

## INFLUENCE OF GENETIC AND NON-GENETIC FACTORS ON MILK UREA OF COWS

Saulius Savickis<sup>1</sup>, Vida Juozaitienė<sup>2</sup>, Arūnas Juozaitis<sup>3</sup>, Vytuolis Žilaitis<sup>4</sup>, Antanas Sederevičius<sup>1</sup>,  
Giedrius Sauliūnas<sup>2</sup>

<sup>1</sup>*Department of Anatomy and Physiology, Lithuanian Veterinary Academy, Tilžės g. 18, LT-47181, Kaunas*  
*e-mail: juditaz@lva.lt*

<sup>2</sup>*Laboratory of Animal Genetic evaluation and Selection, Lithuanian Veterinary Academy*  
*e-mail: biometrija@lva.lt*

<sup>3</sup>*Department of Animal Nutrition, Lithuanian Veterinary Academy; e-mail: biometrija@lva.lt*

<sup>4</sup>*Department of Non Infectious Diseases, Lithuanian Veterinary Academy; e-mail: vytuolis@lva.lt*

**Summary.** The aim of performed study was to determine milk urea (MU) heritability coefficient and to evaluate influence of non-genetic factors. In the population of Lithuanian dairy cattle was determined the marked fenotypic variation ( $Cv=61.99-68.42\%$ ) of urea concentration in cows milk and statistically significant influence of year, season, month and farm ( $p<0.001$ ). The highest level of urea in cows milk was determined in autumn ( $22.8\pm 0.010\text{mg}\%$ ), particularly in September ( $24.8\pm 0.017\text{mg}\%$ ). The MU at the pasturable time was on 16.5% higher than at stable period ( $p<0.001$ ). It was observed the statistically significant tendency of MU decrease in cows milk in rising of lactation ( $p<0.001$ ). The MU at third and upper lactations was on 9.8% and on 11.4% lower compared to second and first lactation. The MU of congenerous coupling cows in average was statistically significantly on 6.7% higher ( $p<0.001$ ), compared to cows of unrelated coupling. It was determined that MU heritability coefficient in Lithuanian cows population ranged from 0.182 to 0.205.

**Keywords:** milk, urea, non-genetic factors, breed, heritability, cows.