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Vol. 39 No. 377 SEPTEMBER 2025

TROUBLE SHOOTING BACTOSCAN AND BULK TANK SCC PROBLEMS

As you are well aware, the milk truck driver collects a bulk tank milk sample at each pickup and a variety of tests are performed on those samples including a Bactoscan and a bulk tank somatic cell count (BT SCC). Your bulk tank results are readily available online for you to monitor regularly and if you wish, you can give permission for your herd advisors like your nutritionist and your herd vet to monitor those as well. The Bactoscan measures the bacteria count of the milk and in Ontario, the target goal is to be consistently less than 35. The standard for BT SCC is less than 400,000. Most producers meet these targets on a regular basis, but sometimes, especially in warm summer months, something happens and one or both of these factors may become elevated.

Bactoscan

Most of the time, a high Bactoscan is the result of a cleaning problem somewhere in your milk handling system, meaning that it could be the milking equipment or the bulk tank. There are many parts of these systems where things can go wrong. This is not an all inclusive list, but it provides some examples of problems we have observed over the years and gives you an idea of how challenging it can sometimes be to resolve this dilemma:

- hot water supply or hot water heater itself,
- seasonal changes in your well water supply affecting the efficacy of the cleaning chemicals,
- tubing for automatic chemical dispensers is damaged or broken,
- cleaning chemicals are ineffective due to exposure to sunlight or other environmental factors,
- sanitizing rinse failures,
- dirty cows, dirty teat dip containers, bacterial build up on milking equipment,
- broken or plugged parts (like air injectors) on the milking equipment which inhibit proper"slug" formation during the wash cycle etc.

Another factor that can lead to a high Bactoscan is a milk cooling problem. An article in the July 2025 issue of *The Milk Producer* included a chart showing the increase in bacterial growth in raw milk held at various temperatures for 24 hours. While the chart reports bacterial numbers as "Plate Count", which is a different way to monitor milk hygiene than Bactoscan, the concept is that if raw milk is not cooled quickly and maintained there, bacterial counts rapidly become astronomically high.

On a rare occasion, a high count could be from mastitis organisms in the cows, but that is highly unusual. However, your FSR will often request a bulk tank milk culture just to verify what types of bacteria are causing the high Bactoscan count.

Where to start?

- inspect your milking equipment and bulk tank, check TTR.
- contact your milking equipment dealer for an evaluation of milking system and bulk tank.
- contact your FSR (if they have not already contacted you).
- contact your herd veterinarian.

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Bulk Tank SCC

A high BT SCC always comes from the cows. There is no other source of these cells. They are not bacteria but rather, they are white blood cells and an elevated SCC greater than 150,000 indicates an active, healing, or low grade infection in the udder. Unfortunately, SCC alone cannot predict what the cause of the infection is, but milk cultures can be very helpful. Some mastitis organisms like Staph aureus are more prone to causing subclinical mastitis which can be hard to detect and therefore, it can easily can easily spread throughout the herd and cause an increase in BT SCC. Like Bactoscan issues, there are many factors that can contribute to an elevated BT SCC and the best approach is to review and follow the comprehensive list (15 items) of DFO recommended practices in Appendix B of the producer manual. The list is too long to include in this newsletter, but it is a very good to review this list periodically.

Where to start?

- review Appendix B Troubleshooting Milk Quality Issues in the producer manual.
- review your DHI SCC report and or CMT paddle all of your cows to help identify cows with a SCC greater than 400,000 so that you can milk them last and keep that milk out of the bulk tank.
- review your milking procedures.
- make sure teat dip containers are emptied and cleaned after every milking.
- if you use cloth towels, review laundering protocols.
- contact your herd veterinarian.
- schedule a milking system evaluation to ensure that the system is functioning appropriately.
- contact your FSR.

Helpful References and Resources

a) DFO Raw Milk Quality Program Policies producer manual "Appendix B Checklist for Troubleshooting Milk Quality Issues".
b) NMC Online (formerly National Mastitis Council) "Proper Storage & Handling of Teat Disinfectants".
c) The Milk Producer July 2025 issue "The critical role of milk cooling on the farm".
d) Hoard's Dairyman Feb 9, 2024 issue "A clean towel makes a big difference".

Dr. Sonja Mulder, DVM

Upcoming Holiday Hours

Our offices in Listowel, Drayton and Mount Forest will be closed Monday October 13th, 2025 for Thanksgiving. We will re-open on Tuesday October 14th, 2025 at 8am. As always, our veterinarians will continue to provide 24-hour emergency services for our clients.