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Nutritive evaluation of different energy sources with Maxigrain® enzyme in broiler diets under the tropical climate of Nigeria

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ABSTRACT:

A study was carried out to evaluate the nutritive value and enzyme supplementation of different sources of energy in broiler diets on the growth performance and heamatological parameters of broiler chickens supplemented with Mazigrain® enzyme within the treated groups. Five isonitrogenous and isocaloric diets less (23.17 % CP; 2831 Kcal/ME and 21.73 % CP; 2929 Kcal/ME) for the broiler starter (0 - a month) and finisher phases (5–8 months) respectively were formulated. Diet 1(maize based diet) served in as the control while diets 2, 3, 4 and 5 were supplemented with sorghum, pearl millet, cassava and sweet potatoes based diets separately. A sum of 225 day-old NAPRI X broiler chicks were haphazardly distributed to the five treatments. Every treatment comprised of 45 broilers with three repeats of fifteen birds each in a Completely Randomized Design (CRD). The general linear model protocol of S.A.S. 9.0. was used to analyze the collected data. Among the dietary groups significant changes ($p<0.05$) was found utilizing a tukey test. Enzyme along with various energy sources have noteworthy ($P<0.05$) changes on every one of the parameters (final weight, daily weight gain, feed conversion ratio, water intake, water to feed ratio and feed cost per kilogram weight gain) except for death rate at the starter phase. Broilers that had sorghum based diet had the best performance at starter stage (final weight; 627 g, weight gain; 576.85 g, feed cost/kg gain; ^ 187.95 k). At the finisher stage, sorghum supplemented with enzyme had the best feed conversion ratio (1.96) and feed cost/kg gain; ^ 171.15 k. The optimal performance characteristics were recorded for sorghum based diets. Feed cost / kg gain was the cheapest on birds fed sorghum based diet with enzyme supplementation which was comparable with those fed the maize based diet. However, the use of enzyme enhanced the performance of birds at both the starter and finisher phases.

Keywords:
Feedstuff, Nutritive value, Energy sources, Hematological parameters.

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