

## Recent Work on Milk Somatic Cell Counts in Goats

A recent publication in *Small Ruminant Research* contained an article, which included information on Goat Milk Somatic Cell Count (MSCC). Data for goats (years 2000–2004) on Dairy Herd Improvement test across the U.S. were submitted to the USDA Animal Improvement Programs Laboratory. The data set consisted of composite milk Somatic Cell Score (SCS) from 16,041 goats. Once analyzed, the SCS was converted back to SCC (see below for SCS/SCC relationship). Year, stage of lactation, parity, breed and state/region in the U.S. were examined.

Conclusions were that while intra mammary infection increases MSCC for goats, other non-infectious factors such as estrus, season and milk yield also increase counts in goat milk. A progressive increase in MSCC is also observed with parity and advanced lactation.

Figures reprinted from *Small Ruminant Research*, Vol 68, M.J. Paape, G.R. Wiggins, D.D. Bannerman, D.L. Thomas, A.H. Sanders, A. Contreras, P. Moroni, R.H. Miller, Monitoring goat and sheep milk somatic cell counts, Pages 114–125, (2007), with permission from Elsevier."

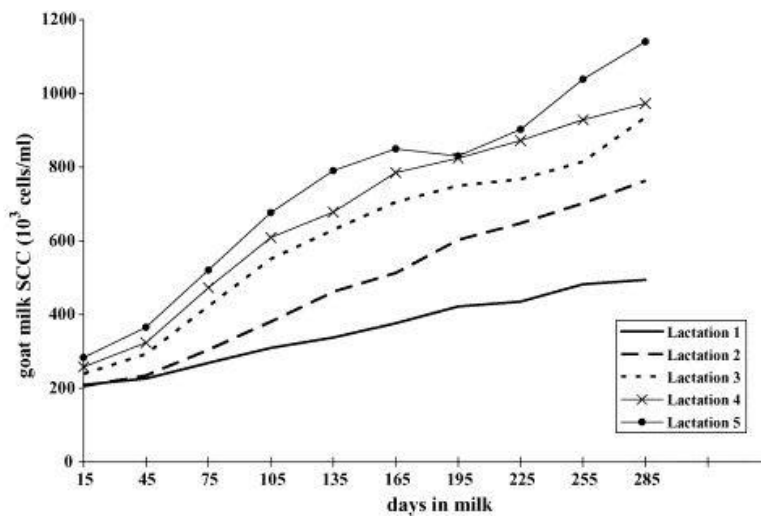


Fig. 1. Effect of days in milk and lactation number on goat composite milk somatic cell counts (MSCC). Lactation 1,  $n = 10,130$  goats; lactation 2,  $n = 6989$  goats; lactation 3,  $n = 4617$  goats; lactation 4,  $n = 2990$  goats; lactation 5,  $n = 1881$  goats.

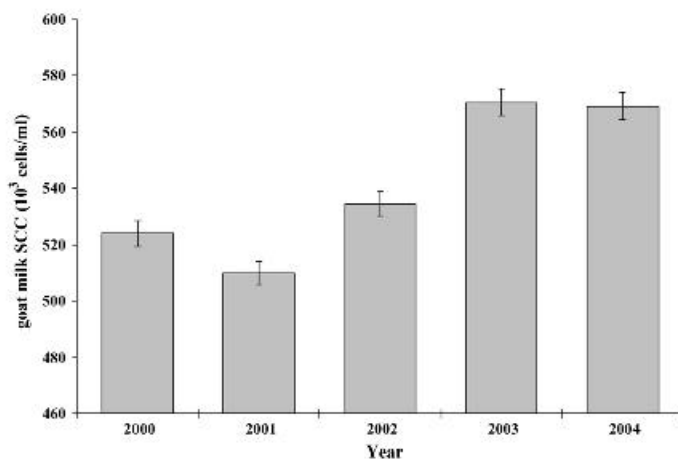


Fig. 4. Effect of year of Dairy Herd Improvement test date on composite MSCC for goats. Year 2000,  $n = 5923$  goats; year 2001,  $n = 5720$  goats; year 2002,  $n = 5298$  goats; year 2003,  $n = 5139$  goats; year 2004,  $n = 4527$  goats. Mean ( $\pm$ standard error) MSCC are shown.

