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INFLUENCE OF PROPOLIS AND BEE POLLEN ON SELECTED HEMATOLOGICAL, BIOCHEMICAL AND ANTIOXIDANT BLOOD PARAMETERS OF LAYING HENS.

Introduction

An interest in the use of plants showing profitable influence on animal organisms has increased in the recent years. There is a search for natural origin fodders supplements that due to their nutritive value would beneficially influence animals' health status, improve production results, and also influence the quality of products obtained from them. Bee products such as propolis or bee pollen has been widely applied for thousands of years in folk medicine on account of their health benefical properties. The experiment was conducted to evaluate the effect of propolis and pollen addition to hens' diet on chosen blood parameters which support objective assessment of state of hens' health.

Material and methods

The study included 100 (24-weeks-old) of Lohman brown hens. Birds were randomly divided in to 5 groups (20 birds in each): group K – control group fed with commercial mixture; group I – experimental group fed the same mixture supplemented with 50 mg of propolis/ kg fodder; group II- supplemented with 100 mg of propolis / kg fodder; group III – fed basic mixture with addition of 3 g bee pollen / kg fodder and group IV – with addition of 5 g bee pollen / kg fodder. Blood samples were collected in the beginning, after 8 weeks and at the end of experiment (after 16 weeks). These samples were taken from vena basilica of 12 birds of each group to determine value of : Hb, Ht, triglycerides, total cholesterol, HDL-cholesterol, lipoproteins, total protein, albumins, glucose, ALT, AST, total antioxidant status (TAS), glutathione reductase, glutathione peroxidase and Fe content.The results obtained were processed using the program SPSS 14.0 with test Tukey and Dunnett'a

Results and discusion

After 2 months of experiment no significant influence on triglycerides, total protein, total cholesterol, albumins, glucose, glutathione reductas, glutathione peroxidise, TAS and Fe concentration between all treatments has been observed. Whereas, HDL- cholesterol was significantly decreased in group IV. Additionally in group I and II significant differences in hemoglobin and hematocrit concentration were observed. There were no significant differences between treatments in the total protein, total cholesterol, triglycerides, albumins, glucose, glutathione reductase,

TAS, Hb, Ht and Fe concentration in all groups at the end of experiment. Whereas, significant differences between groups in the HDL-cholesterol and glutathione peroxidise were proved.

Conclusion

The results indicated that the supplements of bee products may be come useful in hens feed as a natural addition of high nutritive values which can influence on improvement of birds health.

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