



IS YOUR SOMATIC CELL TOO HIGH?

GIVE DHI CELL COUNT A TRY!

David R. Bray

Many dairies have been experiencing this problem. If you are one of them, what is your solution? High somatic cell counts are usually mastitis related. If your count is high, you have a lot of cows and quarters infected with mastitis. The problem is how you find them, and what to do with them once found, so you can lower the count. High SCC cows can find the following ways:

1. Identify cows treated multiple times for clinical mastitis and you are still milking and treating them, then once you treat a cow more than five episodes in one lactation (1 episode is usually dumping milk for 5 days), you are losing money on this cow after that. If you have treatment records you can find these cows and get them out of the milking herd. Culling would be the best method of doing this. **If you would just cull your chronic mastitis cows, and do this every couple of months, your problems would probably go away.**

2. Strip each quarter of each cow, and actually look at the milk. Cows with clinical mastitis should be removed from the milking string, treated with lactation tubes if this cow has not been treated five times this lactation, or you could dry her off if she is pregnant, or cull her if not. **Many high SCC cows do NOT show clinical signs.**

3. Culture every cow and do sensitivity tests on each cow. This is a nice expensive option that will make everybody involved rich but you. Then

treat all infected cows with the same drugs you use anyway, or dry treat the pregnant ones or cull the open, low producers.

4. Use the C.M.T. paddle test on every cow, correctly. You must mix the solution correctly with good water. Do this test before milking the cow. Take a few squirts of milk out of each quarter, then squirt milk from each quarter into the cup, tilt the paddle to get an equal amount of milk in each cup, add an equal amount of reagent, swirl. Quarters which gel up would be ones to be concerned about. If not treated over five times this lactation, treat, or dry off or cull like above.

5. Get sample bottles, squirt milk into them, and send them to SMI for them to run somatic cell counts. **This will not work as well as you hoped it would.** The machine that counts them is calibrated for a small sample taken over the entire milking, because somatic cells vary from the beginning to the end of milking. **If you get some milk meters, take your samples properly,** identify the samples correctly and take them to SMI, then this will work very well. They will list your high to low cows by SCC. You can then work on the high cows. If you would do this every month, you would have a list of high cows, including old chronic cows and new high cows. This is just like DHIA if you also take milk weights, but you'll spend lots of time to try to figure this all out.

6. Go on DHIA SCC Program and do it every month. It will give you your high cows in your tank. Actual SCC count x milk production = amount of cells each cow puts in the tank. If you do this every month you can identify your chronic cows. PCDART will give you days in the mastitis herd, identify SCC by stage of lactation, and lactation number. All this gives you information on when new infections

occur, or where your problems are starting.

7. Do a weekly bulk tank sample if over 1000 cows, or every 2-4 weeks for smaller dairies. This allows you to see what is causing the problem; contagious or environmental mastitis. If contagious, post-milking teat dipping must be done better. Environmentals are controlled by milking clean and dry teats and udders and cleaning up where your cows are kept.

8. Milk clean and dry teats and udders, post dip all cows to the base of the udder with teat dip, keep the area where cows are kept clean. Clean ponds every year, or as needed, remove mud and replace with new clean dirt. Keep milking equipment in proper working order, dry treat all cows going dry, cull your chronic mastitis cows. If you can do this, your mastitis worries are over.

LONG RANGE MASTITIS CONTROL

Roger P. Natzke

In the previous article Dave Bray outlined a rather detailed set of instructions for dairymen whose herds are in jeopardy of losing their market or in danger of having to pay a penalty for averaging more than 750,000 cells per ml. While those practices are needed for a herd with high cell counts, they should not be necessary for routine mastitis control. In this article we will review some of the routine practices which will keep herds at acceptable somatic cell levels.

Teat dipping and Dry Cow Therapy

Teat dipping and the routine use of dry cow therapy are the core ingredients for a successful mastitis control program. While these practices have been shown to be highly successful in a number of research studies, there are a few factors that must be considered to insure that they will be effective on your farm.

Dry cow therapy

Dry cow treatment works because it achieves two functions. First, it eliminates 90+% of all infections that are in the udder at the time of drying off and second, it prevents most new infections which would otherwise occur near the time of calving. Special formulation changes were made to these antibiotic formulas to make the products more effective. Dry cow tubes generally contain a higher dose of antibiotics and are incorporated into a slow release base so that they will remain in the udder until calving.

