

Blood Profile, Organs, and Carcass Analysis and Performance of Broilers Fed Cowpea Testa Based Diet

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Abstract : Broilers productions depend on the provision of adequate and good quality feed containing all the nutrients, including proteins, carbohydrate, fats, vitamins, minerals and water. All these nutrients have to be provided at a required amount to support maximum productivity and normal physiological functions and demands. Among these nutrients proteins are particularly important, since they are essential for meat and muscle production, optimum growth and health status. Poultry production industry in the developing countries is been threatened because of the over dependency on Soybean meal as one of the key/major conventional protein stuff for feeding livestock. Even the competition between man and livestock for Soybean and other protein sources made the price of this feed stuff to be on the increase. Hence the needs to seek for an alternative feed stuff which is cheap and less competitive. This study showed the blood profile, organ and carcass characteristics and performance of broilers fed with Cowpea Testa Meal (CTM) based diets. Four diets were formulated with Cowpea Testa replacing Soybean at 0%, 15%, 30%, and 50% graded levels. One hundred and twenty day-old unsexed broiler birds were allotted to these four treatments with 3 replicates of 10 birds per replicate. The results showed no significant differences in all the haematological parameters measured ($P>0.05$), the serum metabolites analysis revealed significant different in Cholesterol (99.8 mg/dl, 112.84 mg/dl, 131.07 mg/dl and 97.66 mg/dl respectively) ($P<0.05$) among others. There were significant differences within the diets for average daily weight gain, average feed intake and feed to gain ratio. The birds on control (0%) and CTM gained more weight than those fed with 30% and 50% CTM diets. The organs and carcass primal cuts of the broilers expressed significant different for the spleen (0.12 g, 0.09 g, 0.11 g and 0.14 g respectively), lungs (0.97 g, 0.72 g, 0.77 g and 1.01g respectively) and proventriculus (0.96 g, 0.99 g, 0.81 g and 0.85 g respectively) ($P<0.05$). For the carcass, there were no significant differences ($P<0.05$) in the breast, thigh, drumstick, wing and neck except for the Back (21.27 g, 21.04 g, 17.71 g, and 17.89 g respectively). In conclusion, CTM inclusion in broiler's diet could be used as an alternative feed stuff in replacement of Soybean meal up to 15% without any adverse effects as revealed by the blood profile and to increase the growth performance of the birds.

Keywords : physiological functions, cholesterol, blood profiles, CTM and carcass analysis

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