

Blood group, transferrin and haemoglobin polymorphism in Kołuda sheep

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The aim of the study was to determine the polymorphism of erythrocyte antigens in 6 blood group systems (A, B, C, D, M, R) as well as serum proteins (transferrins) and erythrocytes (haemoglobin) in 559 sheep of the newly created prolific and milk line of Kołuda sheep. The effective number of alleles and the degree of heterozygosity were determined based on the frequency of the selected genetic markers. In the sheep flock analysed, the breed used as a component of Kołuda sheep (Finn or Romanov prolific breed; Kamieniecka, Merino or Wielkopolska wool and meat breed) had an effect on the presence of individual blood groups and proteins. The mean degree of heterozygosity ($H = 0,5185$), the total number of alleles (93) and the effective number of alleles (2.92) are evidence of the considerable genetic variation of this line of sheep. The analysis of genotype distribution in HBB and TF blood protein systems showed no significant differences between the expected and observed number of genotypes, which indicate genetic equilibrium state. This is considered beneficial because it enables efficient selection to be continued. The results obtained can also serve as an important source of information for activities aimed at maintaining appropriate variation in this small population of sheep.