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Effect of Garlic (*Allium sativum*) Supplementation in Diets of Broilers on Productive Performance, Meat Cholesterol and Sensory Quality

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Abstract

The objective of this study was to investigate the effect of garlic (*Allium sativum*) supplementation in diets of broiler as a replacement antibiotic on productive performance and meat acceptability test. Four hundred one-day-old chicks were randomly allocated to 4 groups consisting of 4 replications with 20 chicks. The groups were assigned to receive the treatment diet as follows: balanced diet with 0.01 % antibiotic (T1), balanced diet supplemented with 0.7 % garlic powder (T2), balanced diet supplemented with 1 % garlic powder (T3) and balanced diet supplemented with 1.3 % garlic powder (T4). The balanced diet was formulated according to the growing period; 0–3 weeks, 3–6 weeks. There were no significant differences ($p > 0.05$) in feed intake and weight gain and FCR across treatment was observed in this study. The garlic supplementation treatment tended to have higher weight gain compared to the treatment supplementation with 0.01 % antibiotic. A slightly better FCR was also observed in all garlic supplementation treatment compared to the treatment supplementation with 0.01 % antibiotic. The mortality rate of the broilers in treatment 1, 2, 3 and 4 was 3.5, 5 and 3.5%; respectively. In term of carcass quality, there were no significant difference ($p > 0.05$) in abdominal fat, meat cholesterol among treatment. To evaluate the sensory quality, the 9- point Hedonic Scale was used. The result showed no significant ($p > 0.05$) differences in an overall liking of meat among treatment. It was suggested that replacing of garlic powder for antibiotic growth promoter could maintain productive performance of broiler and have no effect on sensory quality.

Keywords: Broiler, garlic, productive performance, sensory quality