

SOMATIC CELL COUNTS AND MAMMARY INFECTIONS ON SMALL RUMINANT DAIRIES IN VERMONT

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Summary:

A study was done comparing the value of CMT, Conductivity Testing and Electronic Somatic Cell Count compared to cultures on determining the infection status of sheep and goats. Also investigated was the type and prevalence of mastitis in the herds studied. Scott McDougall of the Animal Health Centre, Morrinsville, New Zealand was the principle investigator. 110 goats from six herds and 153 sheep from three flocks were sampled at parturition and approximately 40 days later. The sheep were sampled again at the end of lactation and the goats at the end of the year. Parturition occurred between February and April.

In the goats, 27.3% were infected at parturition and 25.5% were infected 40 days later and 23% at the end of the year. In the sheep, 15.0% were infected at parturition with 9.1% infected 40 days later and only 4% at the end of lactation. Spontaneous cure occurred in 93.8% of infected sheep halves in the first 40 days but in only 50.0% of the goat halves. Coagulase negative staphylococci were the most common isolates from both sheep and goats. At the end of lactation 100% of the infections in sheep and 80% of the infections in goats were from coagulase negative staphylococci. In both sheep and goats, milk from bacteriologically positive halves had a significantly higher somatic cell count than halves from which no bacteria were isolated.

The number of infected halves increased with age group in goats (6.8%, 19.4% and 31.6% of halves from 1+2, 3+4 and >4 year old animals;) but not sheep (4.7%, 4.3% and 0% of halves from 1+2, 3+4 and >4 year old animals, respectively).

California Mastitis Test (CMT) in both sheep and goats was shown to be helpful in determining the infection status of sheep and goats. It was not as good as an Electronic Somatic Cell Count (ESCC). Conductivity testing was not helpful in determining infection status of sheep but was helpful in goats.

ESCC per ml on sheep whose milk was bacterially "no-growth" was 382,000 at freshening, 467,000 at 40 days (also the first week milking on machine), and 258,000 at the end of lactation. ESCC per ml in goats whose milk was bacterially "no-growth" was 1,490,000 at freshening, 211,000 at 40 days and 1,111,000 at the end of the year.

The first two samplings have been written up in the following articles:

A paper entitled *Prevalence and incidence of subclinical mastitis in goats and dairy ewes in Vermont, USA* has been accepted for publication by Small Ruminant Research and is scheduled to be in the November issue.

A paper entitled “*Relationships among somatic cell count, California Mastitis Test, impedance and bacteriological status of milk in goats and sheep in early lactation*” has already been published in Small Ruminant Research.