

THE INFLUENCE OF VARIOUS FACTORS ON LACTOSE IN COWS MILK

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Summary. The present study was performed at the Animal Science Department and at the Laboratory of Genetic Evaluation and Selection of Animal at the Animal Breeding and Genetics Department at the Lithuanian Veterinary Academy, at the Practical Instruction and Research Centre under Lithuanian Veterinary Academy and at the State office „Milk analysis“ in 1999-2007. The aim of research was to investigate the influence of different factors, including genetic and non-genetic factors, on variability of lactose in cows milk. In addition, the correlation of lactose amount in milk with different selection features of cows was investigated.

It was established that during seven years (1999-2005) the amount of lactose in Lithuanian cows milk increased by 0.08 % ($p < 0.001$). Dispersive analysis has shown that from non-genetic factors the farm and lactation had the highest influence on the amount of lactose in cows milk - 20.67 % ($p < 0.001$) and 6.27 %, respectively ($p < 0.001$). Among Black-and-White cow breeds the highest level of lactose was estimated in milk of Swedish Black-and-Whites - 4.76 % ($p < 0.001$) and the lowest in milk of Holstein breed cows - 4.66 %, respectively ($p < 0.001$). The highest influence among genetic factors on amount of lactose had bull (father) - 13.17 % ($p < 0.001$) and cow (mother) - 5.29 % factors ($p < 0.001$).

Key words: Lithuanian Black-and-White cattle, selection, productivity, lactose, genetic factors, non-genetic factors.