

Comparative evaluation of different energy sources in broiler diets

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ABSTRACT:

This study was aimed at evaluating the nutritive value of different sources of energy in broiler diets on the growth performance and haematological parameters of broiler chickens. Five isonitrogenous and isocaloric diets for the broiler starter (0-4 weeks) and finisher phase (5-8 weeks) respectively were formulated. Treatment 1 is a control diet while treatments 2, 3, 4 and 5 were sorghum, pearl millet, cassava and sweet potatoes based diets respectively. A total of 225 day - old NAPRI X broiler chicks were randomly allotted to the five treatments in three replicates in a Completely Randomized Design (CRD). Data collected were analysed using the general linear model procedures of S.A.S. 9.0. Significant differences ($P < 0.05$) in means among the dietary treatments were separated using a Tukey test. The results showed that final body weights (503.44 g and 2302.77 g), feed intake (819.67 g and 3073.70 g) and weight gained (453.61 g and 1892.07 g) were significantly ($P < 0.05$) higher in birds fed millet diets (T_3) respectively than other treatments for both starter and finisher phase, respectively. T_3 (millet based diet) recorded significantly ($P < 0.05$) the best feed conversion ratio (1.62) and the lowest feed cost per kg weight gain ($^{\wedge}$ 145.90) for finisher phase. Those fed the control (maize based diet (T_1) and sorghum (T_2) based diet gave similar ($P > 0.05$) values as those fed T_3 (millet based diets). Birds fed diet T_5 (sweet potatoes) gave significantly ($P < 0.05$) lowest values in all parameters measured and poor feed conversion ratio at the starter phase. Similar pattern was also observed in the finisher phase except in feed intake and mortality which were comparable with other dietary treatments. Dietary treatments had significant ($P < 0.05$) in white and red blood cells. Millet based diet was determined to be the best with reduced cost of production without compromising productivity in broiler chickens. It is also recommended that other methods of processing millet should be exploited.

Keywords:

Feedstuff, Nutritive value, Energy sources, Hematological parameters.