INFLUENCE OF DIFFERENT AMOUNT OF WHOLE BARLEY IN DIETS ON PRODUCTIVITY AND DIGESTIVE PROCESSES OF BROILER CHICKENS

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Abstract. The trial was conducted to evaluate the effects of different dietary levels of whole barley grains on growth performance, feed conversion ratio, pH of gastrointestinal tract chymus, amount of dry matter and ammonia nitrogen in caecum chymus of broiler chickens. The trial with birds was carried out in an experimental poultry house of JSC "Vilniaus paukstynas" and poultry house of LUHS Veterinary Academy in 2010. A thousand Ross 308 broiler chicks (one-day-old) were allocated to five treatment groups of 200 birds each in a randomized design. The treatment groups consisted of four replicates each of 50 chicks. Groups I and II were control and the other three experimental ones. During their whole growing period, broiler chickens of control group II were fed the diet containing 2% of whole barley grains. Broiler chickens of experimental groups, depending on their age, were fed diets containing whole barley grains from 4% to 25%. Broiler chickens were reared up to 40 days old. The results of the trial showed that the weight of broilers fed diets containing from 8% to 15% of whole barley grains (experimental group I) were lower by 1% ($p>0.05$), but increasing the whole barley in the diet (12 to 25%), i. e. in the experimental groups II and III, the mentioned growth parameter decreased by 2 to 4% compared with control groups ($p<0.05$). Feed conversion ratio in all experimental groups was higher by 1 to 8% ($p>0.05$), but during the last trial period (from 36 to 40 days old), when the diets were without whole barley, there were no significant differences between the experimental groups compared with the control ones ($p>0.05$). When the diet of broiler chickens was supplemented with different levels of whole barley grains the pH and dry matter amount of gastrointestinal tract chymus and amount of ammonia nitrogen in caecum had a tendency to decrease if compared with the control groups ($p>0.05$).

Keywords: whole barley, productivity, digestive processes, broiler chickens.