Understanding Somatic Cell Counts, "Bite by Bite"

by George Cudoc

Q: How do you eat an elephant?
A: One bite at a time.

Anyone who has ever attended a business seminar, participated in a personal self-improvement program, or been given advice on problem solving has possibly been asked that question before. The answer invariably has a relaxing effect, letting the person open their mind to a solution comprised of many small but manageable steps. It draws them in, instilling resolve and belief that yes, they can deal with that "elephant in the room."

Reaching your set milk quality and udder health goals as determined by Somatic Cell Counts (SCC) may be that "elephant" in the room. Herds that are the best equipped to deal with lowering SCC already test their cows on a monthly DHI program and have established check points across the herd using SCC data. Whether you are blessed with successful management strategies that produce low SCC milk and you want to get even better, or find yourself struggling to get below the 750K legal limit, improvements are most likely by the "one bite at a time" approach.

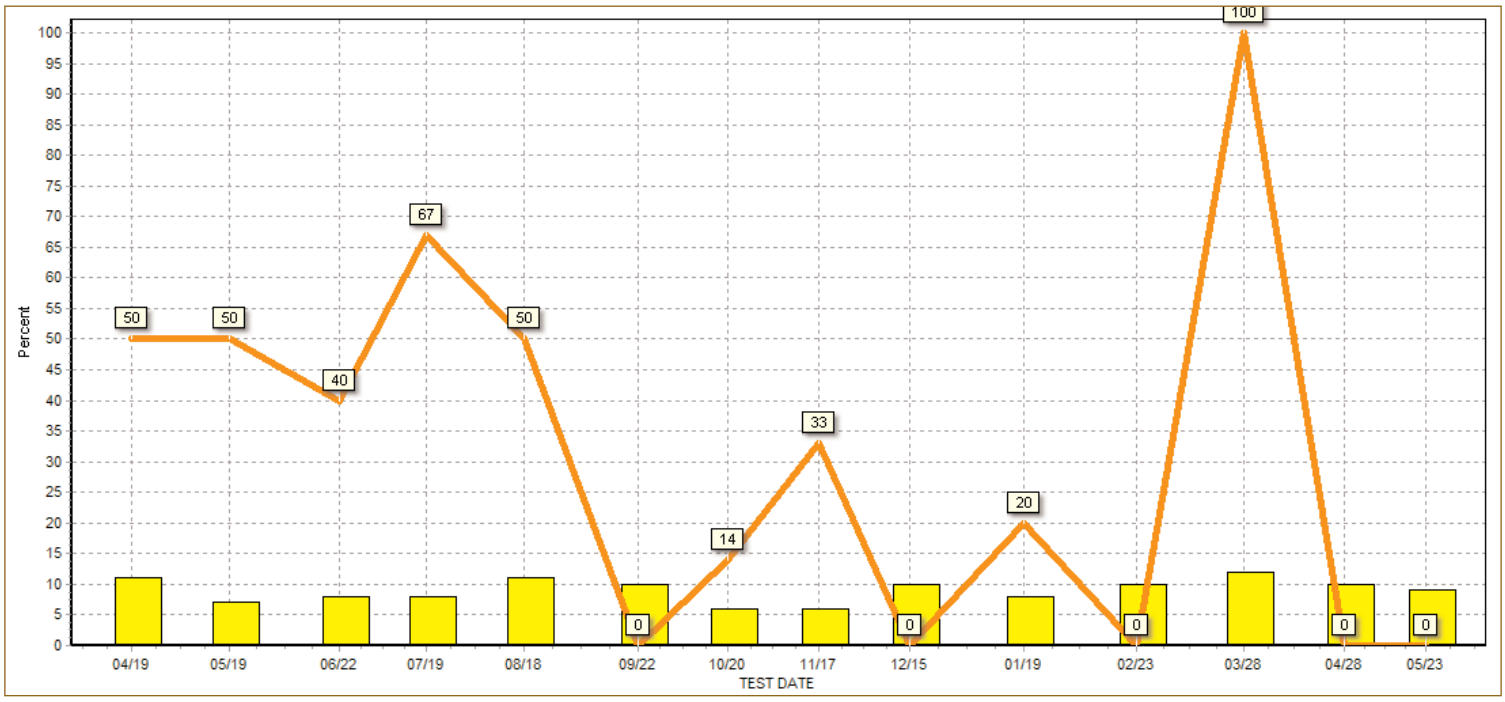
When we need immediate actions to reduce SCC, we can look at the Bulk Tank Contribution report. The report ranks cows by the largest contribution of somatic cells to the total milk being produced. Removal of those cows temporarily while treating or permanently through culling will have the fastest return for our actions. Actions on the first 3 cows below with contributions of 10% or greater certainly can improve milk quality the quickest.

