

EFFECT OF β -CAROTENE ON SOMATIC CELL COUNT OF HALF UDDER IN DAIRY EWES

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SUMMARY

Effects of β -carotene IM injection during lactation on somatic cell count (SCC) of half-udder milk were examined in dairy sheep. The study was carried out on 90 Spanish Assaf ewes (180 half udders) assigned randomly to two lots: 1) treated lot with 45 ewes (90 half udders) IM administered 200 mg β -carotene on day 75 postpartum and 2) untreated lot with 45 ewes (90 half udders) given no treatment (control group). The half udders of all the animals were sampled for SCC study at 75, 85, 95, 105, 115, 125, 135, 150 d postpartum. Analysis of variance showed significant effects on logSCC of treatment, parity, stage of lactation, and covariable corresponding to first test day observation for logSCC at 75 d.

The β -carotene treated ewes showed significantly lower SCC (log SCC: 5.21) than the untreated ones (logSCC: 5.29). This effect began to show from day 10 post-treatment and was maintained until day 60 post-treatment, implying that β -carotene has an effect on mammary immunity. Also, SCC increased significantly throughout lactation and the primiparous ewes had noticeably lower SCC than the multiparous ones. This preliminary report should be completed with bacteriological and cellular studies to evidence a possible immunostimulation of the mammary gland.

Keywords: beta-carotene, somatic cell, dairy sheep, milk, lactation