.

2. Repeat the above, using hot water containing a suitable washing compound.

3. Repeat, using clean, hot water.

4. Take the machine apart, removing inflations and milk tubes. Then, using suitable brushes, wash all the parts coming in contact with milk, including milker pail and heads.

5. Assemble and hang teat cups and milk tubes on a rack and fill with fresh lye solution. Racks may be homemade or purchased.

6. Rinse pails, tubes, and head with a chlorine solution just before use.

*Where details of the above procedure are very carefully followed, it is often possible to produce satisfactory milk by carrying out step No. 4 once a week instead of daily.*

# STERILIZING SOLUTIONS

**Lye solution** should be used only with teat cups and rubber parts of the milking machine. It retards growth of bacteria. It cuts fat and grease and prolongs the life of rubber parts. The lye solution should not come in contact with any milker parts since it corrodes aluminum.

To make lye stock solution, dissolve contents of one 13-ounce can of lye in one gallon of cold water. Use an earthenware jar. Mix well and store in a gallon jug tightly corked. This strong solution is injurious to skin and clothing. Keep it away from children. For use in teat cups and tubes, make a milder solution by adding a scant half pint of this concentrated solution to one gallon of water. Hang teat cups in rack and fill with solution.

**Homemade chlorine solution**—empty one can of chloride of lime into a stone jar. Add cold water slowly, stirring to a thin paste. When free from lumps, add water to make one gallon. Stir well, cover, and allow to settle overnight in a cool, dark place. Pour the clear, greenish liquid into a glass jug. Keep in a cool, dark place, well corked.

Two tablespoons of concentrated solution to one gallon of water will make a solution of the proper strength. Rinse all utensils with this solution just before use.

Most dairymen prefer the ready-to-use chlorine products, either in liquid or powder form. Follow directions of the manufacturer. The rinse solution for dairy utensils should contain not less than 100 parts per million of chlorine.



## Bulletins You Should Read

Some Guides to Better Milk, Extension Pamphlet 141

Minnesota Milk House, Plan Sheet M-113

Recommendations for Using DDT, Extension Bulletin 252

These bulletins may be had free from any county extension office or by writing direct to the Bulletin Room, University Farm, St. Paul 1.

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