Average Milk 69 Milk price 20.10
Bulk PctF 3.68 Fat Base 3.5 Diff 0.07
Bulk PctP 3.29 Ptn Base 3.2 Diff 0.12
SCC Premiums enabled

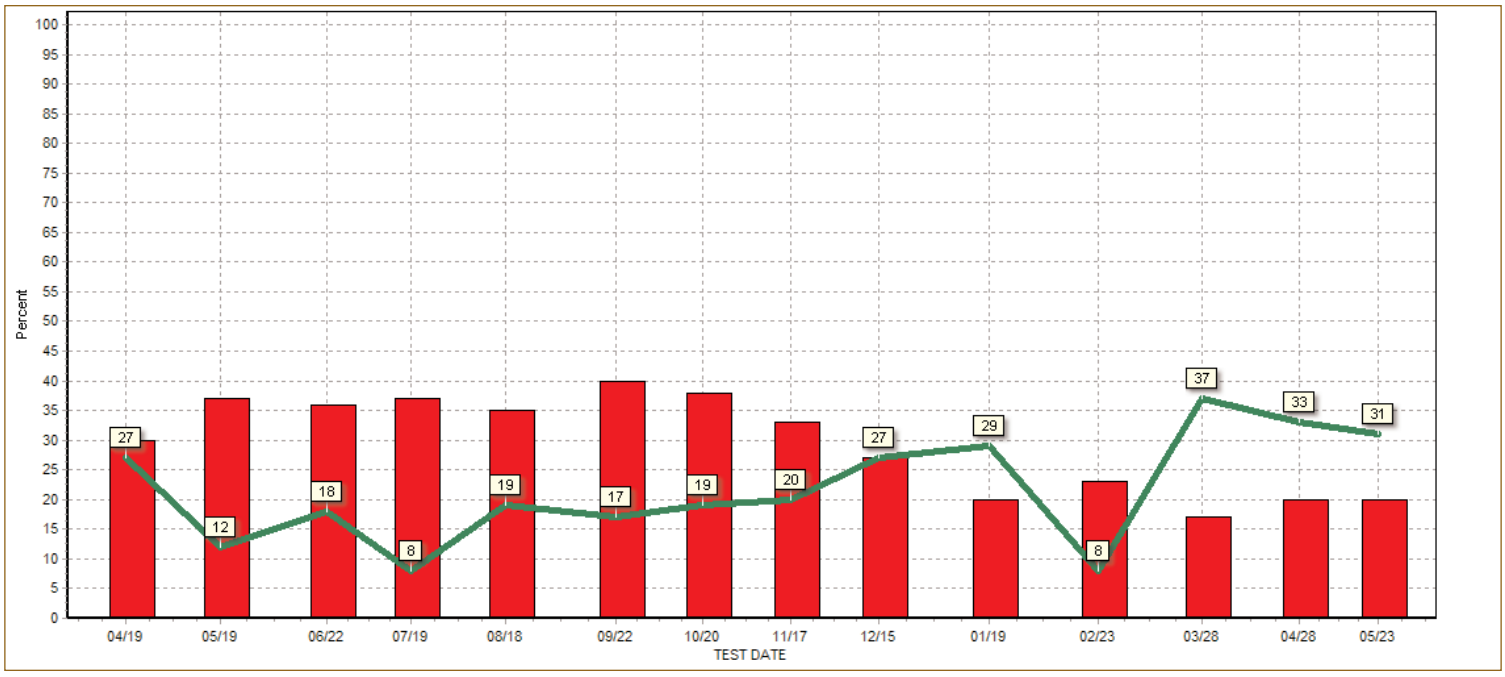
Without any cows removed : Bulk Tank SCC 329
Pay Price 20.58
Daily Income 718

