

## MASTITIS - THE PROBLEM HERD

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### Introduction

A popular way for dairymen to approach herd health management is by basic, well designed programs that employ the part-time services of an outside specialist. Nutrition, reproduction, immunization, hoof care, etc. are all examples of such programs that have gained widespread acceptance. Likewise, mastitis control or milk quality control should be a significant part of an overall herd health management program.

A problem mastitis herd can mean different things to different people. Milk quality control personnel at milk plants send warning letters to dairymen who have reached 100,000 somatic cells per ml. of milk and expulsion from the milk plant or degrading occurs when somatic cell counts reach 1,500,000 cells. Well managed herds are striving for a somatic cell count of 300,000 cells per ml. or less. When this level is surpassed managers should quickly check on sanitation, milking procedures and equipment maintenance.

A herd mastitis control program to be reasonably complete and effective should give attention to all of the following:

1. Milking hygiene program
2. Routine maintenance of milking practices and performance
3. Lactating cow therapy practices
4. Dry cow therapy
5. Milking equipment design
6. Milking equipment maintenance
7. Herd segregation and culling practices
8. Udder contamination potential between milkings
9. Monthly bulk tank samples for quantitative bacteria identification and somatic cell evaluation

The National Mastitis Council (NMC) has estimated that 5% of all dairy herds are in danger of being degraded at any one time due to a mastitis related problem. A serious mastitis condition may be reflected in a high incidence clinical mastitis, a high somatic cell count or a high bacteria count. Regardless of the nature of the problem the best place to start is by having a sample of bulk tank milk analyzed in a laboratory. This is a simple procedure that should never be overlooked. Mastitis is costly. Mastitis cost the average dairyman \$150/cow/year. Even a well managed herd of 200 cows can lose \$32,000 a year simply by doing nothing.

## Problem Mastitis Herd - What Is It?

A herd can be defined as having a problem with milk quality if any one or all of the following parameters are out of line. This would include:

### 1. High incidence of clinical mastitis.

Herds with greater than 2% of the lactating cows under treatment on any given day should be considered to have a mastitis problem. This situation usually results from a major deficiency in management such as unsanitary loafing or calving areas, improper treatment procedures, inadequate milking hygiene or faulty milking machines. A comprehensive herd survey should be conducted immediately to identify the predisposing factors responsible for the outbreak. Affected animals should be treated.

### 2. High somatic cell counts.

A count of greater than 1.5 million somatic cells in bulk tank milk will result in loss of the dairyman's milk market. Somatic cell counts of greater than one million is cause for concern in a probational milk market. Somatic cell counts greater than 500,000 are costly to dairymen and result in a poor quality product.

In problem herds the California Mastitis Test (CMT) should be conducted on every lactating cow in the herd. Cows with milk that is visibly abnormal or positive to the CMT should be treated and the milk discarded.

A survey of herd management milking equipment and milking procedures should be performed.

In many instances individual cows should have milk samples cultured in a laboratory to provide more information on the type of organisms responsible for mastitis. This information is often helpful in determining what steps should be taken to resolve the herd problem. The steps usually involve:

- a. Correcting deficiencies in management and environment,
- b. Upgrading milking equipment and milking procedures,
- c. Treating selected lactating cows,
- d. Drying off and dry treating or culling other cows.

### 3. High bacteria counts.

- a. Most often the problem is due to poor sanitation of the milking equipment or bulk tank, milking of wet udders, contaminated water supplies or inadequate refrigeration. Equipment should be checked thoroughly to determine that it is clean. Hot water temperature at beginning and end of washup should be monitored.
- b. Occasionally strep. agalactiae will cause an increased bacteria count in bulk tank milk. Problem cows should be identified following culture and treated. Animals not responding to rigid treatment should be culled.

### Mastitis Management Goals

Goals should be set and a control program initiated that will enable the dairyman to achieve them. Some reasonable goals for which to strive for are

1. Clinical mastitis. No more than 1-1½ percent of the milking herd under treatment on any given day.
2. Monthly bulk milk screening scores for mastitis. Somatic cells less than 300,000 per ml.
3. Bacteriological procedures. Standard plate count less than 10,000

### Milking Procedure Goals

To milk clean dry teats with clean properly functioning machines effectively and completely.

1. Outside pre-wash and allow to drip-dry.
2. As cows enter and before touching cows, hose off filth from legs, and floor.
3. Foremilk and wash teats (sanitized water).
4. Dry teats (using individual service towels).
5. Attach machine within 2 minutes of foremilk.
6. Adjust cluster as necessary during milking.
7. Detach cluster when cow is milked out (break vacuum first).
8. Dip teats.
9. Allow cows to exit and stay free of udder contamination for first hour.

### Herd Mastitis Control Program Components

1. A sound hygiene program.
2. Routine monitoring of milker practices and performances.
3. A program providing prompt effective treatment for mastitis cows.
4. Routine sanitary dry cow therapy for every quarter at drying off.
5. Proper milking system design.
6. Routine milking equipment maintenance.
7. Segregation facilities and sound culling practices.
8. Minimization of between milking udder contamination.
9. Routine veterinary interpretation of bulk tank milk and pretreated mastitis milk samples.

Summary

The goal of a dairyman is to maximize profits through efficient production of milk. This includes all procedures which enable dairymen to produce wholesome, low bacteria count milk which in turn reflects well on the image of the industry and the sale of its products.

Fortunately most mastitis is controllable and the ravages of the disease need not be sustained because research has resulted in the development of simple yet effective control procedures. These are:

1. Strict sanitation.
2. Use functionally adequate milking machines in the correct manner.
3. Dip teats after milking with an effective product.
4. Administer promptly a full series of recommended treatments to all clinical cases.
5. Treat each quarter of every cow at drying off with a special formulated commercially available antibiotic preparation.
6. Cull animals with chronic infection that do not respond to treatment.