

TITLE: RELATIONSHIP BETWEEN SOMATIC CELL COUNT AND GOAT MILK COMPOSITION IN FARMS IN THE STATES OF MINAS GERAIS AND SÃO PAULO

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ABSTRACT:

Currently there is an increasing demand for quality in food products. The use of low-quality milk has relevant technological implications, such as low yield of dairy products due to changes in their original characteristics. The composition and physicochemical characteristics of goat milk can be very harmfully influenced by several factors, such as mastitis. Somatic cell count (SCC) is a valuable tool in indicating milk quality, in estimating quantitative and qualitative production loss, as well as in establishing measures to prevent and control mastitis. The present study analyzes the implications of SCC in the chemical composition of goat milk samples. During the period from August 2017 to June 2018, 240 goat milk samples were collected from two farms in the states of Minas Gerais and São Paulo. The samples were collected in vials containing Bronopol® preservative and sent to the Milk Clinic – ESALQ-Piracicaba/SP. Somatic cell count and chemical composition [fat, protein, and lactose content, defatted dry extract (DDE), total solids (TS), and casein] were analyzed by the device Combi 2500. Multivariate principal component analysis was used to summarize the information present in the variables, considering the eigenvalue-greater-than-1 rule. The statistical software used for the analyses was SPSS 21.0. In the samples obtained in the farm from Minas Gerais, SCC was inversely correlated with the levels of lactose, fat, TS, and DDE. In the samples from São Paulo, however, SCC was inversely correlated with lactose, but the other variables did not show a significant correlation. The observed reductions in milk lactose levels in the samples from both states result from the action of microorganisms causing the disease, promoting a lower biosynthesis of this constituent, which can also be due to increased permeability of the membrane that separates the milk from the blood, causing loss of lactose into the bloodstream. The adoption of Good Agricultural Practices in the stages of milk production is fundamental to avoid the occurrence of high SCC and to ensure that the milk is suitable for consumption.

Keywords: lactose, quality, mastitis

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