Reading The PA DHIA SCC Management Report

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The most costly disease in dairy cattle is mastitis, and the most accurate measure of udder health that appears on DHIA records is the somatic cell count (SCC). Estimates of mastitis costs are $150-$200 per cow per year, and nearly 70 of the dollars lost to mastitis are due to subclinical, or hidden mastitis. The most practical way to measure this hidden mastitis is with DHIA somatic cell counting monthly.

If you are enrolled in the somatic cell testing program, you will find a "Somatic Cell Management Report" included with the DHIA monthly reports. This report contains an analysis in a particularly unique format. The front side of the report includes current test data and historical information for your herd. The back side lists individual cow data for the highest fifty-five somatic cell cows in your herd, or less if your herd has fewer than 55 cows.

The first highlighted area or box shows a distribution of cows by SCC linear score for the current test date. The mean, or average score for your herd as well as the average weighed SCC/ml for the sampled herd. The linear SCC score can be used as an indicator of overall herd health, while the SCC count on this sample day if all of the cows in the herd contribute milk to the tank. This can vary greatly from the processing plant test. The SCC count is a calculated value using the individual cow cell count and weighing it in accordance with her production. One cow can produce 40% of the cells in the tank, and, if her milk is withheld from DHIA or tank milk, a large difference can be seen in SCC/ml. Herd average linear scoreds of 3.0 and below are best for maximum milk and profit.

In the next box, a monthly comparison of the average linear score for the herd on each test date over the last year appears. For the corresponding test dates, you will see the number of new infections that began on the indicated date, and the number of chronic infections in the herd at that time. A cow is considered to be infected when her linear score is 4.0 or greater; severely infected when her linear score is 5.0 or greater, and chronically infected when her linear score is 4.0 or greater for more than one test in a lactation. The totals given may help you to evaluate the overall effectiveness of your mastitis control program. You should consult with your veterinarian for culturing and treatment procedures for high SCC cows. Once a cow is chronic during a lactation, she remains chronic regardless of whether she has mastitis on the current test. Therefore, the totals given for some items need to be considered carefully in evaluating the udder health of your herd. A chart in the center right box of the page is a bar graph which summarizes the average linear scores for your herd over the last year. This chart corresponds to the average linear scores from most to least recent test, with the most recent test represented by the top bar.

In the center of the page are numbers indicating the amount of milk in pounds and number of dollars lost due to high somatic cell levels. The dollar value is based upon the fact that a cow loses about 1.5 pounds of milk per day for each linear score count above 2.0. It does not attempt to take into account intangible (but significant) effects of high SCC such as the loss of dollars on premium programs when infected cows' milk is used in the bulk tank, or the cost of treatment for mastitis.

Immediately below the milk and money loss figures is a box giving the mean or average rolling SCC count and linear score. It is an average of the previous 12 months herd data.

A current infection status box in the middle left, gives a breakdown of newly infected, and chronically infected cows based on the first and later lactations. These same categories are used in the boxes at the very bottom of the herd SCC page, which attempts to break down the herd into groups based on the number of days in milk. For each of these stages of lactation, the number of cows, amount of testday milk, average linear score, and number of new infections are shown. First lactation groups should obviously have fewer new infections and lower linear SCC scores because of their less frequent exposure to mastitis causing bacteria.

The back page is an individual cow summary which shows the identity of the animal by barn name and control number. Cows are ranked in decreasing order from high testday SCC to low. The mean or average linear score for this lactation appears in the next column. Production information including testday milk, an estimated (or actual) 305, days in milk, and milk lost due to SCC appear in the next columns. The percentage of this individual's contribution to the bulk tank appears next. You should note that even though the severity of an infection is based on the linear score, the amount of somatic cell in the bulk tank is based on the raw SCC/ml. So a handful of cows, or even a single, severely infected animal, may make the largest percentage contributions to the bulk tank. Frequently this milk should be withheld from the tank until additional SCC tests give a result nearer herd goal.

Finally, some historical and reproductive information is given for each cow that appears on the page. Cows confirmed pregnant are marked in the last column with a "Y". For bred cows a due date will also appear. In order to help you identify problem animals, the number of times a cow has had a severe infection is given for each cow with linear score 5.0 or greater. You can track seasonal problems, or the progress of your mastitis program by noting the first infection dates given for those animals that have had some history of infection.

In general, herds that have a high SCC are infected with contagious organisms. In the event of a high herd bulk tank count, review your teat dip and dry cow treatment program. Make sure you are using a teat dip product with known efficiency and use approved dry cow treatment products.

