

LACTOFERRIN AND IMMUNOGLOBULIN G CONTENT IN COW MILK IN RELATION TO SOMATIC CELL COUNT AND NUMBER OF LACTATIONS

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Abstract. Dairy cattle vary considerably in their susceptibility to mastitis, perhaps due to innate levels of milk antimicrobial proteins. **The aim of the study** was to evaluate the amount of chosen antimicrobial proteins, i.e. lactoferrin (LTF) and immunoglobulin G (IgG) in cow milk in relation to somatic cell count (SCC), and number of lactations. Milk samples were collected from individual udder quarters from thirty selected normal lactating cows. Milk samples were obtained from quarters of 1st (n = 32), 2nd (n = 44) and 3rd (n = 44) lactations. The quarters health status was set on the base of SCC in milk. The affected udder quarters showed increased concentration of LTF and IgG by 17 % and 15 % respectively, in compare to healthy quarters ($P < 0.05$). Evaluation of the influence of the lactations number on the distribution of antimicrobial proteins in the milk showed that the highest concentrations of LTF (0.08 mg/mL) occur in first-calf heifers and IgG (0.3 mg/ mL) in second lactation cows. Analysis of the relations between the health status of udder quarters established by SCC in milk and antimicrobial proteins showed a strong positive correlation between LTF and IgG in quarters affected by inflammation ($r = 0.817$; $P < 0.05$).

Keywords: mastitis, lactoferrin, immunoglobulins, cow