

1963

## EC63-642 Mastitis the Menace : Preventing Mastitis with Better Milking Practices

Follow this and additional works at: <http://digitalcommons.unl.edu/extensionhist>

---

"EC63-642 Mastitis the Menace : Preventing Mastitis with Better Milking Practices" (1963). *Historical Materials from University of Nebraska-Lincoln Extension*. 4081.

<http://digitalcommons.unl.edu/extensionhist/4081>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

AGRI  
S  
85  
E7  
#63.642

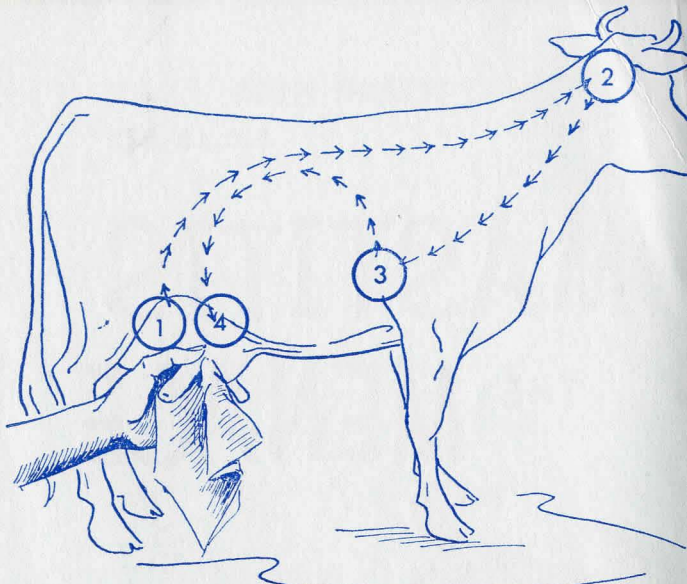
E.C.63-642

# MASTITIS THE MENACE

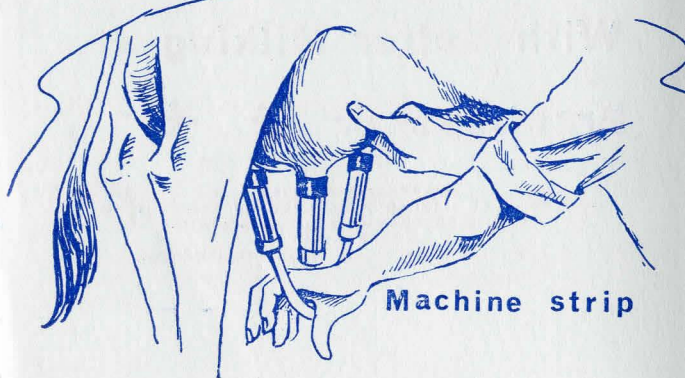


**Preventing Mastitis**  
**With Better Milking**  
**Practices \* \* \***

EXTENSION SERVICE  
UNIVERSITY OF NEBRASKA COLLEGE OF AGRICULTURE  
AND U. S. DEPARTMENT OF AGRICULTURE  
COOPERATING  
E. F. FROLIK, DEAN      E. W. JANIKE, DIRECTOR



How the cow makes milk





## PREVENTING MASTITIS WITH BETTER MILKING PRACTICES

Milking takes 75 percent of your total chore time in parlor set ups and 50 percent in a stanchion barn set up. Thus, you need to take a critical look at milking procedures. Many of the practices that help prevent mastitis also contribute to a faster, more efficient milking operation.

### How the Cow Makes Milk

Production of milk in the cow's udder is a continuous process. Milk is produced by cells grouped as hollow spheres or balls, called alveoli. As milk is produced it collects in the hollow center of the alveolus.

Millions of alveoli are connected by a series of ducts or tubes to small hollow spaces or cisterns at the bottom of the udder and in the teat.

At milking time it is necessary to transfer the milk from the alveoli to the cisterns and then remove it by machine. Without cooperation of the cow, the maximum amount of milk cannot be obtained. How do you get this cooperation?

### Let-down

Let-down of milk, or the transfer of milk from the alveoli to the teat, is brought about by massaging the udder.

Udder massage (1) stimulates nerves in the teats. These nerves send a message to the brain. The message causes the pituitary gland (2) to secrete into the blood a hormone, called oxytocin. The hormone is pumped by the heart (3) to the udder where it activates muscle cells around the alveoli (4) causing them to contract and squeeze out the milk.

Muscle cells are activated and let-down occurs about 1 minute after stimulation and on the average lasts only seven minutes. For complete milking you should put the milking machine on the cow one or two minutes following stimulation.

