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Leaf Composite Mix as Alternative Premix to Commercial Premix in Broiler Finisher Diets

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Abstract

The main objective of this study was to produce alternative but farmers' friendly premix from a composite leaf mix to replace high input commercial premix in broiler diet. Consequently, fresh leaves of *Moringa oleifera*, *Ocinum gratissimum*, *Manihot esculenta*, *Telfaria occidentalis* and *Vernonia amygdalina* were harvested, air-dried, ground and analysed for their micro-mineral and vitamin contents. Thereafter, they were mixed in equal proportion into a composite mix and used to replace broiler commercial premix in a 4-week feeding trial at 0, 1, 2, 3, 4 and 5 % in place of 0, 20, 40, 60, 80 and 100 % reduction levels of commercial premix, respectively. Three hundred 4-week old Abor Acre broilers were randomly allotted at 50 chicks per treatment of 5 replicates using growth, haematological indices, serum metabolites and cost implication as response criteria. The leaves contained adequate micro-minerals and vitamins in different proportions. Of the growth indices measured only the total feed intake (TFI) was significantly ($p < 0.05$) affected with birds on the control having significantly ($p < 0.05$) higher TFI (137.7 g d^{-1} $bird^{-1}$) than those fed on 2, 3 and 4 % leaf composite-based diets (128.1–134.6 g d^{-1} $bird^{-1}$). Though the total weight gain (TWG) was not significantly ($p > 0.05$) different, the TWG of birds fed on 1, 3 and 5 % leaf composite mix diets were numerically higher than those fed the control diet with a concomitant higher feed conversion rate (FCR; 1.3–3.9 %). Birds fed on leaf composite mix diets had significantly ($p < 0.05$) lower cholesterol and creatinine than those fed the control diet while total protein and globulin, though significantly ($p < 0.05$) affected, did not follow a particular trend. All the haematological indices were significantly ($p < 0.05$) affected but did not follow a particular trend. The % cost reduction increased progressively with increased inclusion of leaf composite mix in the diets. Conceivably, within the limit of this study, the replacement of commercial broiler premix with the composite mix made from the leaves under study could help to reduce dependence of broiler farmers on importation of conventional premix in developing countries.

Keywords: Broiler, composite leaf premix, leaves, performance, premix

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