

EFFECTS OF GROWTH PERFORMANCE AND LIPID PROFILE IN BROILER CHICKEN THROUGH NUTRITION MANIPULATION OF GARLIC AND COPPER

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Abstract

Garlic is widely distributed and used in all parts of the world as a spice and herbal remedy for various ailments, including its role for antimicrobial, antihypertensive, lipid-lowering, antiatherosclerotic, anticancerous and antioxidative properties, while copper in feed had potential use as antimicrobial, antiviral, anti-inflammatory, antitumor agents, enzyme inhibitors, which may be an alternative to antibiotics. The study was conducted on 160 broiler chicks divided randomly into 4 groups, each group consisting of 5 replicates with 8 birds. Group I birds were used as control kept on conventional diet. Group II birds were supplemented with 3% garlic (on dry matter basis). Group III birds were supplemented with 180 mg/kg copper. Group IV birds were supplemented with combination of garlic and copper of total feed for a period of 6 weeks. Average feed intake, body weight gain, feed conversion ratio and performance index were determined. Lipid profile such as total cholesterol, triglycerides and high density lipoprotein (HDL) were studied. Garlic and copper supplementation significantly influenced growth performance of broilers. The total cholesterol and triglycerides were significantly decreased, while HDL was significantly increased by garlic and copper supplementation (group IV) in chicken up to 6 weeks of age in comparison to control group. The present findings suggest that the garlic and copper supplementation in feed is effective in regulation of lipid and cholesterol metabolism, which is the predisposing factor for the coronary heart disease without altering growth of the chickens or feed efficiency. In conclusion, garlic and copper is effective in regulation of growth performance and lipid profile which potentially produce the functional meat.

Keywords: garlic, copper, lipid profile, growth performance, broiler