PENNSYLVANIA DHIA SCC MANAGEMENT REPORT

C/O

DHIA SAMPLE HERD

999999A

03/21/90

CURRENT DISTRIBUTION OF COWS BY SCC LINEAR SCORE

Date Tested	Mean LS	Raw SCC	9+ No	9+ Pct	8 No	8 Pct	7 No	7 Pct	6 No	6 Pct	5 No	5 Pct	4 No	4 Pct	3 No	3 Pct	2 No	2 Pct	1 & 0 No	1 & 0 Pct
3/16/90	3.6	153,000	0	0.0	0	0.0	0	0.0	1	7.6	1	7.6	2	15.3	4	30.7	4	30.7	1	7.6

SCC LEVELS FOR THE LAST 12 TESTS

Date Tested	3/16/90	2/20/90	1/15/90	12/18/89	11/13/89	10/16/89	9/12/89	8/12/89	7/13/89	6/15/89	5/14/89	4/13/89
Mean Score	3.6	4.8	5.0	4.3	4.1	3.9	3.9	3.2	3.9	2.5	2 4	2.8
New Infections		1	1	2	1	3	1	1	1			
Chronic Infections	4	4	2	2	2	2	2				1	1

Note Chronically-infected animals have scored 4 0 or higher at least twice during their current lactation (not necessarily on this test)

Note Newly-infected animals are those whose score is 4 0 or higher for the first time

LOSSES DUE TO HIGH SCC LEVELS

Milk	Money
466	$58.06

MEAN ROLLING SCC

Raw	Linear
193,000	3.7

MEAN LINEAR SCORE LAST 12 TESTS

Date Tested	0	1	2	3	4	5	6	7	8	9+
3/16/90										
2/20/90										
1/15/90										
12/18/89										
11/13/89										
10/16/89										
9/12/89										
8/12/89										
7/13/89										
6/15/89										
5/14/89										
4/13/89										

CURRENT INFECTION STATUS

First Lactation Current No	First Lactation Current Pct	First Lactation New No	First Lactation New Pct	First Lactation Chronic No	First Lactation Chronic Pct	Second(+) Lactation Current No	Second(+) Lactation Current Pct	Second(+) Lactation New No	Second(+) Lactation New Pct	Second(+) Lactation Chronic No	Second(+) Lactation Chronic Pct
1	50.0	0	0.0	1	50.0	1	8.0	0	0.0	2	18.1

FIRST LACTATION

DAYS IN MILK	No Cows	Testday Milk	Mean Linear SCC	New Infections
0 - 30	1	58	2.5	0
31 - 99	0	0	.0	0
100 - 199	0	0	.0	0
200 - 299	1	45	5.2	0
300 +	0	0	.0	0
Average / Total	2	52	3.8	0

SECOND (+) LACTATION

No Cows	Testday Milk	Mean Linear SCC	New Infections
1	94	1.7	0
4	88	3.3	0
3	73	2.7	0
3	51	1.8	0
0	0	.0	0
11	74	2.6	0

COWS WITH HIGHEST LINEAR SCC THIS MONTH

HERD-ID: 23-99-9999

DATE: 03/21/90

Barn Name	Visible Id	Index	SCC Linear Score Testday	SCC Linear Score Mean	Milk Production Testday	Milk Production 305	Days In Milk	Milk Loss	%-Bulk Tank	Times Severe	Date First Infected	Age	Lact No.	Due Date	Pregnant ?
DAWN	4	33	6.0	4.9	68	18,942	144	144	37.8	3	11/13/89	5-09	3	12/16/90	N
SIDNEY	24	32	5.2	5.2	45	15,409	258	57	14.7	5	7/13/89	2-02	1	6/11/90	Y
BAMBIE	19	25	3.9	3.0	73	18,044	99	68				3-11	3	12/06/90	N
MISS	22	30	3.7	2.8	70	16,923	91	61				2-10	2		N
DIPPER	5	18	3.2	3.3	109	21,786	34	43				4-11	4		N
DOTTIE	2	28	3.2	2.2	47	16,800	291	43				3-02	2	7/12/90	Y
DEEDEE	8	27	3.0	1.9	35	17,720	283	36			2/20/90	3-01	2	5/16/90	Y
EMILY	20	35	2.5	2.5	58	14,485	9	3				2-00	1		N
JETALEE	1	29	2.2	1.7	67	18,578	151	7				3-03	2	11/13/90	Y
DEWDROP	11	16	2.1	1.5	71	21,900	245	4				5-03	4	7/08/90	Y
*RHYTHM	9	34	1.7	4.3	99	21,787	80	0		2	1/15/90	5-11	4		N
DIVDEND	13	17	1.7	1.7	94	19,728	17	0				5-09	5		N
SUZIE	3	23	.8	1.6	85	20,291	136	0				10-09	9	12/06/90	N

Service Update

Nutrition System In Operation

The long awaited DHIA Nutrition System has been released for commercial use by the designers at Penn State. The initial introduction began in five herds in Centre and Clinton counties in March and will continue to be limited to those counties until detailed plans to introduce it in other counties are completed in several more weeks.

If all goes well, the system should be available in all areas of the state late this year. If you are anxious to subscribe, please contact Joe Hayes at the DHIA Service Center, 1-800-344-8378.

Prostaph I Released

ProStaph I, the rapid test for the presence of Staph. aureus antibodies in DHIA milk samples, was released for use last January. The usage has been somewhat disappointing so far, with only about 2,000 samples analyzed.

Researchers at Penn State are continuing to evaluate the procedure's accuracy under special conditions, such as in herds with evidence of a very high incidence of Staph. aureus infections. We hope to have an update based on that research by July.

Heifer Management System

Development work continues for the heifer management service. Several report formats have been set up to be discussed with members soon. A pilot test of the system is anticipated for late this summer.