Building toward long-term success

By George Cudoc and Gary Bennett

Teamwork is an effective way to fight the dairy farm battles against SCC and mastitis. A group of interested parties – both on and off the farm – can provide both the expertise and moral support needed to win these battles.

Somatic Cell Counts (SCC) used as implications in udder health and measured to indicate one part of milk quality have been the subject of this series since the first of the year. Determining which individual cows are infected and ranking them as to their contribution to the milk sold has the quickest potential to improve profits through greater milk quality premiums, yet by itself it is typically short-lived.

Further analysis of dry and fresh cow performance as it applies to udder health and milk quality will have a greater chance of long-term success, but results are not seen as quickly. Proper milking management and the correct cow environment will have a positive effect on limiting the number of new infections occurring once cows have entered the milking string. If we are successful at reducing the fresh and new infections, then managing the chronic cases will be a much more manageable number. Chronic cases needn't be such a big issue if we identify the cow, the quarter, and the pathogen and then proceed with the best management practices for each.

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Analyzing High Somatic Cell Count (SCC)

High Bulk Tank SCC

- Few cows (<2%) contribute to high SCC
- Many cows (>2%) contribute to high SCC

New Infections >8% (*July 2011)

Chronic Infections >10% (*September 2011)

Fresh Cow Infections >15% (*May 2011)

SCC Benchmarks

- New: ≤5% ≤5% ≤10%
- Chronic: ≥8% ≥10% ≥15%
- Fresh: 9%+ 10%+ 18%+

*2011 Case Study Herd: In a four-part series, QMPS analyzes SCC in a dairy herd, starting with individual cows (March 2011), and then looking deeper into each component of the herd with >2% of all cows with high SCC. Each group of cows falls out of the "Top" benchmark level. More than 15% of fresh cows (May 2011) exhibited infections; more than 8% of new cows brought into the herd exhibited infections (July 2011); and more than 10% of the herd had chronic infections (September 2011). The full series will be archived at www.dairyone.com and www.qmps.vet.cornell.edu.
this month, and two of the four were fresh-cow infections when they began this lactation. Significant numbers of cows are starting lactations in an infected state and dry-off protocols were reviewed, as well as dry cow housing and management. Chronic infections are on the increase currently. Plans are to sample new chronic infections each test day and culture with the priority being 1st and 2nd lactation animals in early lactation. Once the infected quarter is identified, we discard the milk for that quarter.

When we look at new infection trends over time, we can do so most easily with the graph (Figure 2). Awareness of the impact new infections have on the overall SCC performance, and addressing some milking procedure deficiencies, have had an impact to date. During a month where heat and summertime stresses adversely affect SCC, we are observing a lowering of the new infection rate and risk. Should we be able to maintain this level, we will reach our goal of 7% new infection rate or better. Discussions with the team included keeping cows clean and dry, increasing bedding maintenance and improving milking procedures, especially concerning unit removal timing.

One of the challenges early on when working with this herd was the level of fresh cow infections. At the beginning, there was a yearly 31% infection rate (Figure 3) for fresh cows having gone through a dry period. That number has come down over the past few months to 23%, and currently only one new high fresh cow having gone through a dry period was infected in the past five test periods. Part of the team recommendations is to increase bedding frequency, use an internal teat sealant at dry off, and prevent overcrowding.

**Summary:** By looking separately at individual cow contribution, fresh cow performance, new infections, and chronically infected cows, we are beginning to see longer lasting results. Looking only at the high cows list usually has limited and short-lived success. Teams that focus on a particular area of dairy management reduce the tendency to focus on the problem of the day and search broader to develop permanent solutions. Often times asking the right question is more important than thinking we are part of a team to supply only answers.

**Figure 1. BTSCC contributions**

**Figure 2. New infections**

**Figure 3. Fresh cow infections**

**DairyComp Commands**

Farms that have access to Dairy Comp 305 can produce reports similar to those provided above:

- **Figure 1**: ECON BNAME DIM LACT RPRO LS1 PLS3 PLS LS PSCC\SP
- **Figure 2**: PLOT LS=4.5 BY LS\RY for graph format.
- **Figure 3**: PLOT LS=4.5 BY LS\RYZ for report format.

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QMPS is a program within the Animal Health Diagnostic Center, a partnership between the New York State Department of Agriculture and Markets and the College of Veterinary Medicine at Cornell. The QMPS staff of veterinarians, technicians and researchers works with New York dairies to improve milk quality by addressing high somatic cell counts, milking equipment and procedures, and milker training in English and Spanish. QMPS also conducts research and teaching programs.

Reach the four regional QMPS laboratories at:

- **Central Lab, Ithaca.** 877-MILKLAB (877-645-5522)
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**Dairy One** is an information technology cooperative, providing DHI records services and herd management software to dairies throughout the Northeast and Mid-Atlantic region. A comprehensive laboratory network provides milk quality testing as well as forage, soil, manure and water testing.