

Six Real-World Examples of On-Farm SCC Reduction

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When struggling with somatic cell count problems, it is easy to become frustrated and think that it is impossible to achieve a lower SCC. The temptation is to blame the situation on some outside force or to say that low SCC cannot be achieved in the South. At times, it may seem like industry recommendations don't always work and that having new facilities is the key to lowering SCC. But, the reality is that the recommendations for maintaining low SCC established by the National Mastitis Council really do work. And, management and people hold the keys to maintaining low SCC.

The University of Kentucky and the Kentucky Dairy Development Council have worked together to help dairy producers lower their SCC in a program called MILK Counts. To date, we have worked with over 50 dairy producers. In this program, we evaluate the dairy system to identify bottlenecks that may be contributing to the SCC problem. This milk quality audit includes an evaluation of DHIA records (when available), milking procedures, facilities, animal hygiene, dry cow management, and interpretation of milk cultures. While not every MILK Counts visit has resulted in a SCC reduction, many farmers have seen a dramatic improvement. Following are six real-world examples of farms who have lowered SCC after making a commitment toward this goal.

Example 1: This particular farm had a consistent struggle with DHIA SCC ranging from 400,000 to over 1 million cells/mL. In October 2010, with a DHIA SCC over 900,000, the producer decided to make some changes. First, he started using the DHIA "Hot Sheet" to identify which cows were contributing to the SCC problem followed up by using the CMT (California Mastitis Test) on high cell count cows to identify problematic quarters. Bacteriological cultures were then performed on these high SCC cows. The results of these cultures were used to adjust the herd's mastitis treatment strategy to attack the herd-specific bacterial population. Additionally, cows with contagious mastitis (*Strep.ag.* and *Staph. aureus*) were culled from the herd. To help provide an incentive to milkers to adhere to the established milking procedure, the producer started paying his milkers a milk quality bonus. Lastly, the producer started using an internal teat sealant (Orbeseal®) at dry off to prevent new infections during the dry period. By February 2011, DHIA SCC had been reduced to less than 200,000 cells/mL and has remained at that level.

Example 2: During the summer of 2010, this particular herd had a SCC over 700,000 cells/mL. The major change implemented by this producer was moving cows to a new sand freestall barn, which reduced SCC by 50% in the first month after moving into the new barn. This producer also enrolled his herd in DHIA and began to use this information to cull high SCC cows from the herd. In the parlor, he started using individual rather than shared paper towels, started using a barrier teat dip, and switched

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to pre- and post-dipping cows using non-return teat dip cups rather than spaying. This farm now consistently maintains SCC between 225,000 and 250,000 cells/mL. Perhaps, more importantly, the number of clinical cases of mastitis was also reduced and the producer indicates that he often has no cows with milk being withheld from the tank.

Example 3: This particular farm had a long-term struggle with SCC consistently ranging between 400,000 to 600,000 cells/mL. These producers reduced their SCC primarily through changes in the milking parlor with a renewed emphasis and focus on milking procedure adherence. Unfortunately, once they decided to do this they had to terminate one employee who was unwilling to make the necessary changes. Milkers started wearing gloves while milking and switched to using individual rather than shared paper towels to dry cows. They also started using a chlorine dioxide teat dip. During the challenging financial times of 2009, these producers had stopped dry cow treating all cows and observed an increased incidence of fresh cow mastitis. However, when the commitment was made to reduce SCC, they returned to dry cow treatment for all cows. They also used their DHIA records to determine which problem cows to remove from the herd. Since making these changes, this herd has maintained SCC less than 300,000 cells/mL.

Example 4. As organic dairy producers, this dairy farm faced a particularly challenging situation with SCC hovering around 1,000,000 cells/mL. Through bacteriological culturing, they identified a *Staph. aureus* problem in the herd. Using this information, they culled a few cows and started milking the remaining *Staph.* cows last to minimize transmission to other cows. Like the other example farms, this farm started using their DHIA “Hot Sheet” more frequently to identify problem cows. They reengineered their milking procedures to better prevent mastitis and they renewed their focus on cow cleanliness within their tie-stalls. All of these changes resulted in a consistent SCC around 300,000 cells/mL.

Example 5. Although this producer had often attained low SCC in the past, SCC had increased to almost 700,000 cells/mL during the summer of 2010. This producer managed cows in a compost bedded pack barn, but was not stirring the pack frequently enough resulting in a wet pack and dirty cows. After the producer started stirring the pack twice daily, the compost process started working better resulting in a dry pack and clean cows. Additionally, this producer started using the DeLaval DCC cell counter for on-farm SCC measurement. He uses this tool for the bulk tank, to identify high SCC quarters, on fresh cows, and to dry cows off early. Finally, this producer attributes much of his reduction in somatic cell count to the use of the DHIA hot sheet and paying more attention in the parlor. SCC now ranges from 200,000 to 300,000 cells/mL.

Example 6. This farm represents the most dramatic changes in SCC. The first visit to the farm was initiated by a health department letter indicating it was time to reduce SCC. At that point, a high percentage of the herd was being discarded and SCC was still over 750,000 cells/mL. The first changes these producers made were in the milking parlor where they stopped using a water hose to clean cows and started pre-dipping, fore-stripping, and wearing gloves. Soon after that, they rebalanced their rations, started using sand bedding in their existing freestall barn, and started using a barrier teat dip. By that point, SCC had been reduced to around 500,000 cells/mL. Next, they remodeled their freestall barn and enrolled in DHIA. These last changes help push their SCC below 300,000 cells/mL.

Commonalities among Successes: All of these producers had a strong desire to change and stay in the dairy industry for the long-term. In many cases, they were also motivated to reduce SCC to maintain their milk market or attain a milk quality bonus. They also really wanted to understand why there was a problem and how they could prevent it in the future. They all utilized DHIA to help manage SCC. With some of the farms who have not observed the same success, the focus tended to be on “what” is the problem rather than “why” and on treatment rather than prevention. These successful producers were willing to make changes to reduce their SCC and cull a few cows to get out of the problem. They all were committed to making changes in the milking procedures and had a full team dedicated to achieving this goal. Thus, the key to success was the attitude and commitment of what the producers and their employees did after we visited their farms.