



Quality Watch

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What Does MMPA Offer to Reduce Bulk Tank Somatic Cell Counts?

It is an established fact that low somatic cell count (SCC) milk has a higher cheese yield than high SCC milk. In fact, many cheese producers around the world pay dairy producers a premium for low SCC milk. However, did you know that experiments are ongoing exploring the benefits of low SCC milk in extending the shelf life of dairy products, particularly fluid milk?

From the May 2004 issue of the Food Systems Insider e-newsletter, Shannon Linderoth writes, "... researchers have discovered that off-flavors in 2 percent, 43°F pasteurized fluid milk can be pushed back. Experiments have been able to extend shelf life from 18 to 56 days when the somatic cell count (SCC) of the raw milk was decreased from 1 million SCC to 25,000 SCC. And additional studies have extended that refrigerated shelf life for fresh milk to 90 days and even longer."

However, low SCC is the key to achieve these shelf-life gains, and segments of the food chain must partner to accomplish these goals. "It definitely takes both parts - the milk quality and the processing working together," says Dr. David Barbano, a research scientist at Cornell University in New York. "This is why a partnership between producers and processors is so important."

Considering the benefits of low SCC milk, what can MMPA do to help you to lower the SCC in your bulk tank? The answer is: a lot! MMPA's Member Representa-

tives have an arsenal of resources to assist our members in improving udder health; thus reducing the SCC in the bulk tank. This month's Quality Watch article discusses the services currently available to our members and asks what additional services would be of value to our members in the future.

The first step to lowering the SCC is to monitor the SCC level in the bulk tank. MMPA provides component tests and a SCC on nearly every bulk tank shipment each month. The only bulk tank samples not tested this way are used for other testing such as the monthly pre-incubated bacteria count (PIC), sediment testing, brucellosis testing, and Marketing Administrator audits. Monitoring the bulk tank SCC can illustrate trends in herd health and determine whether further investigation is needed to reduce the bulk tank SCC.

You may choose to periodically sample the bulk tank for culturing. Culturing is an essential aspect to mastitis and SCC control because an elevation of SCC is generally the result of an infection of the mammary gland. The sampling frequency can be made through consultation with your member representative and veterinarian. Typically, members have their bulk tanks cultured at least once a month and many choose to have them cultured weekly. Currently, the MMPA lab can isolate *Streptococcus agalactiae* (Strep ag), environmental Strep species (Strep non-ag), *Staphylococcus*

aureus (Staph aureus), and Coagulase Negative *Staphylococcus* (CNS) from bulk tanks samples. If further identification is desired, MMPA can forward samples, at your request, to the Michigan State University Diagnostic Center for Population and Animal Health (DCPAH) lab. A charge is assessed for this option.

Once a decision is made to lower the bulk tank SCC or to eradicate a mastitis pathogen from the herd, a call should be made to your MMPA Member Representative to develop a mastitis management plan. Such a plan is usually multi-faceted. Depending on your needs, your member representative may sample each cow in your herd for culturing. With the results, you along with your member representative and your veterinarian, can develop treatment and monitoring strategies as well as other management programs. In some cases, further pathogen identification is required on a cow basis. MMPA can forward cow samples to the DCPAH lab for further culturing and susceptibility testing, if appropriate (not all mastitis pathogens respond to antibiotic therapy and in such cases, susceptibility testing will not be performed). A charge is assessed for testing at DCPAH.

For members that monitor the SCC of their cows through DHIA, your MMPA Member Representative can (or has access to people that can) evaluate your DHIA records through PC Dart to help pinpoint the areas of concern. It is possible to determine which stage of lacta-

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Preventing new infections—the only real profitable strategy

The only real profitable strategy must make prevention the first focus of all efforts. The physiology of the teat end and the mammary system are designed to prevent new infections from getting established. The challenges that today's cows face are often more than the cows built-in system can handle. There are three primary battle fronts where the war to prevent new infections must be waged: the ten days after dry off, the ten days prior to and during calving, and every time the cow is milked. Lack of attention to any of these three battlefronts will seriously challenge your potential for success.

The milking routine—a major battlefront in prevention

The milking routine is a critical battlefront in the effort to prevent

new infections. Often overlooked and often taken for granted, the pre-milking udder prep routine is key to your success. In lactating cows, most mastitis pathogens that enter the mammary gland do so during milking. This fact emphasizes the reality that poor technique in udder prep increases the rate of new infections. If you hope to keep new infection rates (a cow going over 200,000 SCC is considered infected) below 5 percent per month, you

must be certain that the timing and technique used in the udder prep is excellent and consistent. MMPA has offered milker training schools for the past 12 years. Almost 3,000 people have attended and many return for a refresher. In February and March of 2009, MMPA field staff will be offering a series of Milker Training Schools.

Let us know if you want a Milker Training School near you!

By now, you should have received a survey in your milk check that asks if you would like a Milker Training School located near your farm. This survey is the only way we can decide where to locate this year's schools. If you have not already responded to your survey, don't hesitate, please let us know right away.

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tion most cows develop a new infection and whether or not the mastitis monitoring/treatment program is effective by evaluating the percentage of chronic infections.

Your MMPA Member Representative can help determine whether it is appropriate to culture stall bedding or parlor water for specific pathogens as well. This determination is generally made when certain pathogens are prevalent in cow samples. Culturing the bedding or parlor water may pinpoint the source of bacteria infecting the herd. It is recommended that the colony forming units (cfu) be determined when culturing the bedding. In addition to this, your member representative can evaluate stall grooming/rebedding rates and cleanliness of cow traffic areas, and determine effect that these areas may have on mastitis.

MMPA can also evaluate the way milk is harvested on your dairy. There are two facets to this evaluation: milking equipment and opera-

tor. MMPA has a team of people prepared to evaluate your milking equipment according to NMC guidelines and can diagnose most equipment related issues related to pulsation, vacuum level, and air flow. As a part of this evaluation, the milk cluster automatic take offs (ATO) can be checked to determine whether or not they are removing the milk clusters from the cows in a prompt fashion to avoid overmilking and causing undue teat end stress.

Going hand-in-hand with equipment performance is operator procedure. Your member representative can evaluate udder prep technique and timing. They have the knowledge and experience required to optimize the milking procedure for good udder health, milk quality, and parlor throughput. To help monitor the quality of the udder prep procedure, MMPA offers coliform testing. Your MMPA Member Representative can advise you on the testing frequency for your herd and help you evaluate the test results.

MMPA offers many resources to help its members control mastitis and ship the best quality milk possible. Use of these resources may reveal a need to change certain management practices on the dairy. Commitment on the part of everyone involved on the dairy is required to obtain and maintain a low bulk tank SCC.

Over the upcoming year or so, MMPA will re-evaluate the mastitis detection and management resources it has available to its members. We are considering changes to the culturing program in our lab and are considering assisting members with on-farm culturing. This is where your feedback is crucial. I would like to hear constructive comments about the services we currently offer as well as services you think we should offer. Please feel free to e-mail me at letter@mimilk.com or call me at 989-289-9251.