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R-MP-2: March Madness and Fresh Cow Mastitis

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The basketball tournaments are over, the snow is melting and come June, the dry cows are more than likely to calve with high somatic cell counts (SCC). What's the connection? A connection to basketball tournaments is a stretch but melting snow followed by wet muddy spring conditions in April /May may merit our consideration. Past studies have estimated that 60% of the new infections occur during the dry period. Currently the annual rate of first test day infection (SCC greater than 200,000) of all Minnesota DHIA SCC tested dairy cows is 32.4%.

How about your herd? Check it out on your Minnesota DHIA Herd Summary (DRMS report # 302) in the "Yearly SCC Summary" section. Cows with SCCs >200,000 will be summarized by lactation (1, 2, 3+ and all) across the lactation for the past year. Note in Table 1, "Yearly SCC Summary," a low SCC herd is doing an excellent job in minimizing infections across the entire lactation.

A recent study of over 66,000 Minnesota DHIA monthly herd summary reports over the last three years (2007-2010) indicates that the highest monthly level of fresh cow new infections occur in June regardless of herd average SCC. Table 2 shows that lower SCC herds do better than high SCC herds but apparently all Minnesota DHI herds struggle during the spring in preventing new infections in dry cows. While not always true, it can be assumed that most of these new infections originated during the dry period prior to calving. Since the average days dry for all DHIA herds is 63 days, we can make another general assumption that these new infections showing up as high SCC in June are most likely originating during April and May. If this is true, now is the time to start planning to do something to break the cycle this year to reduce your fresh cow new infection rates.

Table 1. Example, 500-cow low SCC herd with an average annual herd SCC of 70,000.

Yearly SCC Summary			
	% infected by DIM		
Lact	<30	30-220	>220
1	14	4	5
2	9	5	9
3+	16	7	19
All	13	5	10

Based on 5,411 samples.

Table 2. Yearly % infected (>200,000) at first test day <30 days in milk by Herd SCC category for MNDHIA records 2007-2010.

Herd SCC category	Yearly % infected <30 DIM All lactations	Month of highest fresh cow infections
Less than 200,000	21.1	June
200-299,000	28.3	June
300-399,000	35.5	June
*>400,000	43.5	June
Average ALL herds	32.4	June

What can you do to reduce fresh cow new infections? The following are some questions to help you characterize the situation at your farm. Then following each question is an action plan of steps to take in reducing dry cow new infection.

1. **Study the DHIA Herd Summary (report # 302) "Yearly SCC Summary" section.**

   What percent of 1st lactation, 2nd lactation and 3+ lactation cows are infected at first test (<30 DIM)? Is the problem only with 1st lactation heifers, 3+ cows or a mix across lactations?

   Action Plan *– Focus on the affected group; determine the root causes for these infections.*

2. **Identify the bacterial cause(s).** What do recent bulk tank and individual cow cultures show regarding the predominant mastitis bacteria that are causing infections in your herd?

   Action Plan *– If contagious mastitis pathogens like Staph aureus are present, identify infected cows, segregate and/or milk last. If cultures indicate that your herd has little to no contagious pathogens then the first test day high SCCs are probably environmental mastitis infections. Improve sanitary conditions and ventilation to keep dry cows cleaner and dry.*

3. **Fortify the cow's immune system.** Are dry cow and close-up dry cow diets appropriately formulated and consistently provided for dry cows and springing heifers?

   Action Plan *– If diets are not specifically formulated to meet dry cow nutrient requirements, then it is important to take this step in order to assure all nutrient needs are being met.*

4. **Reduce stressors.**

   a. Is there a minimum of 2' feed bunk access per cow?

      Action Plan *– Adjust stocking rate or bunk space to meet feed bunk access needs.*

   b. What are the sanitary conditions and ventilation during April and May? What is the hygiene score of your dry cows and 1st lactation heifers?

      Action Plan *– If bedding is too dirty or moist and cow hygiene scores are >2.5, increase bedding frequency and/or improve dry cow ventilation.*

   c. Are 1st lactation heifers mixed with older cows? Are stocking rates greater than 1 per cow or bedded pack area <100 square feet per cow? Are dry cows moved several times during the dry period?

      Action Plan *– If the answer to any of these questions is yes then take steps to reduce these stressors.*

   d. What are your current dry off procedures? Do you abruptly stop milking cows or first take steps to reduce nutrient stimulus while milking once per day for a few days to decrease milk production before drying off?

      Action Plan *– Review those procedures and determine if they help or hinder fresh cow new infections.*

5. **Evaluate dry cow treatment.** Are teat sealers being used and dry cow treatment being administered with strict teat sanitation?

   Action Plan *– Always sterilize teat ends before administration of dry cow antibiotic treatment and if not already using teat sealers, consider using them.*

Spring is a challenging time for keeping dry cows clean and dry. But, by doing so, along with making sure they are comfortable, properly fed and as stress free as possible, these management practices will pay dividends throughout the lactation in improved cow health and productivity.