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The Effect of β-glucanase Inclusion in Sorghum Based Diet on Performance of Broiler Chicks

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Abstract

An experiment was conducted to study the effect of supplementation of commercial enzyme 1,4-β-glucanase (Burgzyme C) on broiler chicks performance, weight gain, feed conversion ratio, internal organs weights, serum total protein, glucose and cholestrol.

One hundred and thirty two birds one day old broiler chicks (Ross)were used in the present study, in a complete randomised design. Birds were distributed into three groups (44 birds per group) with four replicates (11 birds per replicate). Three levels of enzyme 1,4 β-glucanase (Burgzyme C) were used 0.0, 0.125 and 0.25 g kg^{-1} feed with sorghum and groundnut basal diet (A. B and C), respectively. The parameters measured were feed intake, body weight, feed conversion ratio dressing percentage, relative weight of internal organs and some blood parameters cholesterol, glucose and total protein. Feed intake and weight gain recorded weekly for each group. Statistical analysis were based on the pen as replication unit, with four replication per treatment. Data was analysed using computer pograme SPSS and means were seperated by the Duncan method.

The results indicated that inclusion of the β-glucanase enzyme significantly($p < 0.05$) decreased total feed intake and significantly ($p < 0.05$) improved weight gain and feed conversion ratio of broiler chicks. β-gluconase supplementation had no effect on dressing percentage. However, weight of abdominal fat and weight of the internal organs (liver, spleen, gizzard and intestine) were significantly ($p < 0.05$) decreased affected by treatment. Enzyme treatments had no effect on blood glucose and total protein but significantly ($p < 0.05$) decreased serum cholesterol. From the present study result using sorghum basal diet, so its recommended to add 0.25 g β-glucanase per kg feed to starter broiler diet.

Keywords: β-glucanase, broiler, cholesterol

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