

Influence of Homogenate of Drone Brood on Biochemical Parameters of Blood and Productivity of Growing Pigs

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Aim of the study: the research was aimed at examining productive and biochemical blood parameters of pigs' blood when introducing homogenate of drone brood to the animals diet.

Materials and methods: In the conditions of the vivarium of the university, a scientific experiment was conducted on pigs of large white breed. Two groups of animals were formed on the principle of pairs-analogues at the age of 35 days, ten animals being in each group. The pigs in the control group received the basic diet; the pigs of the experimental group were fed with the basic diet plus homogenate of drone brood in the dose of 25 mg of dry matter per 1 kg of feed. The time of the experiment was 180 days. In the course of the experiment, the blood from the animals was taken from their tail artery; individually weighing pigs was conducted, the live weight of the animals was determined, average daily gain of live weight according to standard techniques was also taken. At the end of the experiment, the slaughter of animals was done and the square of muscle eye and the fat depth were determined. The laboratory tests were conducted in the biochemical laboratory of the university. In the blood serum there determined: the concentration of total protein, albumin, urea, total cholesterol, high density lipoproteins and triglycerides. The statistical processing of the values was carried out by calculating Stewdent's criteria.

Results: Using drone brood in animal feeding helped to increase average daily gains and live weight of young pigs. The stimulating effect of drone brood on the body of growing pigs was proved, its application significantly affecting on the protein metabolism. In the blood serum of young pigs of the experimental group there was a significant increase in the concentration of total protein by 14.3% and the albumin concentration by 20.3% compared to the control group. Statistically significant decrease of total cholesterol was found by 17.8% in the blood serum of pigs of the experimental group relative to the control values. A significant increase in the concentration of high density lipoproteins by 12.6% relative to the control was stated. The use of drone brood had a anabolic effect: the square muscle of the eye in the carcasses of pigs of the experimental group exceeded that of control by 19.2%, and fat depth is less by 11.1%. Chemical composition analysis of muscle tissue shows that the use of homogenate of the drone brood did not affect water content, but significantly reduced the fat content in the muscle tissue. By the end of experiment the live weight of pigs of the experimental group exceeded that of the control group by 11.5%, and average daily gains exceeded by 12.6%. Thus, the introduction of the concentrate of drone brood in the dose of 25 mg of dry drone brood per kg feed to the diet of pigs shows anabolic effect and stimulates significantly the growth rate of animals.

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Key words: pigs, drone brood, biochemistry, live weight, square of muscle eye.