

DETERMINATION OF SOMATIC CELLS COUNT IN SHEEP'S MILK BY DIFFERENT METHODS

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The effectiveness of determination of the somatic cell count in sheep's milk by different methods was compared. The somatic cells were analyzed in individual milk samples from 24 sheep at the “Somatos”, “SomaCount Flow Cytometer” and by counting methods in smears stained with pironin Y, by May-Grunwald method. We tried to determine the somatic cell count in the milk smears, which were stained by Romanovsky-Giemsa. The results were unsatisfactory, as cells in sheep's milk smears were poorly colored and it was not possible to calculate the somatic cell count.

When counting cells in milk films stained by any method there were not found the samples with somatic cells count to 100×10^3 cells/ml. The greater number of cells in direct counting of somatic cells in sheep milk films, stained by any method was determined than using appliances. To calculate somatic cells in sheep's milk, the Prescott and Breed method is used (arbitrage). For staining sheep's milk films the May-Grunwald method is proposed, because the cytoplasm and the somatic cell nuclei are better colored, and the cost of the dyes is much less than in the method with pironin Y.

According to the research by means of "Somatos" and "SomaCountFlowCytometer" most of milk films (37.5% - identical for both devices) related to the level of $101-500 \times 10^3$ cells/ml. The largest part of films stained by May-Grunwald method – 29.2% belonged to the range of $501-1000 \times 10^3$ cells/ml, while most of the smears stained with pironin Y – 45.8% — range from $1001-3000 \times 10^3$ cells/ml. The calculation of somatic cells using the "SomaCount Flow Cytometer" is considered to be a more precise method in comparison with viscometric instruments, which is confirmed by similar values of flow cytometry and arbitrage. With the increase in the somatic cell count, protein and lactose decreased, and electrical conductivity increased in sheep's milk.

Keywords: SHEEP MILK, SOMATIC CELL COUNT, MILK FILMS, FAT, PROTEIN, CONDUCTIVITY, LACTOSE, STAINING OF SMEARS, PIRONIN Y, MAY-GRUNWALD METHOD.