With the National emphasis on insuring that we do not contaminate the milk with antibiotics, some dairymen have become concerned with any potential risk of using the dry cow products. These products will not cause a problem if they are used according to label instructions. Recall that it is **ILLEGAL** to include the milk of cows for the first three days after calving. In the data that was supplied to FDA to get Quartermaster approved (mentioning the name does not imply endorsement of the product), laboratory results showed that if cows were dry for 42 days or more, all of the antibiotics were out of the udder by the end of the third milking. Thus if dairymen follow the legal requirements for milk discard after calving, the discarded milk from the last three milkings will be free of antibiotics and will provide that extra assurance that the milk on day 4 is antibiotic free.

What happens if a cow calves early? Milk her for 2-3 days and have the milk checked for antibiotics before you include it. Dry treatment is the most effective tool that you have on a farm to control mastitis. Why stop using it so that you do not have to test the milk from that very small number of cows that calve early?

Other considerations:

- Never use intramuscular antibiotics; they are not effective in mastitis control.
- Never try to formulate your own product; the risk of contamination with organisms like mycoplasma is high.
- Scrub teat end with cotton and alcohol before insertion of the tube.
- Dry treat immediately after the last milking.
- Never use once-a-day milking to dry off cows; if you insist on doing it, do not use the milk for human consumption.

Teat Dipping

The products that have been formulated for teat dipping are very effective in killing the organisms on the teat skin rapidly, assuming that the teats are clean when it is applied. Several formulations have been adequately tested to show that they are effective. Unfortunately there are a lot of “me too” products that have not been adequately tested. Be advised to ask your teat dip supplier to provide efficacy data on the product that he/she is selling.

Many efforts have been made to improve the effectiveness of the standard teat dips. Several sealants are now available, but unfortunately to date the results are disappointing. Dairymen are best off to use the standard dip and then insure that the cows return to a clean dry environment.

To complete the long term mastitis control program, one must check the milking equipment regularly to insure that it is functioning properly. And finally, only milk clean, dry udders.

Dairymen who follow these procedures regularly with no short cuts should never have to worry about a high cell count situation.



NEED HELP WITH REPRODUCTIVE MANAGEMENT PROBLEMS?

**Brent Broaddus and
Pete Hansen**

With problems like hot weather and in large herds, it can be hard to get lactating cows pregnant in Florida. Recently, the University of Florida, in partnership with 8 other universities and the USDA at Brooksville, Florida, formed a group whose goal is to develop and improve methods for reducing effects of heat stress on dairy cow reproduction and provide practical information on this topic to dairy farmers. The group, which is called the International Dairy Heat Stress Consortium, has recently begun an extension reproduction effort. The group is in the process of compiling information on the use of cooling systems, timed artificial insemination, and embryo transfer. This information will be made available on CD, various websites, newsletters, and through regional meetings. One of us, Brent Broaddus, extension agent located in Hillsborough County, will take the major responsibility for this effort and will be assisted by other members of the Consortium from Florida and elsewhere, including Bill Thatcher, Albert de Vries and Pete Hansen at UF. For more information, contact Brent Broaddus at 813-787-5600 or Broaddus@ufl.edu and look for information on the website of the International Heat Stress Consortium at <http://hotcow.ads.uga.edu>.

FLORIDA DAIRY PRODUCTION CONFERENCE

The 40th Florida Dairy Production Conference is scheduled this year on Tuesday, April 29 and Wednesday, April 30 in Gainesville. The emphasis will be on nutrition. For more information contact Dave Bray or James Umphrey at (352) 392-5594.

WHAT DOES DHIA TELL US ABOUT HERD SOMATIC CELL COUNT?

Dan W. Webb

Many herds enrolled in DHIA or using PCDART (independent version) can receive somatic cell counts (SCC) on individual cows. Herds that run SCC every month have a very good tool for managing the cell count of the total herd. With national, state and Co-op standards, herd SCCs are being monitored heavily.

We are receiving frequent questions about how the individual herds vary in SCC as determined by DHIA. Data from Florida and Georgia herds are presented in tables 1 and 2 to help answer those questions. DHIA herd summaries for September, 2002 and December, 2002 were used.

