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Effects of Neem (Azadirachta indica A. Juss) Kernel Inclusion in Broiler Diet on Growth Performance, Organ Weight and Gut Morphometry

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Abstract : A feeding trial was conducted with 100 two-weeks old broiler chicken to evaluate the influence of inclusion in broiler diets at 0, 2.5, 5, 7.5 and 10% neem kernel (used to replace equal quantity of maize) on their performance, organ weight and gut morphometry. The birds were randomly allotted to five dietary treatments, each treatment having four replicates consisting of five broilers in a completely randomized design. The diets were formulated to be iso-nitrogenous (23% CP). Weekly feed intake and changes in body weight were calculated and feed efficiency determined. At the end of the 28-day feeding trial, four broilers per treatment were selected and sacrificed for carcass evaluation. Results were subjected to statistical analysis using the analysis of variance procedures of Statistical Analysis Software The treatment means were presented with group standard errors of means and where significant, were compared using the Duncan multiple range test of the same software. The results showed that broilers fed 2.5% neem kernel inclusion diets had growth performance statistically comparable to those fed the control diet. Birds on 5, 7.5 and 10% neem kernel diets showed significant ($P<0.05$) increase in relative weight of liver. The absolute weight of spleen also increased significantly ($P<0.05$) in birds on 10 % neem kernel diet. More than 5 % neem kernel diets gave significant ($P<0.05$) increase in the relative weight of the kidney. The length of the small intestine significantly increased in birds fed 7.5 and 10% neem kernel diets. Significant differences ($P<0.05$) did not occur in the length of the large intestine, right and left caeca. It is recommended that neem kernel can be included up to 2.5% in broiler chicken diet without any deleterious effects on the performance and physiological status of the birds.

Keywords : broiler chicken, growth performance, gut morphometry, neem kernel, organ weight
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