Utah State University Extension
electronic publishing

Animal Health Fact Sheet

MASTITIS PREVENTION PROGRAM

Clell V. Bagley, DVM, Extension Veterinarian
Utah State University, Logan UT 84322-5600

July 1997 AH/Dairy/02

A great deal of money and effort have been expended over the years to find methods for control of mastitis in dairy cows. Both European and U.S. workers have developed programs of prevention that are very similar. These preventive programs require implementation of the seven basic procedures outlined below. It has been shown repeatedly that this programs works. It has also been shown repeatedly that prevention is much less successful when a producer implements only part of the program and ignores others because of their cost or lack of importance in his judgment. The program has been proven. You cannot afford to "re-prove" or disprove it on your own.

Mastitis, on a herd basis, is not a "quick" disease. It takes a period of time before it develops into a serious herd problem. It takes even longer to correct the problem. So, if you have a problem, don't expect it to disappear in 2–3 months. You can make rapid progress early, if you apply all the principles. Gradual, continued progress can be expected over the next 1–2 years if you stay with the program.

The production losses due to inapparent (subclinical) mastitis are devastating. As the economic squeeze continues on dairymen they will either learn to reduce and control this cost or it will aid in squeezing them out of the dairy business. Modern dairying cannot afford the luxury of unrecognized and uncontrolled mastitis.

Mastitis is a complex disease and it may be caused by a variety of bacterial agents. The cause, development and diagnosis will not be discussed here. The principles outlined here are directed toward prevention of all types of mastitis. Mastitis is a MANagement disease and man must act if it is to be controlled on his individual dairy.

The seven preventive procedures are:

1. Maintain freestalls and bedding
2. Use proper milking producers
3. Maintain the milking equipment
4. Dip teats after milking
5. Treat cows at drying-off
6. Early and adequate treatment of clinical cases
7. Cull chronic, non-responding cows

1. **Maintain freestalls and bedding**

The goal is to have the cows clean, dry and comfortable. Anything less detracts from their ability to produce milk and renders them susceptible to mastitis as well as other diseases. Judge cleanliness by observing the udder and rear quarters. If they are dirty, there is a problem with the lounging area or bedding. Judge dryness in the same way. Judge comfort by observing their use of the lounging area provided. If they only use it out of necessity, something is wrong.

Make corrections—not excuses.

2. Use proper milking procedures (Recommended by the National Mastitis Council)

a. Provide a clean, stress-free environment for cows.

b. Check foremilk and udder for mastitis. (Use a strip-cup or similar check for **every** milking. How else can you detect and treat mastitis early?)

c. Wash teats with an udder wash sanitizing solution. Clean the teats; **don't** soak down the whole udder (or cow)!

d. Dry teats (and udder) **completely** with individual paper (or cloth) towels.

e. Attach milking unit within 1 – 1½ minutes after the start of stimulation.

f. Adjust unit as necessary for proper alignment. The squawks of liner slips are not merely a nuisance noise. They are screams of "DANGER"! Not all liner slips create a squawk, so are not heard.

g. Shut-off vacuum before removing the unit.

h. Dip teats immediately after unit removal with an effective product. (Or, spray from the bottom, not the side.)

3. Maintain the milking equipment

Follow a planned maintenance program to routinely check, repair and/or replace oil, belts, rubber and plastic hoses, liners and pulsators.

Schedule your service man for periodic evaluations (every 3–6 months), depending on the number of cows being milked per unit, and the age of the equipment. You know there will be equipment failures. Plan to find and correct them before they damage the cows.

4. Dip teats after milking

Also feed the cows so they will remain standing for a while to allow the teat sphincter to contract before lying down.

When the weather is colder than 10°F, let the drop of teat dip hang for 30 seconds and then blot off before turning the cows out. Otherwise you risk freezing the teat ends and that really leads to mastitis.

5. Treat cows at drying-off

Include ALL quarters of ALL cows and use a dry cow treatment product. Don't expect it to prevent or cure all mastitis problems, but it is very effective for some types.

6. **Early and adequate treatment of clinical cases**

Detect clinical mastitis early with the strip cup and use the CMT to confirm, if needed. Determine if antibiotic infusions are really needed. Once infusions are begun, complete the course of treatment as directed. Discard the milk from all quarters for the length of time directed.

If response is consistently less than expected, culture the next few cases before treating. A poor response is characteristic of staph infection. Also have antibiotic sensitivities run to see what other products may be more effective. Listen to what your veterinarian says; his experience and insight may be much more helpful than even the lab tests.

Insert the teat cannula only 1/4 inch for infusion and use single service treatments, not multiple dose containers or syringes.

7. **Cull chronic, non-responding cows**

This is a vital part of a mastitis control program and should be viewed as a positive effort, rather than as a failure. Culling is especially important when the main agent involved is staph. If treated early, cases of staph can respond and heal. But once they have become recurrent they must be viewed as permanently infected carriers and spreaders.

The procedures outlined above are the sort of thing that every dairyman should be doing; with few if any "shortcuts." There are also additional recommendations for herds with specific problems.

A. The somatic cell count (SCC) is so high the milk processor may refuse to accept it.

1. Review the seven point program and implement those areas not currently in use.
2. Look for teat end lesions, such as from freezing, which break the defense system and allow bacteria easy entry. Correct the problem.
3. Check all quarters of all cows with the CMT and record the results. Also culture at least 6–10 quarters that show a 2–3 reaction on the CMT.
4. Withhold milk from market of those cows testing 3's and even 2's, if needed, in order to lower the SCC and maintain the milk market.
5. Plan future control efforts **after** finding the culture results.

B. Strep. ag. infections

This organism causes a high SCC, but can be **eradicated** from the herd by dry treating, culling and whole-herd treating. Discuss a whole herd treatment program with your veterinarian.

C. Staph infections (spread occurs mainly during milking)

1. Identify by records and CMT, culture, or the ProStaph test, all cows that are likely to be chronically infected. Separate these to an "infected group" to be milked last. Keep them in that group until they are culled. Or, install a good backflush system and use it rigorously and exactly.
2. Improve the sanitation and hygiene at milking, including the wearing of rubber gloves at milking. Wash and rinse the gloves often.
3. Identify infected cows early and get them treated. Transfer any cows that don't respond, or that relapse to the "infected group."

D. Coliform infections

When this is a problem there is almost always either wet bedding or the milking of wet cows as a predisposing cause. Observe for and correct these problems.

E. Mycoplasma infection

This organism has not yet been a problem in Utah. But it is just waiting in several surrounding states to be purchased in a cow and introduced to an entire state of susceptible cows. Be careful what you buy. Ask about the herd history of cows purchased and even culture the milk from the purchased cows (the special test must be requested). If caught early, it can be eradicated by careful culture and culling. Once it is established in a herd, you must resort to separation and culling just to control it.

Mastitis, and its control or lack of control, will be one of the major factors which sifts out the future dairymen.