International Journal of Poultry Science

Evaluation of Toasted, Cooked and Akanwu-Cooked Sword Bean Meal in Place of Soya Bean Meal in Broiler Starter Diets

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Abstract:

In a 4-week feeding trial, evaluation of variously processed sword bean (toasted, cooked and akanwu-cooked) meal in place of soybean meal was carried out using 120 day old Anak broiler chicks. They were randomly assigned to 4 experimental diets, given 30 birds per treatment group in a completely randomized design. Each treatment had 3 replicates of 10 birds each. Diet 1 was soybean based (control), while the test feed stuffs quantitatively replaced 18.18% of soybean meal making 5% of the total diets in diets 2, 3, and 4. Feed intake, weight gain, carcass quality, blood constituents and histopathological effects were evaluated. Broiler chickens placed on toasted and akanwu-cooked diets (diets 3 and 4 respectively) had poor growth performance that was significantly (P<0.05) different from those fed cooked diet (diet 2) and control diet (diet 1). Feed-intake values were (36.43, 36.13, 33.88, 27.18), weight gain values were (16.75, 15.08, 11.01, 11.45), feed-to-gain ratio (2.18, 2.4, 2.94, 2.54) and gross margin (N137, N141.04, N74, N100.93). Cut-parts showed no significantly (P>0.05) difference except for back cut in favour of diet 2. Significant differences were obtained only among values for kidney and liver, with diet 2 comparing favourably with the control diet. For haematological values, the PCV for D3 and D4, HB for D3, RBC for D3, MCV for D3 and D4, MCHC for D3 and D4, and MCH for D3 and D4 were not within the normal range established for broiler chickens. Whereas diet 2 values for these parameters were within the normal range and compared favourably with the control diet. Values for urea, creatinine and globulin were significantly (P<0.05) different from one another. Diet 2 had the lowest value (12.33mg/dl) for urea and diet 3 had the highest value (30.467mg/dl), the creatinine values for diet 1 and 2 were significantly lower than that of diets 3 and 4. The globulin value favoured diet 2. Based on the above result, cooked sword bean meal compared favourably with control diet and hence, diet 2 is recommended.

Key Word:
Evaluation, processed sword beans, broiler birds, soybean meal

Volume 7, Number 5, - 2008, ISSN 1682-8356