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Mastitis Costs You \$\$\$

PREVENT IT!

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**Only You Can Keep Mastitis Milk
Out of Commercial Supplies**

Mastitis Costs You \$\$ PREVENT IT!

IDAHO State Law, Section 37-314, enforced by the Bureau of Dairying, Idaho Department of Agriculture and the Idaho State Department of Health, requires:

- A. Milk shall not come from cows kept in crowded, unsanitary or unhealthful conditions.
- B. Milk shall not be diluted with water or any other fluid to which has been added, or into which has been introduced, any foreign substance whatever, except fresh cream, skimmed milk or vitamins may be added in amounts and by methods approved by the State Board of Health.
- C. Milk shall not contain any pathogenic bacteria.
- D. Milk shall not contain any boracic or salicylic acid, formaldehyde, or other foreign chemical or any preservative whatever.
- E. Milk shall not be drawn from any cow having a disease or from any cow or cows in a herd which contains any diseased cattle, or from a cow or cows in a herd the attendants of which are afflicted or have been exposed to any communicable disease.

Milk from mastitis-infected cows may contain pathogenic bacteria. Such milk can be classified under these laws as adulterated and therefore is unlawful. Adulterants are easily recognized and are being found more frequently than ever before.

Mastitis is Costly

Cows affected with mastitis cannot function at their best. The loss of production from such cows may vary from complete in acute mastitis, to partial in a chronic infection. The loss from diseased cows is only partially the result of decreased production. Bacterial counts are nearly always higher. The secretion from an infected cow, when mixed with milk from other cows, can interfere with processing procedures. Because of antibiotic treatments commonly used, the amount of antibiotics which frequently gain entrance to milk supplies through the addition of the secretion from a treated udder is sufficient to inhibit or prevent the manufacture of certain dairy products. State and Federal control agencies class such milk as adulterated and have established a

zero tolerance for antibiotics in milk. Such antibiotics, when consumed in milk, are also blamed for some human disorders. The persistent use of antibiotics results in the development of resistant strains of toxin-producing bacteria in udder secretions. Such toxins are capable of surviving all normal processing procedures and producing disease in the human when consumed in sufficient quantity.

Prevention of Mastitis is the Only Sure Cure

Essentially, the udder is made up of soft, delicate, easily injured milk producing cells, blood vessels and nerves, bound together by rather tough resistant connective tissue. Through selection and breeding programs the proportion of delicate secreting tissue to tough connective tissue has increased and milk production has increased proportionately. Along with this has developed a much greater susceptibility to injury of the soft udder tissue. Since this is the usual site for the start of infections, preventing injury to the udder is a must in preventing mastitis.

There are many ways to injure the udder. Poor milking practices, bruising from high door sills, narrow or short stalls, cows falling on slippery floors, walking over stumps, machinery, brush, etc. in the corrals or pasture, rough handling of the udder, particularly at milking time, insufficient bedding, cows lying on cold or frozen ground and many other things can cause sufficient damage to allow infections to start in soft udder tissue. Any condition which brings about "stress" from any source will predispose the udder to mastitis.

The care exercised in using the milking machine determines, in a large part, the stress to which the udder is subjected. The machine is tireless and will continue to operate whether or not it is properly delivering milk. Much experience has demonstrated that machines which are not functioning properly, or not used correctly, predispose the udder to mastitis.

Allowing the machine to operate while no milk is being delivered is probably the most common cause of mastitis.

Good Milking Practices Important

Comfort of the cows at all times particularly during the milking procedure— is highly important. Cleanliness (sanitation) is of extreme significance. Milk should be so produced and handled that strainers have no value. Early recognition of impending trouble can be obtained by consistent use of the strip cup. **The strip cup is the cheapest and easiest method of detecting mastitis.**

The following steps for fast and safe cow milking are recommended:



Use strip cup at each milking.

1. Thoroughly wash the udder and teats in warm, clean water containing 200 parts per million of chlorine, and dry with a clean towel. Use individual paper towels for each cow. (Chlorine may cause chapping in cold climates and can be replaced by other approved sanitizing agents.)
2. Immediately after washing the udder, direct the first milk from each teat into the strip cup and examine it for the presence of flakes or clumps. (Discard the milk from any cows showing a positive reaction).
3. Carefully attach the machine 1 minute after using the strip cup.
4. Check the adjustment of the machine, making sure the teat cups are in proper position. Machine-strip as soon as the milk has ceased flowing and close off the teat. Usually this occurs in 3 minutes or less.
5. When the cow is completely milked out, gently remove the machine. Don't jerk it off. Let some air into one teat cup by pressing the thumb against the base of the teat.

