

Milk Quality Management Protocol: Hospital/Sick Cows

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Hospital/Sick Cow Milk Sampling Protocol:

Once a cow has been identified as sick and sent to the hospital pen, you can use the PortaSCC[®] milk test or other on-farm mastitis test to determine:

- If her somatic cell count has decreased enough to levels acceptable enough to add her milk back into the bulk tank.
 - If the treatment worked or if a spontaneous cure occurred.
1. Test sample 21 days after onset of infection. If somatic cell count is greater than or equal to 200,000 cells/mL consider taking a bacteria culture to identify the causative organism(s).
 2. Measure somatic cell counts in individual quarters to determine if the treatment worked and somatic cell levels decreased below 200,000 cells/mL or to determine if the infection spontaneously cured.
 3. Test milk to determine when the somatic cell count has decreased below 200,000 cells/mL or levels acceptable enough to add her milk back into the bulk tank.

The Role of Somatic Cell Count Monitoring

Managing Clinical Cows

Clinical mastitis can be characterized by abnormal conditions of the udder and milk. Milk from cows with clinical mastitis may have an off-color appearance, contain flakes and/or clots, be watery. In severe cases, the animal may display signs of systemic illness, the infected quarter may be swollen, hot, hard, and/or sensitive to touch.

In most well managed herds with somatic cell counts <200,000cells/ml, the predominant cause of clinical mastitis is due to environmental organisms.

- 5 - 10% of all mastitis cases are clinical
- 40 - 50% of clinical mastitis

cases result from environmental Strep infections

- 60-70% of environmental pathogen infections exist less than 30 days.

Cows are more likely to develop clinical mastitis during early lactation.

The predominant influence on bulk milk somatic cell count is the level of subclinical infection within a herd.

Approximately 67% of the total economic loss from mastitis results from losses in milk production.

- Routine quarter SCC's should be taken at freshening to monitor infection status.
- Culture cows with SCC > 200,000 cells/ml.
- Somatic cell counts should be monitored on a regular basis.

Culturing clinical cows is the only way to determine the microorganism responsible for the infection. Bacterial culture results of clinical mastitis cases indicate up to 40% exhibit no bacterial growth; environmental streptococci and coliforms followed by coagulase negative staphylococci account for the majority of mastitis cases when a positive diagnosis is made.

Treatment of the infected animal should be administered based on the following:

- bacteria isolated (>135 microorganisms have been associated with mastitis)
- mastitis history
- production history
- success with treatments
- SCC trends
- stage of lactation
- stage of pregnancy
- age of animal

SCC and Milk Production Loss

| SCC | % Loss |
|------------------------|----------------|
| <100,000 | <2.5 |
| 100,000—200,000 | 2-4 |
| 200,000—500,000 | 4-8 |
| 500,000—750,000 | 8- |
| >750,000 | >10 |

Somatic cell counts may be used as a tool to aid in determining clinical mastitis cure rates by both bacteriological cure and resolution of tissue inflammation.

With the opportunity to collect milk quality premiums based on somatic cell count level, the use of cow side somatic cell testing devices provides a quick and economical method for screening problem cows.

Treatment of clinical mastitis is the most common use of antibiotics on dairy farms and the most common cause of illegal antibiotic residues.

Monitoring individual and bulk tank somatic cell counts is an important part of a sound mastitis management program