



## SCC DIAGNOSTICS TOOL BOX



### R-MP-3: Milk Quality Tips for Tough Times

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Milk quality does count. When dairies consistently achieve production of low SCC and low bacteria count milk, everyone wins – the cow, the dairy, the processor, and the consumer. Since low SCC cows also produce milk more efficiently, the environment wins too. Over the past 5 years since we began emphasizing the importance of milk quality through the Quality Count\$ program, Minnesota dairy producers have consistently improved milk SCC quality every year. The current weighted average BTSCC (bulk tank somatic cell count) for Minnesota dairies is at 300,000. Low bacteria counts are also an important part of milk quality and are crucial for product shelf life. Most dairies are able to maintain bacteria counts less than 10,000 cfu/ml (colony forming units per milliliter).

Although milk prices have dropped recently, producing high quality milk matters proportionately more to your bottom line. Most Midwest processors, even during these challenging economic times, pay a quality premium for BTSCCs less than 350,000. Incremental quality premium increases occur at each 10,000 BTSCC reduction but the largest increases begin to occur for milk below 250,000. Milk less than 200,000 BTSCC will increase your milk price \$0.50 per cwt. Up to \$0.75 per cwt extra can be earned for BTSCC less than 100,000. On a 100-cow dairy averaging 20,000 pounds per cow, this could make a \$10,000 to \$15,000 difference in your annual income.

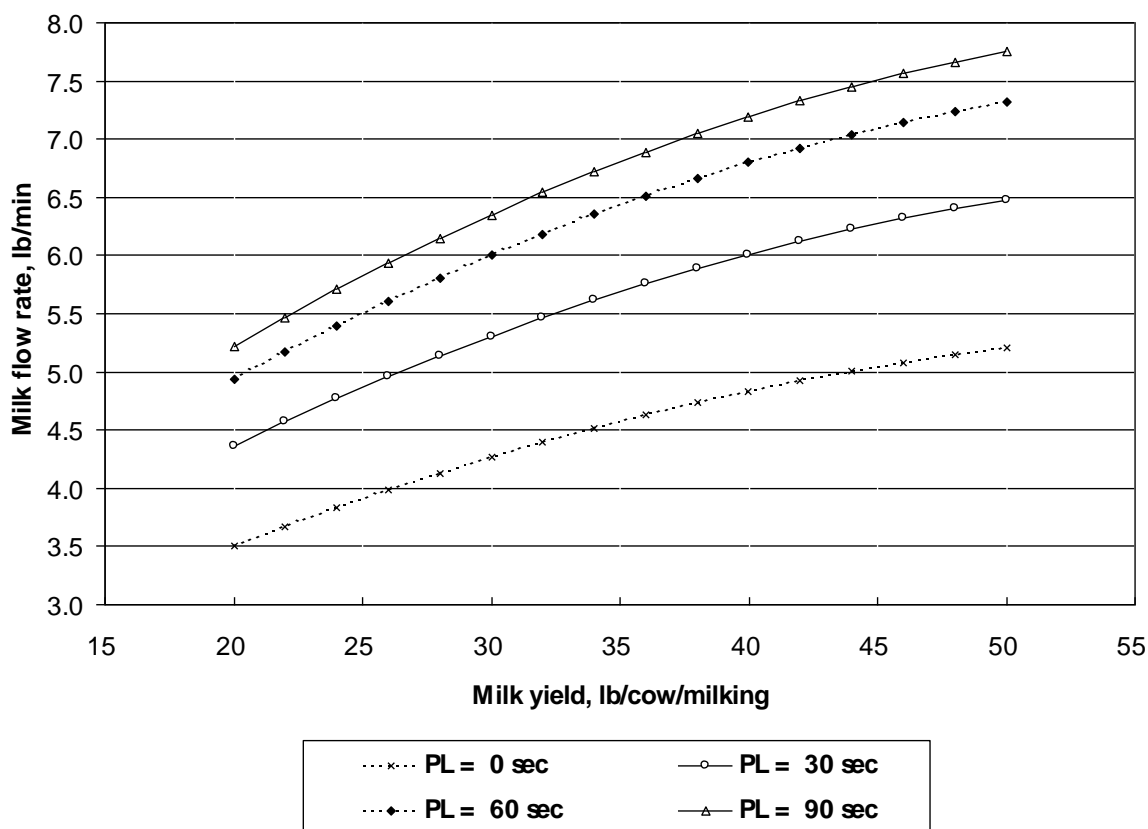
Is it worth the time, effort, and cost to achieve a low BTSCC? My answer is that *you can't afford not to* and what's more, some best management practices are cost neutral. For example, proper teat dipping takes no more time or product to achieve complete teat coverage than to do a sloppy job. How much increased cost is added by using a proper milking routine? Every study of milking routines in the last 20 years indicates that to achieve optimal milk let-down across all stages of lactation and to minimize machine-on time requires at least 10 to 20 seconds of quality teat massage (cleaning) and a 60 to 120 second pre-lag time (the time between first initiating teat massage and milking machine attachment). See Figure 1. Our experience shows that many dairies struggling with high SCC are spending only 5 to 10 seconds average on pre-milking prep time. This is neither enough to assure consistent teat sanitation or optimal milk let-down response. Based on cow prep studies, adding just 10 seconds more time cleaning teat surfaces during cow prep for each cow improves the quality of the milk let-down stimulus, resulting in increased milk flow rates, reduced machine-on time, and will not slow down milking time at all. Furthermore, shorter machine-on time improves teat end health and reduces the time that machine induced new infections can occur. Another low input cost management practice is removing udder hair by singeing, which helps to keep udders cleaner and improves the effectiveness of pre-milking cow prep.

Another management practice that doesn't cost any extra money is to standardize your milking routine for every milker to follow. In a year-long Denmark study, it was shown that cows milked in a standardized milking routine, where pre-milking cow prep and prep-lag time was optimized, produced 5.5% more milk in their lactation than cows milked using a non-standardized minimal milking routine. In addition, these researchers found that when the standardized and optimized milking routine was used, there were fewer spore forming bacteria (those responsible for reducing shelf life) in the milk.

Cost control always counts in good or bad economic times but during hard times, we seem to focus on it even more and sometimes to a fault. In general, we should never cut inputs that may compromise animal health and well-being or milk quality. **It is "penny wise but dollar foolish" to:**

- Reduce bedding use or stall/alley cleaning compromising cow hygiene and comfort – A study has shown that each change in hygiene score (scale of 1 to 5) resulted in a 50,000 change in BTSCC in Minnesota herds whose mastitis problems originated from environmental pathogens.
- Drop DHI SCC testing – Individual cow SCC testing helps solve herd SCC problems.
- Shortchange milking equipment clean-up – Skimping on the amount of cleaners used, turning down the water heater temperature, or turning up the bulk tank cooling temperature is a sure way to drive up milk bacteria counts that can have a detrimental effect on milk quality. Since SCC premiums are tied to bacteria counts even if you do succeed in achieving low SCC, high bacteria counts could deprive you of your premium.
- Drop regular milking equipment maintenance – Sub-par milking equipment function or stretching rubberware replacement time beyond recommendations will likely result in more mastitis and bacteria problems.

There are undoubtedly many other good examples of short-sighted cost cutting. Successful dairies, during these challenging economic times, will be those who make smart choices and continue to insist on producing safe, high quality milk.



**Figure 1. The effect of prep and prep-lag time on milk flow rate.**

*J. Chastain and J. Reneau, 1995.*

