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Effects of Azadirachta, Spondias and Chromolaena as Alternatives to In-feed Antibiotics on Growth and Histopathology of Selected Organs in Broiler Chickens

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Abstract

The effects of *Azadirachta indica* (AI), Spondias mombin (SM) and *Chromolaena odorata* (CO) as alternatives to in-feed antibiotics on growth and histopathology of broiler chickens were studied. 288 Abore acre broiler chicks were randomly allocated to six dietary treatments in a Completely Randomised Design and data on performance was analysed using one-way ANOVA. Each treatment had 48 birds which were further divided into four replicates of 12 birds each. Feed and water were provided ad libitum daily for the 57-day feeding trial. Diet 1 was a basal diet without antibiotics nor alternatives, diet 2 contained Neoceryl, Diet 3 had 5g milled AI leaves, while Diet 4 had 2.5g each of AI and SM. Diet 5 had 2.5g AI and 2.5g CO and Diet 6 contained 1.7g each of AI, SM and CO per kg diet. Performance of the birds was determined. At day 57, three birds were sacrificed per replicate, liver and lungs were excised for histopathological examination. Birds on diet 2 had the highest final weight (2125g) while birds on diet 4 had the best FCR (2.30). Histopathological change ranged from moderate congestion of hepatic sinusoid, cellular infiltration and hepatocellular necrosis of the liver in all treatments which might be due to antinutritional factors in the test ingredients while treatments 1 and 2 showed normal liver and lungs. Treatment 5 induced necrosis and erosion of epithelia lining of the bronchus and infiltration of lung mononuclear cells. In conclusion, birds appeared healthy at maturity, practitioners should however exercise caution in using the alternatives for prolonged periods considering their effects on histology of organs examined.

Keywords: Histopathology, *azadirachta indica*, broiler, *Chromolaena odorata*, Spondias mombin

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