



PREVENT MASTITIS

George R. Fisher
 Dairyman
 Agricultural Extension Service

Dr. I. A. Schipper
 Associate Veterinarian
 Agricultural Experiment Station

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Mastitis often is described by such names as garget, stringy milk, mammitis or caked udder.

In economic loss to the dairy farmer, mastitis is the most important disease of dairy cows. Losses may be due to one or all of the following: (1) Decreased production, (2) poor quality milk, (3) destruction of one or all quarters of the udder and, in some instances, (4) death.

WHAT IS MASTITIS

Unlike tuberculosis and brucellosis, mastitis is caused by many different types of microorganisms.

Mastitis is an inflammation of the udder brought about by the activity of these germs which are always present in the cow's surroundings. Nearly all quarters of nearly all cows contain potential mastitis-producing organisms.

Microorganisms must have favorable conditions to cause inflammation (mastitis). The stress upon the cow and her udder by improper management provides conditions under which the microorganisms may cause mastitis.

SIGNS OF MASTITIS

The main symptoms of inflammation include heat, redness, pain, swelling and abnormal secretions. Because mastitis is an inflammation of the cow's udder, any or all of these symptoms may appear in varying degrees at any time.

CASE

TESTS FOR MASTITIS

Many tests have been proposed for mastitis, though few have withstood the test of time.

BACTERIOLOGICAL EXAMINATION OF QUARTER SAMPLES: The routine use of this test on a herd of cattle provides information regarding the specific microorganisms within each quarter. This test has been used on a monthly or semi-annual basis, followed with medication to quarters containing specified types of organisms.

If the specific organism is eliminated by medication, others of equal mastitis-producing potential soon replace it. The cost of aseptic milk sampling, laboratory examination, medication and discarding of milk from medicated cows makes this a costly testing procedure. It is of doubtful value in controlling mastitis.

BACTERIAL COUNTS: Bacterial counts of the composite (milk from all cows) herd milk samples often are advocated to indicate how much mastitis there is within a herd. Bacterial counts indicate only dairy utensil sanitation and/or milk cooling procedures. High bacterial count of milk does not indicate mastitis.

BROMTHYMOL BLUE BLOTTER TEST: This test consists of placing several drops of milk on blotter paper card on which there is dried bromthymol blue dye. A change in color is indicative of acid or alkalinity of the milk. The bromthymol blue test is not a reliable mastitis test.

WHITESIDE TEST: The Whiteside test is of value in detecting mastitis in a herd when used on a herd sample of milk taken from a bulk tank. On an individual cow or quarter basis this test has often indicated mastitis where there is no history or clinical evidence of mastitis.

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STRIP CUP: The only mastitis test of real value to the dairy farmer is the strip cup.

Any of commercial types of strip cups will do. All you need is a container of some sort and a black-surfaced cover which shows up clots in the milk. The strip cup is an essential item of dairy equipment and should be used regularly at each milking.

CALIFORNIA MASTITIS TEST (CMT); The CMT is a recently developed, highly publicized modification of the Whiteside and bromthymol blue tests. It is of value as a herd test when used on bulk tanks or composite milk samples. Recent investigations by the USDA indicate that this test may cause confusion and that it will give positive reactions when mastitis does not exist. When used on individual cows or quarters samples it gives a much greater incidence of positive tests than is evident by clinical symptoms.

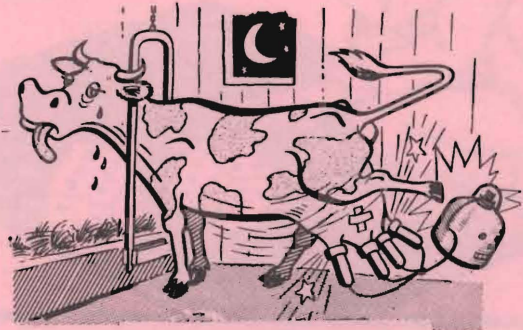
CATALASE TEST: Another test recently receiving much attention is the catalase test. This test is rapidly losing its proclaimed and anticipated value as a mastitis test.

CAUSES OF MASTITIS

When the cow or her udder is subjected to stress, the always present microorganisms within the udder will cause mastitis. **MILKING:** Keep your milking machine in the best operating condition. Your milking machine dealer can help you on this. Some of the primary problems include too small a vacuum pump and pipe line to deliver sufficient vacuum to the operating units.

Many farmers use two complete sets of rubber inflations for each machine and change inflations each week. Inflations not in use should be cleaned thoroughly and stored in a cool, dry place. Clean rubber inflations milk faster and last longer (See NDSU Extension Service Circular No. A-421.) Do not use rubber inflations for more than 1,500 milkings.

When milk flow stops, remove the teat cups at once. Continued milking may injure the sensitive tissue lining of the teat and the lower portions of the udder. Then, the conditions are right for the organisms causing mastitis to start an infection.