For herds on DHIA, the milk testing laboratory at SMI can provide the DHIA Hot List which lists all cows with milk production and SCC. Included in this report is a list of the 20 cows whose milk contributes most to the herd average SCC count. *The DHIA Hot List is now available by email.* (Notify your DHIA Technician to request this via email.)

For more information on the SCC option from DHIA, contact SE DHIA at 352-392-5592 or email Dan Webb at webb@animal.ufl.edu.

Table 1. Comparison of Georgia and Florida Herds in September and December, 2002

State	No. Herds	Herd Size	Daily Milk	Weighted Avg. SCC	SCC Score	% Cows Below 145,000	% Cows Over 1.13 Million
GA September	148	190	52.1	504,000	3.75	47	12
FL September	36	794	50.3	648,000	4.25	37	16
GA December	145	207	57.1	478,000	3.77	46	12
FL December	31	854	56.9	560,000	3.97	42	15

Table 2. Herds Above and Below 500,000 SCC in September and December, 2002 (Georgia and Florida Herds, combined).

Category	No. Herds	Herd Size	Daily Milk	Weighted Avg. SCC
Herds below 500,000 in September	84	326	53	326,000
Herds above 500,000 in September	100	293	50	679,000
Herds below 500,000 in December	98	371	59	363,000
Herds above 500,000 in December	78	308	54	654,000



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SOUTHEAST DHIA DATA BY HERD SIZE

ITEM	SMALL	MEDIUM	LARGE
NO. OF HERDS	182	93	29
NO. OF COWS per HERD	147	476	1479
% IN MILK	81.7	83.0	81.5
MILK LBS - ALL COWS	45.2	47.8	50.5
MILK LBS - MILKING COWS	55.2	57.4	61.6
CONCENTRATE FED ..LBS	26.1	24.6	39.0
CONCENTRATE COST ..\$	2.06	1.82	2.99
TOTAL FEED COST ..\$	2.86	3.14	2.92
VALUE OF MILK ..\$	6.59	7.00	7.57
VALUE ABOVE FEED COST ..\$	4.12	4.33	4.51
FEED COST PER CWT MILK ..\$	6.24	6.53	6.25
ROLLING HERD AVG - MILK LBS	17327	17859	19153
% LEFT HERD	37.1	36.6	37.9
AVG DAYS IN MILK	179	183	196
TEST PERIOD PERSISTENCY	104	105	107
AVG AGE - 1ST LACTATION	26.7	25.8	25.4
SUMMIT MILK - 1ST LACTATION	59.5	62.7	66.7
ME MILK - 1ST LACTATION	19797	20682	21462
AVG SIRE PTA\$ - 1ST LACTATION	246	229	253
AVG AGE - 2ND LACTATION	41.4	40.5	40.1
SUMMIT MILK - 2ND LACTATION	72.2	76.7	82.9
ME MILK - 2ND LACTATION	20043	20482	21464
AVG SIRE PTA\$ - 2ND LACTATION	213	206	207
AVG AGE - 3+ LACTATION	69.9	66.2	63.6
SUMMIT MILK - 3+ LACTATION	76.0	79.8	83.7
ME MILK - 3+ LACTATION	19261	19312	19782
AVG SIRE PTA\$ - 3+ LACTATION	133	158	147
% OPEN < VWP @ 1ST SERV	18.8	18.4	20.6
% OPEN VWP-100 DAYS @ 1ST SERV	40.3	45.0	46.4
% OPEN OVER 100 DAYS @ 1ST SERV	41.0	36.6	33.1
AVG DAYS DRY	74	72	75
AVG PTA\$ FOR SERVICE SIREs	252	258	229
AVG DAYS TO 1ST BREEDING	105	108	103
% HEATS OBSERVED	31.8	37.6	36.4
PROJ. CALVING INTERVAL	15.6	15.7	15.7
AVG DAYS OPEN	195	196	196
STANDARDIZED 150-DAY MILK LBS	59.9	62.9	68.6
SCCS < 4	46	45	50
SCCS = 4	18	17	17
SCCS = 5	14	14	13
SCCS = 6	10	10	9
SCCS > 6	13	13	12
AVERAGE SCC SCORE	3.8	3.9	3.6
AVERAGE WEIGHTED SCC	489	509	483

Data from Georgia and Florida DHIA Herds tested in December, 2002. For more information contact Dan Webb at 352-392-5592 or webb@animal.ufl.edu.