



## SCC DIAGNOSTICS TOOL BOX



### R-MC-2: Molds, Metritis and Mastitis

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Although our wet fall made the issue of dealing with molds a greater concern than usual, moldy feed has been with us at some level almost every year. Moldy feed is not the direct cause of mastitis or metritis but indirectly there is a likely connection. The most common problem created by moldy feedstuffs is decreased palatability. Cows dislike the moldy smell and as a result feed intakes decline. Any reduction in feed intake is especially difficult for the very delicate energy balance of a transition cow 1 to 2 weeks before calving. Research has shown that depressing the average daily dry matter intake of close-up dry cows by as little as 2 pounds can trigger subclinical ketosis. While a negative energy balance is the norm for every transition cow, the presence of moldy feedstuffs further exacerbates intake depression and slows normal negative energy balance recovery. A deeper or more chronic negative energy balance may be the most important factor in precipitating postpartum disease including metritis, high somatic cell count (SCC) and clinical mastitis.

A recently reported Canadian study demonstrated the close association between prepartum feeding behaviors and postpartum metritis and subclinical ketosis. Feeding behaviors of 101 Holstein cows were continuously videoed from 3 weeks before calving to 3 weeks after calving. The total amount of feeding time and feed intakes were automatically collected on each individual cow. For every 10-minute decrease in average time spent feeding before calving, the risk of metritis increased 1.7 times and the risk of subclinical ketosis increased 1.9 times. For every 2.2 pound decrease in average daily dry matter intake in the 2 weeks prior to calving, there was a 3 times greater risk of metritis and a 2.2 times greater risk of subclinical ketosis.

A recent Israeli study of 1720 high producing Holstein cows further supports the gathering evidence that a high negative energy balance in early lactation predisposes cows to mammary gland inflammation. Cows with higher body weight loss (12 to 15%) and/or body condition score (BCS) decreases during the period from calving to approximately peak milk (40 to 60 DIM) were 25% more likely to have SCC greater than 250,000 and 43% more likely to have SCC greater than 400,000. Those cows that also were diagnosed with ketosis had even greater odds of having high SCCs.

**BOTTOM LINE:** If you have higher than desired rate of postpartum diseases, high herd SCC, too many clinical mastitis cases or recurring clinical infections, take a closer look to see if moldy feed is affecting your transition cow feeding behavior. Measure dry matter intake and observe the degree of BCS changes. Currently the recommendation for optimal BCS for Holstein cows at dry-off is 3.0 to 3.25 (scale of 1 to 5). The acceptable BCS range for dry cows is 2.75 to 3.5. Ideally, a cow's BCS should not change more than 0.5 from calving to peak milk and never more than 1 unit score. Consider also fat:protein ratios of the cows at the first DHI test. It has been shown that cows with greater than 1.5 fat:protein ratios on the first DHI test are in a severe negative energy balance and are more likely to have postpartum disease problems. When more than 40% of the fresh cows (first DHI test) have fat:protein ratios greater than 1.4, it is time to be concerned about subclinical ketosis being a factor in reducing fresh cow immune function. This makes them more vulnerable to both metritis and mastitis infection.

Standard recommended best management practices for maintaining low herd SCC include keeping cows clean and comfortable, properly maintaining milking equipment, and consistently following effective cow prep procedures. In addition, it is also important to:

- Feed properly formulated diets using only high quality feedstuffs. Never feed moldy feed especially to transition cows.
- Routinely measure dry matter intakes and carefully monitor for changes in transition cow intakes.
- Observe cow feeding behavior especially looking for noticeable changes in feeding patterns.
- Provide adequate access to feed and water. Stocking rates for transition cows should always be less than 90% of feeding and resting space capacity.
- Minimize moving cows or social stress in the transition period, particularly in the 10 days prior to calving.
- Provide heat abatement for cows during times of heat stress.
- Body condition score cows at dry-off, at calving, and between 40 to 60 days in milk. If too many of your cows lose more than 0.5 units of body condition score, then focus on minimizing the causes of excessive weight loss in your fresh cows.
- Routinely monitor first DHI test day fat:protein ratios for cows with ratios greater than 1.4.
- Utilize a routine fresh cow screening program to identify and treat sick cows early.

