

CONTRIBUTION OF DIFFERENT BREEDS TO LITHUANIAN RED CATTLE USING PEDIGREE INFORMATION WITH ONLY A FRACTION OF THE POPULATION ANALYZED

Laura Petrakova, Sigita Kerzienė, Violeta Razmaitė

Lithuanian University of Health Sciences, Institute of Animal Science of Veterinary Academy

R. Žebenkos 12, LT-82317 Baisogala, Radviliškis District., Lithuania

E-mail:lauratrim@gmail.com, Tel:+370 422 65383, Fax:+370 422 65886

Summary. With the aim to examine the genealogical structure and statement of Lithuanian Red dairy cattle open population pedigree analysis of two large breeding herds, consisting 2748 cows, was carried out. The data used in this study were obtained from the State Enterprise Agricultural Information and Rural Business Center and included pedigree records from three to five generations. Analyses were performed in R 2.11.1 and Excel 2003. High variability of genealogical structure was found within Lithuanian Red breed. 169 different genotypes were formed from 14 breeds, which were for many years used for the Lithuanian Red cattle improvement. It should be noted that the Lithuanian Red cattle for a long time have been bred as an open population. Only 1.09% of all analyzed cows were purebred Lithuanian Red. Cows, having 1/2 and more contribution of Lithuanian Red breed should be included into the conservation program. The results indicate that the Lithuanian Red breed is at the high risk of extinction and needs to be conserved.

Keywords: red cattle, pedigree, genotypes, open population.