by Jane Upperman and Amanda Wolfe

Dealing with those high SCC cows

THE European Union's pending enforcement of somatic cell counts of 400,000 cells per milliliter or less for its imported milk products has renewed interest in reducing SCCs across the nation. Improved herd health and economics have been long-time incentives to lower cell counts.

The authors are Land O'Lakes milk production specialists based in Pennsylvania.

Every dairy should have an SCC goal of 200,000 or less. Herd health issues, lower milk production, and loss of quality premiums all reduce your income. With higher feed costs and uncertain milk prices, it is essential to manage SCCs to boost your bottom line.

Jeff Funk, herd manager and part owner of Funks Midway Dairy at Melrose, Minn., says he approaches managing milk quality from two sides. "For the consumer, low cell counts help extend product shelf-life and improve flavor. For the producer, keeping counts low means fewer treatments, lower costs, more milk per cow, and less wasted milk."

Start by culturing milk from the bulk tank to identify the predominant organisms in the herd. Since cows don't always shed bacteria all the time, take samples over consecutive milkings, and comingle them for testing. When adding new cows to the herd, use bulk tank culturing to monitor any introduction of new infections.

Follow up bulk tank cultures by finding which cows are the culprits causing the high counts. Funk says there are two tools he can't live without when it comes to maintaining an SCC below 74,000 on their 500-cow dairy . . . DHIA reports and the California Mastitis Test. He uses dairy management software to generate a list of any cow on their DHI report with an SCC over 150,000. Then they use the CMT on milk from each quarter of those cows. If the milk tests positive, they take a sample and culture it to see what organism is causing the high count. "The faster you can cure a cow, or at least put her in a separate group to prevent spreading, the better you can control your SCC."

Try this strategy

Once the infected cows have been identified, implement a treatment plan to protect cow health and your profits. A veterinarian can assist in establishing a treatment protocol specific to your herd. Pinpoint the cause, and take steps to prevent future infections. Evaluate milking procedures, personnel, housing, environment, equipment function, and nutrition. Top tips include:

- Be sure to keep cows and udders clean and dry. Maintain bedding in free stalls or housing areas frequently. Fence off wet, muddy areas. Keep udder hair short.
- Follow a strict milking procedure paying special attention to full coverage of pre- and postdipping, discarding foremilk, and carefully cleaning teat ends.
- Identify bacteria by culturing the bulk tank and 5 to 10 percent of cows with the highest SCCs in the herd. Adjust your protocols to handle the predominant bacteria.
- Dry treat all quarters.
- Cull chronic cows that don't respond to treatment.
- Check milking system twice a year using a qualified service provider.

What's your problem?

Mastitis-causing organisms can be contagious or environmental. To help prevent environmental mastitis, reduce the number of bacteria in the cows' environment, particularly in areas that come in contact with the udder; prevent teat injuries; and reduce or eliminate environmental stress.

To limit environmental mastitis, the free stall barn on Funks Midway Dairy features rubber mattresses bedded with a 50-50 mix of confectionary sunflower seed hulls and pine wood shavings. They clean the bedding after the two daily

milkings and add a bedding agent when they bed on Mondays, Wednesdays, and Fridays. Every Monday, they spray chlorinated water on the back one-third of the mattresses to sanitize the surface.

Your milking team should follow standard operating procedures for milking, as well as a protocol for identifying and treating clinical mastitis. Communication and record keeping are essential among milkers, caretakers, and management. Funk says he spends time educating employees on the "whys" behind the milking standard operating procedure. Recently, he sent the milkers to a meeting where they saw an udder dissected to learn how it functions. "If you understand why a step should be done, you're going to follow it more easily," he notes.

Funk is especially finicky about teat end health, calling it "crucial" to low cell counts. "Once we got our teat ends healthy, starting with changing our milking liners, our SCC has been really good." Their udder prep procedure includes wiping down each teat twice, then flipping over the cloth to get a clean surface, and wiping the teat end itself.

There are several mastitis vaccines currently available for immunization against mastitis caused by *E. coli* or *Staphylococcus aureus*. These vaccines typically reduce the severity and frequency of mastitis and prevent new infection. Herds that vaccinate for *E. coli* mastitis, along with conducting good management practices, typically do see a reduction in gram-negative infections. However, *Staph. aureus* mastitis vaccines are not always recommended but may be useful in some herds in conjunction with a prevention-oriented control program.

The Funks are believers in vaccinating for coliform mastitis, having seen it reduce outbreaks of *E. coli*. "We haven't lost a cow to *E. coli* since we started our vaccination program several years ago," he says.

Because the contagious organisms that cause mastitis, such as *Staph. aureus*, are more difficult to cure, the focus is on management. Milk these cows last, or sanitize the unit after milking an infected cow.

At dry-off

Dry cow treatment has a higher cure rate compared to lactating treatment, due to its higher concentration of antibiotics. Treating every quarter reduces the incidence of new infections during the dry period. This is important since the dry cow/prefresh period can be a critical time for new intramammary infections. Teat sealants may be an added benefit during the dry period.

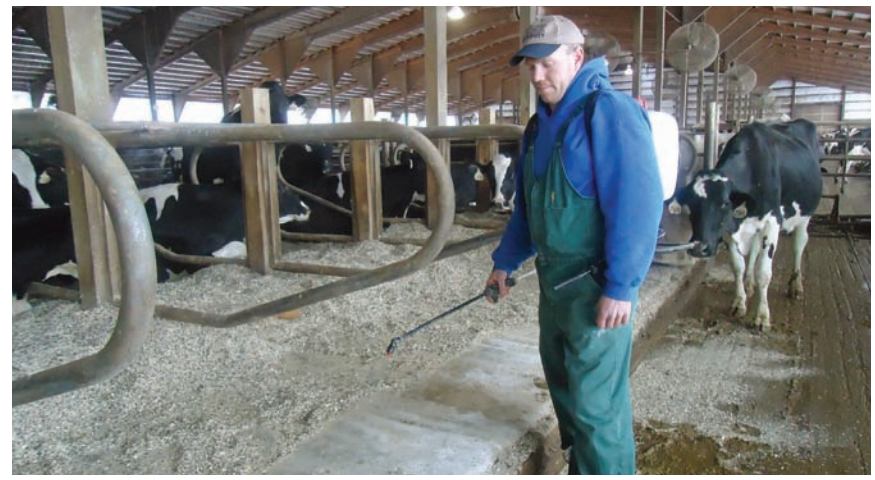
A few years ago, Funks Midway Dairy began dry treating all heifers two weeks before freshening with "tremendous results," according to Funk. They follow the intramammary treatment with an external teat sealant.

Adequate nutrition can improve the cow's immunity, improving her resistance to mastitis.

Feeding a low-energy diet as well as shorting minerals and vitamins will not allow the cow to ward off bacteria. Adequate selenium and vitamin E can assist in maintaining healthy mammary tissue. According to Funk, feeding a ration of more than 60 percent forage improves rumen activity and helps boost his herd's immunity.

In short:

- Find out what mastitis-causing bacteria are in your bulk tank.
- Pinpoint which cows are carrying them.
- Use an effective treatment, or cull chronically infected cows.
- Track down the cause, and correct it in order to prevent future problems.
- Communicate what works and why to all those involved.



CHLORINATED WATER IS SPRAYED every Monday on the back one-third of the mattresses to sanitize the surface. Funk's Midway Dairy is especially finicky about teat end health.