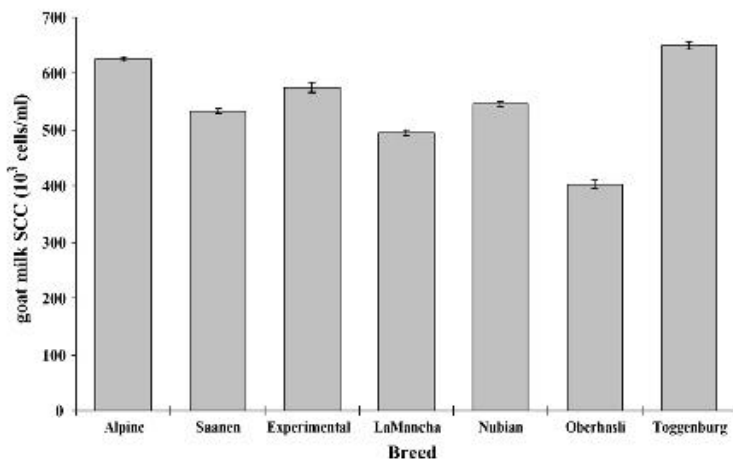


Fig. 7. Effect of breed on composite MSCC for goats. Alpine,  $n = 9653$  goats; Saanen,  $n = 4619$  goats; Experimental,  $n = 1165$  goats; LaMancha,  $n = 2851$  goats; Nubian,  $n = 4819$  goats; Oberhasli,  $n = 859$  goats; Toggenburg,  $n = 2641$  goats. Mean ( $\pm$ standard error) MSCC are shown.

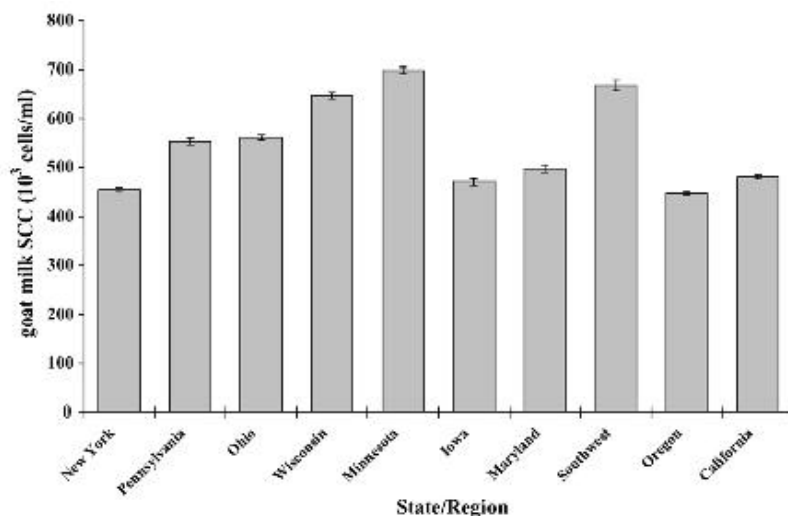


Fig. 9. Herd test-day composite MSCC for goats by state and region of the United States during 2000–2004. NY,  $n = 3465$  goats; PA,  $n = 1582$  goats; OH,  $n = 2929$  goats; WI,  $n = 3092$  goats; MN,  $n = 3602$  goats; IA,  $n = 1414$ ; MD,  $n = 1173$ ; Southwest,  $n = 1148$  goats; OR,  $n = 3494$  goats; CA,  $n = 4708$  goats. Mean ( $\pm$ standard error) MSCC are shown.

**Somatic Cell Count (SCC):** A count of the white blood cells in a milliliter of milk. SCC represents the somatic cell count expressed as the actual count to the nearest 1,000 and not a linear count.

**Somatic Cell Count Score (SCS):** A logarithmic representation of the SCC, often referred to as linear scores because they are linearly related to milk production.

#### Relationship of SCC to SCS

Linear Score	SCC Range From / To
0	0-18
1	19-35
2	36-71
3	72 - 141
4	142 - 283
5	284 - 565
6	566 - 1130
7	1131 - 2262
8	2263 - 4523
9	4524 - 9045