Trouble Shooting A Mastitis Problem

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ABSTRACT
Mastitis is a very costly problem causing the farmer financial loss because of: milk lost through decreased production, discarded milk, medicine cost, animals culled from the herd, and veterinarian fees. Mastitis is a luxury the farmer cannot afford, yet there are many that feel it is something they must live with. There are three areas of concern when confronted with a mastitis problem: (a) management of the herd, (b) adequate milking system, properly installed, and (c) sub-clinical or infectious mastitis. To be successful in correcting a mastitis problem requires use of all resources. A team approach is used and the team consists of the dairy plant fieldman and laboratory, milking machine serviceman, area extension dairy specialist, veterinarian and the farmer who desires to correct the problem. Every person on this team has an important part to play in solving the problem. The result of solving the problem is a financial gain for the farmer.

Mastitis can be a very troublesome problem, causing financial loss due to decreased milk production, discarded milk, treatment costs, and loss of cattle from the herd. Mastitis is a luxury the farmer cannot afford, yet very often rather than admit there is a problem it is given the hush-hush treatment.

How do we recognize that a farmer has a mastitis problem in his herd? If the farmer is conscientious he will withhold milk from cows with clinical mastitis and his quality record will not reveal there is a problem if it is clinical mastitis. However, sub-clinical mastitis will be detected by the routine testing of milk for somatic cell count, as required by the Interstate Milk Shippers Code. The legal limit for somatic cells under the code is 1,500,000 cells/ml of milk. This number is totally unrealistic from the economic stand-point; we feel that any producer that has a commingled milk sample from his farm bulk tank that exceeds 300,000 cells/ml has a definite mastitis problem and he should look for the cause of the cell count.

FINDING THE PROBLEM
What approach do we use to seek out the cause of the problem? For the most part, mastitis is management oriented; therefore it is extremely important to visit the dairyman at milking time. We like to plan our visit so there are at least 30 min to check over the basic components of the milking system and discuss our observations with the herd owner.

What do we check? What are we looking for? First we evaluate the vacuum supply pump to see if it is adequate for the work load it has been assigned. If it is of adequate size, then we check the actual out-put of the pump to verify the volume of air it can move. This is done by using a flow-meter placed directly on the intake of the pump. Be sure all fittings are tight and all hose connections have proper clamps. If it is a belt-driven pump be sure belts are in good condition and tightened properly.

Next we check the vacuum controllers to be sure they are working and that there is adequate controller capacity. The controller capacity should at least equal pump capacity, but better yet, exceed pump capacity. There are several different types of controllers available; some need field engineering to operate successfully.

After checking pump and controller capacity we check the pulsator vacuum supply line for proper size and installation. The pulsator vacuum supply line should be at least 1½ inches in diameter for up to four units, 1½ inches in diameter for five to seven units, 2 inches in diameter for eight to ten units, and 3 inches in diameter for more than 10 units. It is very important to have the pulsator vacuum supply line looped to a distribution tank or a header line and if a header line is used it should have twice as much capacity as the pulsator vacuum supply line. Also the pulsator vacuum supply line should be used for pulsators only. Weigh jars, vacuum operated doors, etc. should be on a separate line.

After we have done this we check the pulsators to be sure they are working properly. Many dairymen fail to keep pulsators in good condition. We have found pulsators that have been in use for as long as 3 years without any service. Pulsators need regular service; the diaphragm and rubber parts need changing and cleaning on a routine basis. Short air tubes are inspected for defects such as cracks and cuts that let air into the system. Check milk inlets for damage; many times units have been dropped or kicked by a cow and the tip is bent, restricting milk flow. If any damage is here it must be fixed.

OBSERVE MILKING PRACTICES
The next step is to spend at least one milking time with the dairyman. During the complete milking you should be able to detect any weakness in the milking procedure.

Is the udder preparation adequate? Massage adequate for stimulation and let-down should be at least 20 sec with an additional delay of 60 sec before the milker unit is attached. Just before the milker is attached we sanitize the teat end with alcohol and collect a sample of milk from each teat in a sterile sample bag. These samples are iced and transported to the central laboratory for testing. They are tested for Streptococcus agalactiae.
using a special medium, TKT/FC; *Staphylococcus aureus*, using telurite glycine agar; and somatic cells, using the Wisconsin Mastitis Test.

The milker cluster should be positioned so teats are perpendicular to the udder at all times; this can be done with a mechanical attachment that is designed to keep the proper alignment.

Timing of milker unit take-off is very important. Over-milking must be avoided, if teat ends are to stay healthy. Most dairymen over-milk their cows either as a result of trying to operate too many units or doing other chores while milking.

**INTERESTED PERSONS MEET**

When we have completed our observation and received test results on individual cow samples, we are ready for a group meeting with the farmer, veterinarian, extension dairyman, and milking machine serviceman. Each of these men play an important role in a successful program.

Cows that carry *S. agalactiae* infection are treated, sampled two weeks later, and any infection is treated again; on the third culture cows that still are infected are culled from the herd.

Using this approach we have been able to keep the mastitis in the herd under control and increase milk production as much as 40% Milking time calls are a must in a good quality assistance program.

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