

EFFECT OF SUPPLEMENTAL ENZYME CONTAINING XYLANASE ON THE APPARENT METABOLISABLE ENERGY (AME) VALUE OF BROILERS FED WITH RICE BRAN BASED DIETS

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Feeding cost accounts for about 60-70% of the total cost of production in broiler industry. Maize and wheat are the major energy supplements use in broiler feeds. The rapid increase in demand and production of biofuels caused to mounting maize prices and shift the feed production from maize to other grains or by-products. Rice bran is a low cost by-product that is freely available. An experiment was conducted to evaluate the effect of supplemental enzyme containing xylanase on the apparent metabolisable energy (AME) value of rice bran based broiler diets.

Four basal diets with similar nutritional composition with different levels of rice bran (0, 20, 30 and 40%) were formulated and tested with broiler chicks with and without supplemental enzymes (200 g /ton). Three hundred and twenty, day old broiler chicks were fed on commercial broiler starter feed for first twelve days. After that, they were allocated randomly to eight different experimental diets. Birds were reared in metabolism cages and each treatment was replicated eight times with five birds per each. After ten days, excreta were collected for a period of four days. Both feed samples and excreta samples were analyzed for gross energy contents using bomb calorimeter and then the AME was calculated. Data was analyzed using Genstat Statistical package. The effects of enzyme, level of rice bran and their interaction were analyzed using two-way ANOVA with randomized blocks.

Metabolisable energy value in the diets was significantly decrease ($p < 0.05$) with the rice bran level was increased. In addition, enzyme supplementation did not have any significant difference ($p > 0.05$). However, enzyme supplemented diets showed higher metabolisable energy value than that of the non enzyme diet. In general, feed intake, body weight gain and feed conversion ratio did not show any significant effect ($p > 0.05$) with levels of rice bran was increased, except few cases. However, it was noticeable that, in most of the data points, birds fed on enzyme containing diets were heavier than their untreated counterparts. Finally, it can be concluded as the utilization of gross energy decrease with increased level of rice bran in the feed. Enzyme does not seem to have an effect on performance at the commercial rate of enzyme with rice bran based feeds.

Key words: Apparent metabolisable energy, Rice bran, Xylanase, Broiler