

THE EFFECT OF AGE AND GENDER ON BLOOD HAEMATOLOGICAL AND SERUM BIOCHEMICAL PARAMETERS IN ŽEMAITUKAI HORSES

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Abstract. The aim of the present study was to investigate and show the differences in blood parameters related with age and sex of Žemaitukai horse breed in Lithuania. According to the blood parameters, they may be assigned to a particular blood type.

Haematological parameters [(red blood cells (RBC), white blood cells (WBC), hemoglobin concentration (Hb), hematocrit (HCT), lymphocytes (LYM), platelet (PLT), mean cell volume (MCV), mean cell hemoglobin (MCH), mean cell hemoglobin concentration (MCHC)] and biochemical parameters [total protein (TP), albumin (Alb), calcium (Ca), phosphorus (P), magnesium (Mg), potassium (K), sodium (Na), urea (Urea), glucose (Glu), creatinine (Crea) concentration, heart (CK-MB) and total (CK-NAC) creatinekinase, alanine aminotransferase (ALT), aspartate aminotransferase (AST), alkaline phosphatase (ALP) and gamaglutamiltransferase (GGT)] activity were determined for 173 (92 mares and 81 stallions) clinically healthy Žemaitukai horses. It was found that the RBC and WBC were significantly reduced in the blood with increasing age. Statistically significant differences between sexes were established: Hb ($p < 0.001$), HCT ($p < 0.001$), RBC ($p < 0.01$), TP ($p < 0.05$), Alb ($p < 0.01$), Urea ($p < 0.05$), P ($p < 0.01$), and Ca ($p < 0.05$) concentrations. It was found that in foals, the average of WBC, RBC, LYM, PLT, P, ALT and ALP values are significantly higher than in adult blood group values. Average of RBC values in Žemaitukai stallions and mares correspond to the lower limit of Thoroughbred horses. The quantity of RBC in Žemaitukai mares is closest to Murgesse breed mares RBC value and value of WBC range in Thoroughbred mares WBC volume limits. However, the value of WBC in Žemaitukai stallions corresponds to normal WBC range in Kathiawari (India) horses. The morphological parameters of Žemaitukai - can be attributed to warm-blooded equine type. The results of the morphological and biochemical blood parameters of Žemaitukai horses can be classified as "warm-blooded" horse blood type, which can be helpful in future research basing the use of Žemaitukai.

Keywords: Žemaitukai, blood, value.