## Growth Performance, haematological And Serum Biochemistry Of Broilers Fed Graded Levels Of Cocoyam (Xanthosoma Sagittifolium)

Authors : Urom Scholastica Mgbo, Ifeanvichukwu, Vivian, Anaba, Uchemadu Martins, Arusiaba, Nelson Chijioke Abstract : The study was investigated to determine the growth performance , haematological and serum biochemistry of broiler fed graded levels of cocoyam (Xanthosoma sagittifolium). One hundred and twenty (120) day old broiler chicks of Anak strain were used for the study. The birds were randomly divided into 4 treatment groups of 30 birds per group, and each group was further divided into 3 replicates of 10 birds per replicate in group. Cooked cocoyam was used to formulate diets at inclusion levels of 0.00% for T1 (control), while T2, T3 and T4 contained 10.00%, 20.00% and 30.00% inclusion of cocoyam in partial replacement of maize in a Completely Randomized Design (CRD). At the end of the research, the haematological indices of broiler showed that packed cell volume (PCV) of birds fed diets 1(42.26%) and 3 (42.42%) were significantly (p<0.05) higher than birds fed diets 2 (39.72%) and 4 (38.78%). The Haemoglobin (Hb) of birds fed diets 3 (12.58g/dl) and 4 (12.26g/dl) were significantly (p<0.05) higher than birds fed diets 1 (11.60g/dl) and 2 (11.42g/dl). The values of the white blood cell (WBC) of the broiler chickens placed on cocoyam diet increased significantly (P<0.05) compared with the values obtained in the control (T1). The serum protein value for birds fed diet I (5.45g/dl) were statistically (P>0.05) similar to those fed diets 2 (5.10g/dl) and 3 (5.38g/dl) but differ significantly (P<0.05) from diet 4 (4.97g/dl) which had the least protein value. Final weight of the birds showed that diet 4 (2370.85g) had the highest (P<0.05) value which was followed closely by diet 3 (2225.55g), while birds fed diets 1 (2165.70g) and diet 2 (2145.00g) recorded the least values Similar pattern was observed in the weight gain of the birds. Birds fed diet 4 (2270.30g) had higher (P<0.05) value, followed by birds on diet 3 (2125.45g), while birds fed diet 1 (2065.15g) and 2 (2044.90g) had the least values. This study showed that birds fed diet 3 (50.60g) and diet 4 (54.05g) gave significantly (P<0.05) higher weight than the control diet (49.17g). There was significant (P<0.05) difference among the treatments for feed conversion ratio (FCR), were birds fed diet 4 (1.74) performed better, having the least feed conversion ratio. Economics of broiler chickens showed that Cost/kg of feed favored diet 4 (¥158.65) followed by diets 3 (¥165.95), 2 (¥178.52) and control diet 1 (¥197.14). From the result, the higher weight recorded in T4 4 showed that cocoyam meal can successfully replace maize up to 30% in the diet of broiler chickens. The low cost recorded in cocoyam based diets showed that the diets were more economical and beneficial compared to control diet 1. Therefore, feeding diet 4 (30%) cocoyam meal as replacement of maize in broiler chickens is recommended.

 ${\bf Keywords: cocoyam, growth, heamatology, serum biochemistry}$ 

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