NOVEMBER 2025

WVS MILK QUALITY

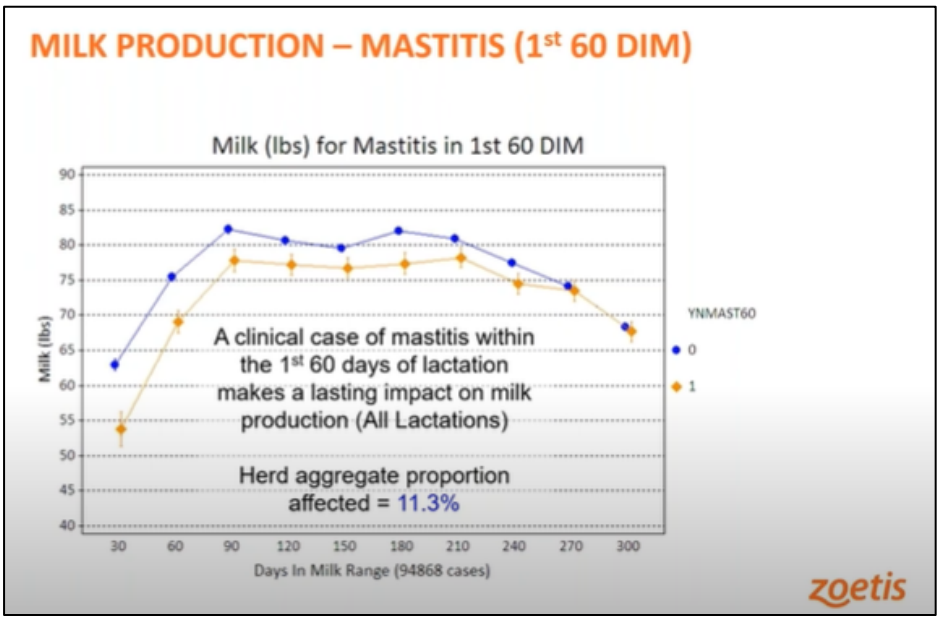
Waupun Veterinary Services, LLC - Your Progressive Dairy Partner since 1958

High Somatic Cell Count at First Test is Important in Profitability

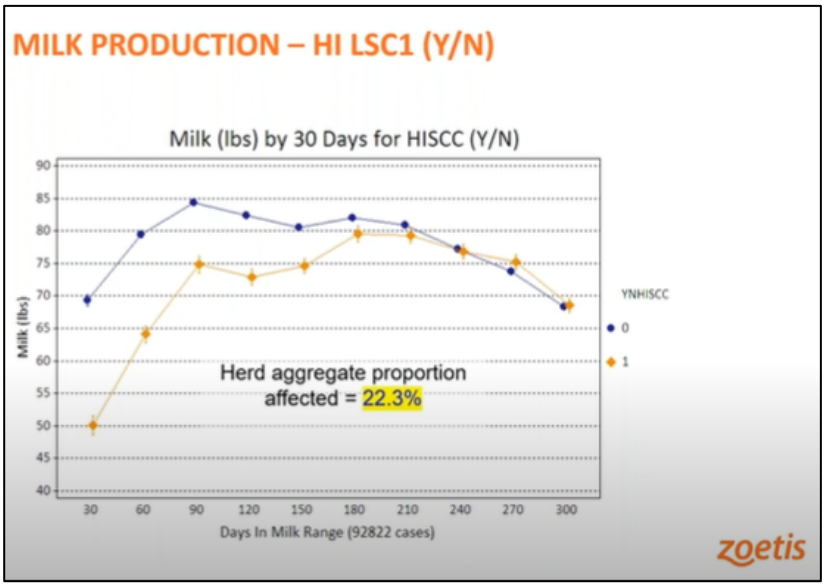
Record analysis is a part of milk quality. Lately we have seen a high number of high LOG1 scores. Dr. Mark Kirkpatrick gave a webinar on the Consequences of a High LOG1 scores and much of the following is taken from that webinar.

A high LOG1 is defined as the first milk test with a log linear SCC score greater than 4 or a SCC over 200,000 between 5-45 days in milk. A disease incidence is recorded as a significant condition or event that has an impact on production, reproductive effiency, and longevity. **A high 1st log linear SCC score should be considered as impactful on a cow's lactation as a case of clinical mastitis, metritis, or a DA.** Dr. Kirkpatrick analyzed the data from 22 herds with 164,423 cows and the following is what he found.

In this study 11.3% of the animals had a case of mastitis in the first 60 days of milk and 22.3% of the animals had a high LOG1. Calculating milk at $18 per hundred and income over feed cost at $.13 per DM pound the numbers come out that each clinical case of mastitis in the first 60 days costs **$129.00** income and the cost of each cow with a high log1 costs **$203.00** of income.



The chart above shows the affect of milk production with a case of clinical mastitis in the first 60 days – no mastitis blue line, mastitis orange line.



Effect of high log1 on milk production through lactation. The blue line is the low LOG1 and the orange line is the high LOG1.

Effect of Clinical mastitis in first 60 DIM

	No mastitis	Clinical mastitis	Difference
Lost Milk, lbs (Y/N Mastitis)			1007
Removed by 60 DIM	7.78% [a]	13.73% [b]	5.95%
Removed by 120 DIM	10.97% [a]	20.95% [b]	9.98%
Median Days Open	129 [a]	146 [b]	17

The table at left shows that cows that have a mastitis case in the first 60 days have a 5.95% greater chance of being culled in the first 60 days and a 9.98% greater chance of being culled in the first 120 days in milk. They also have an increase of 17 days being open until getting pregnant.

Effect of High 1st Test SCC (HI LOG1)

	1st SCC < 200,000	1st SCC > 200,000	Difference	
Lost Milk, lbs (Lo – Hi)			1583	
Removed by 60 DIM	2.26% [a]	6.49% [b]	4.23%	Odds Ratio = 3.00:1
Clinical mastitis 1st 60 DIM	7.85% [a]	25.61% [b]	17.76%	Odds Ratio = 4.04:1
Median Days Open	130 [a]	147 [b]	17	

* a, b denote difference p<0.05

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The table at left shows that cows with a high LOG1 have a 4.23 % greater chance of being culled in the first 60 days than those with a low LOG1 and a 17.76% greater chance of having a clinical case of mastitis in the 1st 60 days compared to those cows with a low LOG1. They are also open 17 days longer compared to those cows with a low LOG1.

A goal for herds is to have a high LOG1 rate of under 10%. I have seen plenty of herds with a high LOG1 rate over 20%. Every dairy should know what their high LOG1 rate is. There are several things that dairymen can do to control fresh cow LOG1's.

1. Control of the environment in the dry cow, calving, and fresh cow pens.
2. Use of dry cow tubes to cure high SCC cows at dry off.
3. Use of teat sealants to prevent new infections.
4. Use of vaccines to help control gram negative infections.
5. CMT fresh cows between 3-9 days in milk and culture and/or treat high CMT cows.

There is a large opportunity for more profit on a dairy by controlling high LOG1's. **A high LOG1 Is as much of a disease condition as a case of mastitis. A high LOG1 is associated with lower lactational milk, greater mastitis risk, quicker removal from the herd, and lower reproductive efficiency.**