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Haematology and Biochemical Indices of Broiler Chickens Fed Composite Leaf Meal as Alternative to Premix

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Abstract

This trial was designed to study the effects of using composite leaf meal (CLM) produced from five (5) different leaves: Cassava, Moringa, Fluted pumpkin, African basil and Bitter leaves as a premix in the diets of broiler chickens in a 56-day experiment period involving three hundred (300) day-old Abor-Acre broiler chicks. Six diets were formulated in which CLM was fed at 0, 10, 20, 30, 40 and 50 g/kg at the expense of commercial premix. The broiler chicks were assigned to the dietary treatments of five replicates and 10 chicks per replicate in a completely randomised design using haematological and biochemical indices as response criteria. Feed and water were provided ad libitum throughout the experimental period. At the end of the feeding trial, 2 birds were sacrificed in order to collect blood samples for haematological and biochemical studies. All data were subjected to analysis of variance. Results show that some of the haematological and biochemical parameters measured were influenced (P˂0.05) by the dietary treatments. The ESR of birds fed 10 g/kg CLM (3.33±1.03 mm/hr) was significantly (P˂0.05) higher than those fed 0, 20 and 40 g/kg CLM but similar (P˃0.05) to those fed the control and 30 g/kg CLM. The PCV % of birds fed 0, 20 and 30 g/kg CLM (30.67–30.17 %) were significantly (P˂0.05) higher than those fed 10 g/kg CLM (27.67 %) but similar (p˃0.05) to those fed 40 g/kg CLM and control diets. Birds fed 40 g/kg CLM diet had significantly (P˂0.05) higher total protein (8.55 ± 2.05 g/dl) and globulin (6.39 ± 2.15 g/dl) than those fed 10 g/kg CLM (3.46 ± 0.82 and 0.61 ± 0.97 g/dl respectively) but similar (P˃0.05) to those fed the other test diets. The level of cholesterol in the serum of birds fed CLM diets were significantly (P˂0.05) reduced by 49.75 — 65.54 % over the birds fed on the control diet. The values obtained for creatinine in all the dietary treatments were significantly (P˂0.05) influenced but had no particular trend. Generally, the CLM in the diet had no deleterious effect on the haematology and biochemical values of the broiler chickens.

Keywords: Biochemical indices, broiler chickens, composite leaf meal, haematology, premix

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