Remember there is a difference between fast, safe milking and hurried milking.

Proper Use of Equipment Essential

Milking machines are designed by manufacturers to function properly and should be operated according to their instructions. However, like other machinery they need occasional adjustments to make certain they are functioning properly. Check the vacuum at each milker unit or stall. If alterations in operations are made which differ from those recommended, adjustments in the machine should be made accordingly. Recently pub-

licized information resulting from a survey of dairyman-operated milking machines indicates that a large percentage of machines are functioning improperly. **Check with your serviceman.**

Rubber parts should be soft and pliable and free from checks. Use two sets of inflations and milk hoses. While one set is in use, the other can be soaking in lye solution (one 13 ounce can to 2 gallons of water). The sets should be changed each week. The two sets used in this way will last longer than one set used continuously followed by a second. **Replace cracked or worn out inflations.**

Preventive Sanitation

When mastitis appears, excepting open wounds, the most likely point of entry is the teat duct. Preventive measures are therefore directed toward avoiding infections through this portal.

One of the most important means for doing this is through providing clean, comfortable quarters for the cows. Adequate, well-bedded loafing sheds and stalls with concrete yards and runways keep cows out of barnyard filth and mud. This avoids carrying dirt into the barn and also exposing the ends of the teats to infectious agents in filth. It also makes it much easier to keep the premises clean and to produce quality milk.

To avoid spreading infections from one cow to another, the equipment should be thoroughly cleaned and rinsed in hot water after each milking. The metal parts should be stored dry and the milk tubes and liners in a lye solution. The equipment should be assembled and sanitized each time before starting to milk, using a 200 p.p.m. chlorine solution. **Almost all the other mastitis preventive measures are useless if the equipment is not clean.**

Between individual cow milkings the teat cups should first be rinsed in warm water followed by soaking in chlorine solution (200 p.p.m.). The time in the chlorine solution should be not less than 1 minute and preferably 2, since some time is necessary to kill bacteria. No more machines than can be properly used should be assigned to any one individual. This is usually two machines. If a worker is slowed by the chlorine sanitizing procedure another machine head should be provided. Thus three heads can be rotated between two machines.



Establish a milking order in which heifers are milked first followed by cows which have never shown any evidence of mastitis and then those which have had mastitis. Those cows whose production is permanently lowered because of mastitis should be eliminated from the herd.

The promiscuous use of antibiotics has not only failed to eliminate mastitis but has created public health problems which should be avoided. Your

veterinarian is trained in the field of disease and is best qualified to advise you and treat such cases of mastitis as do occur.

Milk from any cow treated with antibiotics must be withheld from the market for 72 hours following last treatment. Today is not too early to start controlling mastitis through known preventive methods.

Summary



Eliminate slippery floors.

1. Eliminate slippery floors, high sills, nails, loose boards or anything that injure the udder.
2. Keep pastures clear of anything that may injure the udder, such as rocks, wire, loose boards etc.
3. Prevent calves from sucking each other.
4. If replacements are purchased, bred heifers are preferred.

5. Work with your veterinarian on initiating a herd prevention and control program, rather than calling him only to treat acute cases.

6. Dehorn all calves.
7. Keep all rubber parts of milking equipment clean, sanitary and in good repair.
8. Use two sets of liners.
9. Make sure each unit of the milking machine is always operating at the level of vacuum recommended by the manufacturer.
10. Pulsations should always be maintained at the rate suggested by the manufacturer.

11. Clean the vacuum line regularly.
12. Check all stall cocks frequently and eliminate any leaks.
13. The sanitary trap should be clean at all times.
14. The vacuum regulator should be kept clean and checked regularly to be certain that it is operating properly.

Milking Procedure

1. Prepare the udder as close to one minute prior to milking as possible.
 - (a) Use single service paper towels.
 - (b) Wash, clean with a warm antiseptic solution.
2. Use strip cup at each milking.
3. Attach the milking machine one minute after preparation.
4. Do not leave the machine on any longer than necessary to remove all the milk from the udder.
5. Break the vacuum before removing the machine from the udder.
6. Rinse the teat cup in clear, clean water first and then immerse in a disinfectant solution for two minutes, between cows.
7. Milk first calf heifers first, infected cows last and other in between.



Milk in 3 minutes.

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