

Performance Nutrient Digestibility and Carcass Characteristics of Broiler Chickens Fed Replacement Levels of Rumen Filtrate Fermented Shea Nut (*Vitellaria Paradoxa*) Meal for Groundnut Meal

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Abstract

*A study was conducted using one hundred and eighty (180) day-old Hubbard broiler chicks to determine growth performance, nutrient digestibility and carcass characteristics of broiler chickens fed replacement levels of rumen filtrate fermented shea nut (*Vitellaria paradoxa*, Gaertn.) meal for groundnut meal. The chicks were randomly allotted to four dietary treatments. Each treatment was replicated three times with 15 birds per replicate. Four feeds were formulated for the four treatment groups. The dietary replacement levels of rumen filtrate fermented Shea-nut meal for groundnut meal were 0, 5, 10 & 15 %. Treatment 1 was the control. The experimental design used was completely randomized design (CRD). Nutrient digestibility trial was conducted at the end of the eighth (8th) week. The data collected were on feed intake, weight gain, carcass characteristics, feed conversion ratio and organoleptic properties. The fermentation of Shea nut meal with rumen filtrate led to a significant increase in the tannin content of the Shea nut meal. Although, the results obtained showed that there were no significant ($P>0.05$) difference among the treatment groups in total feed intake and average daily feed intake, the results showed a slight increase in values between 5 and 10 % replacement levels and dropped at 15 % level. Chickens fed the control diet had significantly ($P<0.05$) higher final weight (1192.52 g), total weight gain (1155.30 g) and average daily weight gain (18.34 g) compared to the other dietary treatments. Apparent nutrient digestibility trial results indicated a decrease in the values of crude protein, crude fibre, ether extract and dry matter as the level of rumen filtrate fermented shea-nut meal replacement level increased. This observation was opposite in the mortality result. The results of the carcass characteristics showed no significant ($P>0.05$) difference among the treatment groups but control group recorded higher values in most parameters measured. The same trend was observed in the parameters measured in organoleptic properties. Although, the results obtained showed that there was no significant ($P>0.05$) difference among the treatment groups in the cost of total feed intake to final weight, the control treatment group recorded the highest value (₦348.94) among the treatment groups but showed the lowest value (₦301.97) in cost of feed/weight gain. It was concluded that the use of rumen filtrate fermented Shea nut meal at 5 to 15 % levels as a replacement for groundnut meal did not have significant improvement on the growth performance and nutrients digestibility in broiler chickens while an alternative method may be found to reduce the anti-nutritional factors in Shea nut meal.*

Keywords :

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