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Effect of heat treatment on rice husks in the diet of finishing meat birds growth performance, nutrient digestibility and hematological characteristics

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The effect of different temperatures times (processing times) on rice husk used as a replacement for maize on the nutrient utilization, growth performance and hematological values in broiler birds were studied. A total of one-hundred and twenty unsexed 4 weeks old finishing broilers of Marshall strain of average initial weight of 697.32g were randomly assigned into four treatments. Each treatment was further replicated thrice with 10 birds per replicate in a Completely Randomized Design (CRD). The control treatment (T_1) was without any heat treatment whereas in treatments T_2 , T_3 and T_4 , the heat treatment for the rice husk was in the intervals of 15, 30 and 45 minutes to condition the rice husk for better nutrient utilization by the birds. The diets were formulated to be iso-caloric and iso-nitrogenous. Data obtained were subjected to statistical analysis using one way analysis of variance and Tukey test was used to separate means that were statistically different ($p < 0.05$). The 30 and 40 minutes treatment times recorded the highest ($p < 0.05$) value for the final liveweight (2326.20

and 2317.82g) when the overall growth performance was considered compared to 2107.37g recorded in the T_1 diet. The feed conversion ratio (FCR) ranged between 2.52 and 3.18 in treatment T_4 and treatment T_2 respectively. A higher ($p < 0.05$) crude protein digestibility was recorded in the T_4 and T_3 treatment times with a value of 88.43% and 88.24% compared to coefficients (80.41%) recorded at the T_1 diet. A significantly higher ($p < 0.05$) packed cell volume (PCV) value of 38.32% was recorded in the T_3 diet compared to 34.64% in the T_1 (control). The haemoglobin was also significantly highest in T_4 with a value of 7.44g/dl compared to 6.19 and 6.24g/dl in treatments T_2 and T_3 respectively. It was concluded that that the treatment T_4 and T_3 were better utilized by the experimental birds when compared with T_1 that had no treatment of the rice husk thus helping to increase growth performance, reduce feed cost and increase profit margin of the poultry enterprise.

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