### Hold-up

The let-down hormone (oxytocin) can be overcome by a hold-up hormone (adrenalin) if the cow is excited, subjected to pain, rough handling, or even by attaching the milking machine too soon. It is no joke when we say there is more milk from contented cows.

## PROPER MILKING PROCEDURE

### Preparation of Equipment

1. Make sure the machine is properly adjusted. The manufacturer of each machine recommends a definite vacuum at which it should be operated, and a definite number of cycles per minute at which the pulsator should be set.
2. Sanitize all equipment before milking.

### Preparation of Cows

1. Stimulate milk let-down. Wash and massage the udder and teats for about one-half minute. Use individual clean cloths or paper towels soaked in warm water containing an iodine sanitizing agent.
2. Use a strip cup. Milk out a few streams from each quarter. This aids let-down, draws out first milk with high bacterial count and helps detect abnormal milk.

3. Apply teat cups one minute after stimulation. Let-down is maximum at about one minute after stimulation and lasts only seven minutes.

4. Machine strip as soon as necessary. Pull down gently on teat cups with one hand and massage udder downward with the other hand. Give special attention to those quarters which do not milk out as readily as the others.

5. Remove machine promptly and properly as soon as cow is milked dry. Do not jerk machines off—break vacuum seal at top of one teat cup and remove gently.

6. After removing the machine, dip the inflations in cool water followed by a hot water sanitizing solution. Be sure to release the vacuum before dipping so that the solution can get into the inflations. Use enough sanitizer to kill the bacteria. The rinse and sanitizing solution should be changed often during milking.

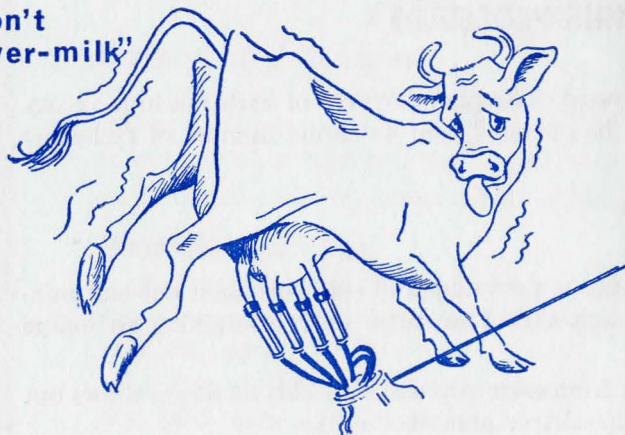
7. Dip the teat ends in a sanitizing solution after milking. Mastitis can live on the teat skin. Dipping removes the milk and organisms clinging to the end of the teat where the bacteria can enter the udder.

## In General

1. Follow a definite routine. Milking should be done at the same time each day and the same procedure followed as closely as possible so that the cow will know what to expect.

2. Some milkers can operate more machines than can others. Some men can operate only one machine properly. Others are able to operate two or possibly even three.

**Don't  
"over-milk"**





## **SLOW MILKERS**

Even in a herd with a good average milking time of 4 to 6 minutes per cow, individual cows vary from 2 to 10 minutes. This means that if machines are to be taken off at the correct time, the milking routine must be flexible enough to allow for these individual differences.

1. The rate of milk removal after maximum milk let-down largely depends upon the nature of the sphincter muscles at the end of the teat. This is an inherited condition. There is not much you can do to correct this except cull slow milkers.

2. Improper milking practices may be the cause of many slow milkers in your herd. You can overcome this handicap by adopting approved milking procedures and by using properly operating milking equipment.

### **Cautions**

1. It is better to have a machine sitting idle than to have it working on a cow after milk flow has stopped.

2. Don't leave the machines on too long or you may cause damage or irritation to the udder.

3. If you leave the machines on too long you may train cows to milk more slowly. Many cows have the potential to milk out rapidly.

### **Conclusion**

Harvesting the milk crop is the dairyman's most important job. Find a proper way to do it. **Good managed milking procedures** provide maximum yield in the shortest possible time with the lowest cost and avoid harmful effects on the udder and the cow.

The subject of mastitis will be covered in six circulars. Information in the circulars will be as follows:

EC 63-639 Mastitis and Your Dairy Herd

EC 63-640 Preventing Mastitis by Better Herd Management

EC 63-641 The Milking Machine and Mastitis

EC 63-642 Preventing Mastitis with Better Milking Practices

EC 63-643 Preventing Spread of Mastitis

EC 63-644 Mastitis and Public Health

Prepared through the cooperation of the Nebraska Mastitis Committee, C. W. Nibler, chairman, P. H. Cole, secretary.