

KEEP AN EYE ON UDDER HEALTH

High somatic cell counts can have a detrimental effect on fertility

Article republished courtesy of the Milk Producer, December, 2013.

There are many good reasons to monitor somatic cell counts (SCCs) in milk from individual cows. Keeping your animals healthy and productive is one of them. Elevated SCCs can result in revenue losses from reduced milk production, potential penalties, altered milk quality and increased culling risks. Monitoring SCCs in milk from individual cows can improve your herd's health, including improved reproduction performance.



Somatic cells in milk consist mainly of a cow's white blood cells. They help prevent mastitis-causing bacteria from entering the udder. These cells are always in milk. However, when an infectious agent enters the udder or when the udder is damaged, somatic cells can increase substantially.

Recent studies reveal udder infections adversely affect fertility, which is why you should monitor and keep SCCs of individual cows low.

Clinical or visible mastitis can be detrimental to your cows' reproductive performance. Epidemiological studies conducted in 2010 have shown clinical mastitis occurring before or after first breeding can negatively impact reproductive performance. Researchers are still debating the specific effects on conception, particularly with regard to



mastitis' timing, whether it occurs before or after first breeding.

Nevertheless, researchers generally agree clinical mastitis after breeding is strongly linked with lower conception rates and a higher number of services per conception.

Subclinical mastitis may also disrupt fertility and can reduce conception probability even more so than clinical mastitis. This is likely due to its long-term, chronic nature. In one study, one third of the subclinical mastitis cows had abnormal follicular development, specifically at the hormonal level that delayed ovulation when cows were affected by subclinical mastitis before first breeding.

Elevated SCCs also can be linked to reproduction problems. A Japanese research team analysed the relationship of high SCCs with the incidence of abnormal resumption of the oestrus cycle after calving and reproductive performance. They studied the reproductive performance of more than 350 cows from six commercial dairy herds over a three-year period. The researchers found cows with high SCCs, ranging between 200,000 to 500,000 cells per millilitre, had a higher incidence of prolonged luteal phase than cows with SCCs between 50,000 to 100,000.

These prolonged luteal periods occurred because the corpus luteum was maintained

and failed to regress. A prolonged luteal phase is associated with lower first service conception rate and more services per conception. **Cows with SCCs of 200,000 to 500,000 had more days from calving to conception than cows with SCCs lower than 200,000.**

A study published this past October has shed some light on the relationship between SCCs and reduced dairy cow fertility. Researchers examined mastitis' effects on the oocytes ability to undergo maturation, fertilization and further development in-vitro. **Their findings reveal the oocytes developmental ability was significantly affected when SCCs were above 200,000.**

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TIPS TO HELP REDUCE SOMATIC CELL COUNTS

1. Keep cows clean and dry at all times.
2. Do individual cow SCC tests monthly to identify infected cows.
3. Strive for consistency in milking procedures.
4. Maintain milking equipment in good working order.
5. Provide dry cows and heifers with adequate space, ventilation and bedding.
6. Cull chronically high SCC cows that do not respond to therapy.
7. Seek assistance from a qualified dairy professional.