

THE EFFECT OF SODIUM SELENITE, SELENIUM METHIONINE AND VITAMIN E ON PRODUCTIVITY, DIGESTIVE PROCESSES AND PHYSIOLOGIC CONDITION OF BROILER CHICKENS

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Abstract. The trial was conducted to evaluate the effects of selenite and vitamin E included in combined feed on growth performance, feed conversion and mortality, pH of gastrointestinal tract chymus, amount of dry matters and short-chain fatty acids in caecum chymus of broiler chickens. The experiment was carried out in the experimental poultry house of „Vilniaus paukštynas“ and poultry house of LUHS Veterinary Academy in 2011. Six hundred *Cobb 500* cockerels were divided into three treatment groups. Group I was control and groups II and III were experimental. Broiler chickens of the control group were fed the diet supplemented with 0.15 mg of sodium selenite (inorganic selenium) and 40 mg of vitamin E throughout the whole period of the trial (from the 1st to the 35th day of broiler chicken growth). The feed for broiler chickens of the experimental group II included 0.5 mg sodium selenite (inorganic selenium) and 40 mg of vitamin E throughout the whole period of the trial (from the 1st to the 35th day of broiler chickens growth). The feed for broiler chickens of experimental group III was supplemented with 0.15 mg of inorganic selenium and 0.35 mg of organic selenium, as well as 40 mg of vitamin E throughout the whole period of the trial (from the 1st to the 35th day of broiler chickens growth). The supplements of organic and inorganic selenium and vitamin E used in the trial had no substantial effects on the productivity, feed conversion ratio and mortality of broiler chickens. However, the latter supplements affected increase of total protein, gamma globulin, glutathione peroxidase, free thyroxine, free triiodothyronine and decrease of cholesterol and its fractions in the blood of broiler chickens. It was as well established that selenium and vitamin E have no major effects on physiological parameters of digestion of broiler chickens.

Keywords: broiler chickens, selenium, vitamin E.