

AN INFLUENCE OF ENVIRONMENT AND NUTRITION ON THE MORPHOLOGICAL AND BIOCHEMICAL PARAMETRES OF BLOOD IN THE ORGANISM OF BUDGERIGARS

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Summary. Exotic avians are kept in the Lithuania more and more. When the budgerigars are keeping in captivity and in the cages their all housing condition and nutrition must be analogical as their life in the freedom. The wild budgerigars diet consist of more than 30 different plants. The age of birds is 3-5 or 7 years when they are living in cages. Life span of birds depended from quality of feed and ingredients in the diet. The birds lived 15 - 20 years and more in the freedom. Veterinarians often treat budgerigars. They can have diseases of digestive tract, fractures of bones, lesions of ectoparasites in skin, the hypertrophy and deformation of cere, metabolism diseases, A deficiency and rarely occur infections diseases. Now there are made various kinds of diet for budgerigars in Lithuania and other foreign countries. Must of all for feeding of budgerigars are using not commercial diet but diet of natural products.

The aim of our study was to establish clinical condition and environment of keeping, to determine changes morphological and biochemical blood parametres in the organism of budgerigars under the influence of SL and NL feeding technologies.

Experiment was carried out in the Laboratory of Poultry section of Lithuanian Zoo in May - June of 2003. An adult budgerigars were divided in two analogical groups (n=10). An identification of sex was determined by looking at the colour of its cere. The budgerigars of first group were fed according to the natural product (NL) diet. The second group of budgerigars after an intermediate period were fed according to the special commercial (SL) diet. Blood was taken from wing vein before experiment and after 14 days after using two different diet. Different types of leukocytes were determined in formula of leukocytes. The blood swabs were stunned and imbrued by Pappenheim. For the establishment of the concentration of glucose (GL), triglycerides (TG) and cholesterol (CH) in the blood we used reflex photometer Accutrend GCT (2001). Oxygen volume of blood we estimated according to the method of Hufner. The quantity of hemoglobin was determined by the colorimetric method. The quantity of erythrocytes was tested in the chamber of a haemocytometer. The mean corpuscular hemoglobin was determined according to the method of Matuzevičienė and Jurgutis. The budgerigars of all groups were healthy and bouncy. Application of different NL and SL feeding technologies to the budgerigars influenced changes of their biochemical and morphological blood parameters.

No differences were observed between the first and the second leucograms of blood. Only insignificant morphological differences of leukocytes were noticed in male and female blood among groups. The number of lymphocytes in female blood was by 4.0 %, eosinophils – by 3.0 %, and monocytes – by 8.0% higher if to compare to the male blood in both groups. The number of basophils was by 2.0%, and heterophils – by 16.0% higher in male blood if to compare to the female blood indicators. When birds were fed different feed supplemented with the seeds of sunflowers and pumpkins the number of erythrocytes was 1.54 % , the amount of hemoglobin – 6.25%, an average hemoglobin concentration per erythrocyte – 7.01%, and oxygen volume of blood – by 6.46% higher if to compare to the control. Concentration of birds blood cholesterol in second group was by 2.28%, glucose –by 13.16% higher to compare to the control group. The concentration of triglycerides of blood in the second group was higher by 1.48% to compare to the control group.

Keywords: budgerigars, blood , feed.