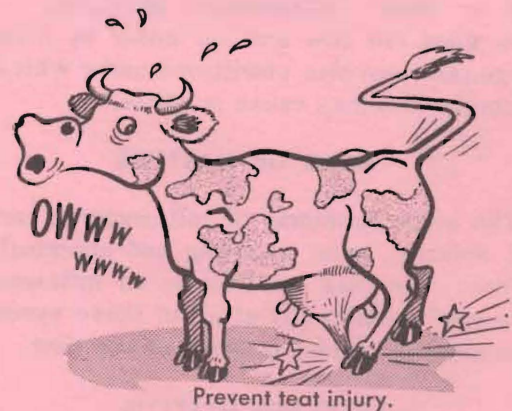


Remove the milking machine when milk stops flowing

Pay particular attention to animals that milk out rapidly or have one quarter that milks out more rapidly than others. When production is 5 pounds of milk or less per milking, stop milking with the milking machine. One operator should not use more than 2 units regardless of the type of equipment or milking arrangement.

HOUSING AND THE HOUSING AREA: Cold concrete floors, lack of bedding, open hay or straw chutes, broken windows or doors, and improper ventilation, may place stresses upon the cow's udder.

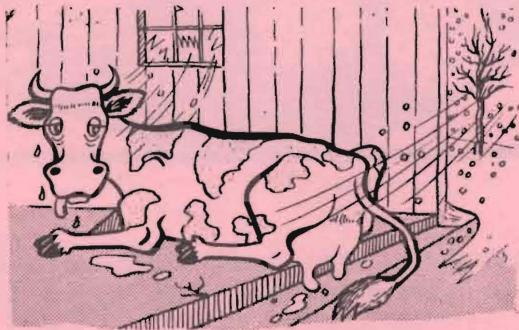
Injury to udder or teats usually leads to mastitis. Prevent injury by providing stalls of adequate size, and by keeping the barnyard and pasture free of sharp rocks, barbed wire, tin cans and other rubbish. Cement approaches to the milking parlor of the barn should be roughened enough to prevent slipping, and be designed to provide complete drainage.



Wet, muddy barnyards and stagnant ponds of water always contain potential mastitis-producing organisms. Cows may stand udder-deep in

such stagnant pools during hot weather. Chapped and sore teats may result also from this exposure.

INHERITANCE: The most important factor of inherited mastitis resistance is udder attachment and teat placement. An extremely large udder with a weak attachment becomes pendulous as the cow ages and is subject to frequent injury.



FEED: Feed is not important in causing mastitis nor in preventing it. There is no evidence that high protein rations play a direct part in producing mastitis.

Also, there is no proof that high concentrations of various vitamins and minerals help to prevent or cure mastitis.

Feeding forages high in estrogens (female hormone) may bring on mastitis if the cow is late in her milking period.

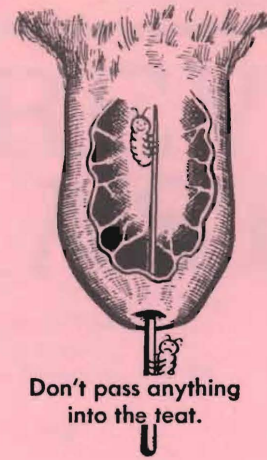
PREVENTION AND TREATMENT

Most mastitis can be prevented with good management.

VACCINATION: Vaccination with mixed bacterins and toxoids have, at various times, received much attention as a means of mastitis prevention. Because many different microorganisms may cause mastitis, it is impossible to prepare a vaccine that will always protect against mastitis.

Vaccination is of doubtful benefit and it cannot replace sensible management and dairy practices. Vaccines may have failed because too many dairy farmers attempted to replace good management with vaccination.

TREATMENT: The dairyman who gives full time to mastitis prevention and depends on a competent veterinarian for treatment, when it is required, usually has less veterinary costs and few problems with mastitis.



Most mastitis begins as a mild case and becomes gradually worse. You can counteract the effects of these mild cases by removing all of the milk from the infected quarters as soon as you see clots or stringy milk on the strip cup. Follow this, by removing all milk every 1 to 2 hours until the milk becomes normal. Before milking, stimulate the cow for milk let-down by washing the udder in warm water, and massaging.

If frequent removal of milk from the infected quarters seems to have no effect, talk with your veterinarian at once. If you have any doubt as to which procedure to follow - - whether to continue this partial milking or call the veterinarian - - don't gamble, call your veterinarian.

Avoid the use of the highly advertised intramammary medicines. The antibiotic content of these preparations is seldom strong enough to counteract the infection. Most of these preparations fail to penetrate the involved mammary area and remain in the lower third of the mammary gland. Antibiotics in the preparation are not released for distribution throughout the gland. They are milked out in later milkings.

All milk from treated quarters should be discarded for the period following treatment as designated on the label of the drug container or according to the veterinarian's instructions.

Mixing of milk containing antibiotics with marketable milk is considered adulteration and is punishable by law.

Antibiotics in milk interfere with the manufacture of dairy products, may injure people who are sensitive to the antibiotic, or produce antibiotic resistant organisms in the human or cow. (See NDSU Extension Service Circular A-356.)