



## SCC DIAGNOSTICS TOOL BOX



### R-AH-1: Can SCC Be Too Low?

J. Reneau and R. Farnsworth  
University of Minnesota, St. Paul

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Can SCC be too low? If so, how low is too low? The purpose of somatic cells within the mammary gland is to fight infection. While too high a SCC is undesirable from the standpoint of milk quality, some have feared that too low an SCC might result in more cases of mastitis due to the reduced germ-fighting capability.

A recent study in a single low-SCC herd indicated that very low SCC cows (those averaging 36,000) might be more likely to get mastitis than cows with higher SCC (average 112,000) when mastitis-producing bacteria were experimentally introduced into their uninfected mammary glands. The question is, do the findings in this single herd apply to your herd circumstances?

To answer this, let's first look at what's normal. A 1997 study reported in *Journal of Dairy Science* showed that 95 percent of uninfected cows had less than 100,000 SCC except in the last months of lactation. Uninfected first-lactation cows had SCC levels near 50,000 or less.

A second study, also published in *Journal of Dairy Science* in 1997, showed no correlation between herd SCC and clinical mastitis under natural conditions. In other words, low SCC herds experience no more clinical mastitis than high SCC herds.

There probably is some SCC threshold under which a cow becomes more vulnerable to infection, but it has not yet been determined. And infection-fighting ability depends not only on the number of somatic cells, but also on the cells' ability to kill invading bacteria. Well-balanced diets that meet energy, vitamin, and trace mineral requirements (in particular vitamin E and selenium) are needed to maintain a strong immune system.

So what's the bottom line? Healthy, well-fed cows with individual SCC of 50,000 (maybe even less) do not appear to be more vulnerable to infection under natural conditions than are cows with higher SCC. Herd SCC counts of 150,000 or less are achievable and desirable for both cow health and productivity.

