количества лактобактерий и, тем самым, приводит к усилению иммунитета рабочих пчел в критический период их жизнедеятельности.

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УДК 636.52/.58.09:616.391:615.322

PREVENTIVE MEDICINE OF A-VITAMIN AND CALCIUM-PHOSPHORUS DEFICIENCY IN BROILER CHICKENS

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The poultry is most susceptible to vitamin A deficiency, due to certain features of its biosynthesis and biotransformation in the body. If we take into account, in cattle, sheep, pigs and horses 1 mg of beta-carotene is proportionally equal to – 476 IU or 143 mcg of retinol, for farm birds – 1112, dogs – 536, fur animals – 277 IU [1, 2]. However, only traces of B-carotene (4-5 mg/ %) were found in the blood of poultry. Proof of this is the ineffectiveness of using green fodder to provide A-vitamin nutrition in poultry feeding.

Deficiency of vitamin A or violation of its metabolism in the body of poultry is manifested by keratoconjunctivitis, decreased intensity of muscle mass gain, the appearance of ataxia and a significant decrease in overall body resistance [3]. Prolonged deficiency of vitamin A in poultry develops keratinization of the mucous membranes of the respiratory tract, stomach and intestines, which leads to the development of pneumonia and diseases of the digestive tract [4].

The aim of the work was to study the effect of vitamin complex «ROST» (solution for oral use, produced by PJSC «Technologist», Uman, Ukraine) on the indicators of vitamin A and calcium-phosphorus metabolism in broiler chickens.

Experimental research was conducted in 2021 on the flock of Cobb-500 cross-broiler chickens raised in the training and production center of Bila Tserkva National Agrarian University.

The material for the study were 2456 broiler chickens, divided into control and experimental groups of 1228 heads each. Clinical and biochemical studies were performed on 30 chickens from each of these groups.

The preparation «ROST» was fed to birds from 13 days of age for 6 days, followed by a five-day break, after which the chickens were again given the drug for 6 days at a dose of 1 ml/l of water. Blood for the study was taken by lifelong puncture of the axillary vein [5]. A clinical study of poultry and analyzed serum parameters [6].

Clinical studies have shown that broiler chickens of the experimental group, which were fed vitamin complex «ROST» at a dose of 1 ml/l of water at the beginning of work, showed signs of conjunctivitis in 53 heads (4,3 %), leaks – in 32 (2,6 %) poultry. At the end of the experiment (32 days) the safety of chickens in the experimental group was at the level of 95,4 %. The content of vitamin A at the end of the experiment (the second feeding of the drug) was significantly higher than the lower limit of normal in 64 % of chickens in the experimental group and averaged 183,4 ± 4,27 μg/100 ml against 154,4 ± 5,32 μg/100 ml in the control group. That is, at a dose of 1 ml/l of water vitamin preparation «ROST» restores retinol metabolism, which is confirmed by the results of a general clinical study of poultry at the end of the experiment.

A study of mineral metabolism showed that after drinking the preparation in 72 % of the studied poultry, the calcium content was above the lower limit of normal. That is, during the third blood sampling (second feeding of the preparation) the content of this macronutrient in chickens of the control group was 2,31 ± 0,04 mmol/l, with a significant ($P < 0,05$) increase to $2,58 \pm 0,03$ in the group experiment. The content of inorganic phosphorus in the serum of chickens of the control and experimental groups at the end of the work had no significant difference and averaged $2,51 \pm 0,06$ and $2,38 \pm 0,04$ mmol/l, respectively. Therefore, drinking vitamin preparation «ROST» at a dose of 1 ml/l of water, restore vitamin A and calcium-phosphorus metabolism, however, does not significantly affect the change in the content of inorganic phosphorus in poultry 13 and 32 days of age.

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