													Bulk Tank after removing only this cow from tank			Bulk Tank after removing cow and all cows above it		
ID	LACT	DIM	LS1	PLS3	PLS	LS	PSCC	SCC	#>4	MILK	Value	SCC	%Tank	Price	@SCC	Income	Price	@SCC	Income
11	1	211	1	40	74	79	2263	2986	2	82	16.47	2986	21.3	20.83	265	710	20.83	265	710
331	3	146	74	42	84	83	4526	3940	5	52	10.44	3940	17.8	20.83	275	716	20.83	208	699
800	5	214	45	33	54	69	566	1493	2	82	16.47	1493	10.6	20.58	301	701	21.09	176	690
21106	5	162	12	69	65	68	1213	1393	3	73	14.67	1393	8.8	20.57	307	703	21.09	149	675
59	6	288	58	61	62	65	919	1213	10	65	13.06	1213	6.9	20.58	313	705	21.09	126	661
410	2	118	14	1	20	53	50	492	1	103	20.95	492	4.4	20.59	324	697	21.11	114	640
1000	1	159	1	1	1	57	13	650	1	71	14.27	650	4.0	20.57	323	703	21.09	101	624
693	2	327	61	58	70	69	1600	1493	10	24	4.82	1493	3.1	20.57	321	712	21.34	90	627
79	3	323	39	49	80	51	3200	429	10	50	10.17	429	1.9	20.56	328	707	21.32	84	615
103	4	33	0	0	0	40	0	200	0	99	20.61	200	1.7	20.60	333	698	21.34	80	595
339	2	306	69	39	44	45	283	303	2	52	10.71	303	1.4	20.58	330	707	21.34	76	584
21	1	241	26	1	2	40	14	200	0	71	14.79	200	1.2	20.58	332	703	21.36	72	569

After these immediate actions, we should ask ourselves what we need to do on an on-going basis to improve milk quality. We want to view current as well as historic information about our cows and herd to see if management changes can reduce the risk of cows having higher SCC. It is helpful to look at SCC by category to find those opportunities. For instance, new infections on fresh cows might need a different strategy than new infections during the lactation. Of the 12 highest SCC cows in the above report, only 1 happens to be a newly fresh cow. That is good news for the current month, but what about performance in the past? We can look at a graph of new infections as well as fresh infections to see where the most beneficial action plan would be. New infections shown by the bars indicate that rates have been consistent between 5 and 12 percent. Studies show that it would be desirable to stay below 10%, and for the most part, this herd stays near that benchmark. On the other hand, we should stay below 20% infection rate for fresh cows, and it is obvious from the graph that we seldom reach that low of a percentage. SCC improvements are far more likely if we address the causes of the high percent infection rate in the fresh animals. It is interesting and often overlooked that not all SCC fixes are in the milking herd, yet that is the only place that we can measure SCC.



Another bite of the SCC elephant is determining the likelihood that we can cure cows once we have identified those cows that are infected. If our efforts have been minimal at treating infected cows, do they cure themselves over time or do they become chronically infected? In the graph, at the top, we can see that for the past 3 test periods, the cure rate is improving and the percentage of cows being chronically infected is lowered by nearly half.



The following chart, on next page, can be used for setting goals for your herd if you are interested in improving SCC levels. Listed are three primary focus areas where SCC can become a challenge. Keeping new infection levels below 10% monthly is best achieved by following good management practices for the milking herd. Proper milking procedures and reducing exposure to mastitis causing pathogens are keys to meeting this goal. Maintaining chronic infection rates less than 10% of the herd monthly requires identifying infected cows and quarters and knowing the right treatment protocol as determined by culture results. Cows infected when they calve or shortly thereafter less than 20% of the time requires success at the end of the previous lactation. Dry cow treatment to cure those infected cows before going dry and preventing new infections for uninfected cows is a good start to achieving this goal. Sound management to maintain clean and healthy cows and prepare them to calve successfully with few problems will also help meet this goal.

*	New	Chronic	Fresh
Top	≤5%	≤5%	≤10%
Ok	~8%	~8%	~15%
Not ok	10+%	10+%	20+%

Anyone who has ever experienced the challenge of a high Somatic Cell Count can relate to the unpleasantness of milking infected cows. Just about all dairies have set goals to lower SCC at one time or another. Whether the purpose is to meet the legal guidelines to sell milk or capture milk quality payments for low SCC, every dairy can benefit from approaching the challenge of lowering SCC with a step-by-step plan that is “Eating the elephant, one bite at a time.”