



## SCC DIAGNOSTICS TOOL BOX



### R-MR-4: Fool Proof Dairy Management

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I am currently reading the book *The Checklist Manifesto: How to Get Things Right* by Atul Gawande. The author is a surgeon and faculty member at the Harvard School of Medicine. The thesis of the book is that medical errors happen too often and are not only frustrating but unnecessary. Further, he observes that these mistakes are most often not the lack of knowledge or skill but rather ineptitude in following procedure. He states, "We have great knowhow... but avoidable failures are common, persistent, demoralizing and frustrating... We need a different strategy... one that makes up for inevitable human inadequacies... It is a checklist." His research indicates that most surgical room failures are easily avoided when procedural checklists are employed and strictly followed.

Are there avoidable failures that plague dairy farms because of a lack of knowhow or the lack of following protocols? Most post-calving diseases have similar predisposing causes related to inadequate intakes or inattention to dietary composition, stocking rates, cow hygiene and comfort. There are breakdowns in colostrum management protocols that prevent timely ingestion of sufficient volumes of high quality colostrum. Vaccination, antibiotic treatment or estrus synchronization failures are frequently rooted in failing to comply with proper dose and timing of injections and the list goes on.

Recently I listened to a very successful young dairy producer explain to his colleagues the detailed pre-milking cow prep procedure that he designed to be "fool proof" so that all of his cows' teats were well cleaned, that excellent milk letdown stimulation was achieved, and that machines were applied properly with an appropriate prep-lag time. With phenomenal milk quality (average BTSCC of 69,000), low bulk tank culture bacterial counts, and little to no clinical mastitis for 250 cows, his advice had credibility. He described the "holy grail" of his cow prep procedure as follows:

- Predip, massage teat surfaces and teat end to loosen dirt and manure.
- Fore-strip and go to the next cow to repeat the same procedure.
- Return to the first cow and with a single cloth, towel dry each teat with a circular motion, then flip the towel over and dry each teat end.
- Then his extra "fool proof" step to assure a clean, dry, well stimulated teat is to take a folded towel in one hand, hold the teat with the other and wipe each teat end once again.
- The milking machine is attached making sure the teat-cup is placed squarely on each teat and the milking unit is aligned.

His stated goal was, "to consistently get every teat, especially the teat end, clean and keep the prep lag time to a minimum of 60 seconds." He explained that the extra step of wiping the teat end was the key to achieving both the clean teat end and proper timing, thus making his cow prep "fool proof". An impressive average milk flow rate of 7 to 8 pounds per minute and harvesting 2200 pounds of milk per hour in his double-8 parlor was additional evidence that not only was he achieving high milk quality but he was milking cows very efficiently. I think this young dairyman has captured the essence of high quality management—**make every management practice as fool proof as possible. Strict compliance to fool proof procedures will yield consistent high quality results every time!**

Recent Cornell studies reported in February 2010 reinforced this young dairyman's belief to keep a minimum prep-lag time of 60 seconds, but the study also emphasized that a prep-lag of 90 to 120 seconds is more optimal. Additionally, a February 2010 report of a Wisconsin study on milking machine alignment indicates this often neglected part of the milking routine needs more attention. Again, this young dairyman was intuitively right on top of this important step. In the study, 8,177 cow milkings in 10 herds were scored. A score of 1 = no defect, 2 = one, 3 = two, and 4 = three or more alignment defects. They found 79.3% of the milkings had at least one alignment defect (see table for score distribution). The study also revealed that the lower the alignment score, the lower the SCC. Do you have cows that are milking out unevenly, have udder abnormalities, or are there too many air slips? Start taking a closer look at milking machine alignment.

<b>Alignment Score</b>	<b>Average Alignment Score n = 10 herds; 8,177 cows</b>
1	20.7%
2	50.2%
3	23.7%
4	5.3%

How many management practices could be improved on most dairies by designing more fool proof standard operating procedures? The trick is to first:

- Know the principles about why each step is important.
- Design the steps of each procedure so that optimized outcomes are assured.
- Be sure employees not only understand each step but also know why each step is important.
- Have a way to measure performance quality.

