

MAKING MILK

By Julie Berry

Focus on milk quality

A 175-cow dairy in Northern NY significantly dropped somatic cell count over a two-year process that included a careful review of the milking system and procedures, the environment and individual testing of cows.

With somatic cell counts over 400,000 cells/ml, Twin Mill Farms in Ogdensburg, NY received a milk quality derogation, which prompted owner Blake Gendebien, who is on the board of directors for Agri-Mark Inc, to focus on milk quality.

“That made me nervous and forced me to look seriously at how we can improve our milk quality,” he said. “We’ve hunkered down on milking procedures and have written standard operating procedures. We’re taking it much more seriously.”

The farm in January 2013 enrolled in Quality Milk Production Services (QMPS) 400K beat it! program. The farm held six monthly meetings with QMPS, Dairy One, the farm’s veterinarian and the farm’s nutritionist to evaluate biggest risks to the farm and focus on problem solving. The meetings have been so successful that Gendebien has continued to meet monthly with Dr. Jessica Scillieri Smith of QMPS to review DHI records.

Dr. Scillieri Smith led the farm through a systematic process, which she said is useful for all farms to problem solve milk quality concerns.

A systematic review of the milking system and procedures can improve quality.

“I use the same approach. I start with the basics,” she said. “Are the milkers doing a good job? Are there compounding factors with milking equipment? How are cows being handled? Is the environment clean and are the cows well-bedded? It’s finding out where potential exposure is and doing what you can with that farm.”

Regardless of the type of barn or bedding used, and whether a farm uses Dairy Comp or CMT and a spread sheet, high levels of milk quality can be achieved, she said.

“You have to gather information and make smart management decisions. Realize issues are not going to be solved overnight. Be realistic and set goals.”

At Twin Mills a review of the equipment showed that the vacuum was set too high, which was injuring teat ends. A milker training and milking protocol was implemented. Scillieri Smith also worked with the herd’s veterinarian to create a treatment protocol. Culture results are used to target and reduce antibiotic use. DHI records are reviewed. The entire herd was sampled for culture.

“30 cows were subclinical, which is why the filter sock was clean. It was confusing everyone. We had a *Staph aureus* problem,” Gendebien said. “The charts were going up and down. Levels would drop, and then the farm had a spike. Somatic cell count dropped as low as 129,000 in July and then spiked in January.”

Staph aureus is a tricky bacteria because it is contagious, but can also be an environmental pathogen, Scillieri Smith said. Cows can shed intermittently. Scillieri Smith does not recommend eradication as a goal, but management is essential to control effect on the farm.

“It was a big hurdle to overcome. It was something we had to do slowly over time,” she said.

Dairy comp records are evaluated each month, and chronic and new infections are monitored. The herd is small enough that evaluations are done on a cow-by-cow basis. *Staph aureus* positive cows are not bred, and are culled when milk production drops. The herd veterinarian conducts fetal sexing, which is used in culling decisions. Milk quality, cow health, income, milk volume and cull cow price are all considered during the culling process. Sometimes one quarter is dried or milk from that quarter is diverted.

“There is no cut and dry easy formula,” Scillieri Smith said. “If it costs more money to feed the cow than she is making in milk production, then she is a cull candidate.”

“We cultured every single cow and found out which cows had *Staph aureus*, and then set up parameters on Dairy Comp that included days open, milk production and *Staph* status, and imme-

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Shizuko Maeda, herdswoman, Leah Naplin, veterinarian from Canton Animal Clinic, and Jessica Scillieri Smith, QMPS, partner on milk quality at Twin Mill Farms.

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harvest but dry matter can change over time due to environmental conditions. Co-Vale Farms checks the dry matters of its feeds three times a week. The ration is adjusted based on this information. Refusals are weighed back daily for each pen and recorded. Feed Tracker is used to monitor the program. Table 1 shows the information that is collected and recorded daily. This information is then entered daily in the farm's Milk Tracker spreadsheet that tracks the following information on a daily or weekly basis (Table 2). It takes just a minute each morning to input the dry matter intake information. This key piece of information can then be used to monitor other aspects of the dairy.

Key to this information being useful is that the people responsible for feeding the cows have the skills and desire to make sure that

the details are taken care of. At Co-Vale samples are taken correctly and consistently. Scales are checked to make sure they are accurate. Refusals are collected and weighed back. Feeders are trained and comfortable using Feed Tracker. The commitment of the feeder is fundamentally important to achieve feeding accuracy.

Improving feeding accuracy allowed Co-Vale Holsteins to take fuller advantage of the ration that was developed to increase pounds of components sold. It also impacts overall cow performance and farm profitability. □

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Table 2.

Date	Milk Lbs. Sold	Feed DM Lbs.	Milk Cows in Tank	Treated Cows	Dry Cows	% BF	% Prot.	SCC	Bact.	Mun	Milk/AC	7 Day Milk Avg.	ECM	DMI	FE
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Milk/cm includes only cows milking, milk/ac includes all cows including treated and dry. FE-feed efficiency

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ately culled a number of cows," Gendebien said. "Fresh cows that responded to treatment were kept. Legs were banded on cows that gave over 90 pounds of milk, but that had cell counts of 200,000 to 400,000. We can make culling choices because beef prices are high. In another year it may have been much harder to make those choices."

In the summer when cows are on pasture, the milking unit is dipped in chlorine, and banded cows are milked last. Positive cows were separated and moved to a barn on his father's property. Somatic cell ranges from 150,000 to 190,000, butterfat is 3.93 to 4.0% and protein is 3.15 to 3.17% at the home farm.

An intern the farm hired from SUNY Cobleskill, Shizuko Maeda, who also has a vet tech degree from SUNY Delhi, and speaks Spanish, English and Japanese, manages the culture sampling, and coordinates with the farm's Hispanic milkers. Every month all fresh and clinical mastitis cows are sampled.

"It has been expensive, but at the very least it has been a wash with the quality premium," Gendebien said.

A herd with lower somatic cell will also likely make more milk, resulting in unseen increased income, Scillieri Smith said.

Gendebien recommends: Give responsibility to one person to



Blake Gendebien separates Staph aureus positive cows into a separate barn.

culture and treat. Sample the entire herd to identify positive cows. Sample every fresh cow. "We have a lot of room to improve," Gendebien said. "Our goal for this year is to stay below 200,000."

And that, Scillieri Smith says is a smart strategy. Maintaining one goal, for any farm, before trying to further reduce somatic cells count is realistic. □