

EFFECT OF SUPPLEMENTATION OF EXOGENOUS ENZYME CONTAINING
PHYTASE ON PHOSPHORUS AND CALCIUM RETENTION OF BROILERS FED
WITH RICE BRAN BASED DIETS

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Phosphorous (P) is one of the most expensive macro-mineral component in poultry diets and their supplements are often adulterated. The use of imported feed ingredients is the major cause of spiralling cost of poultry feeds. Therefore, one way of cutting down the feed price is the efficient use of local non conventional feed stuffs. Rice bran can be used in formulated rations which is available in large quantities contains very high amounts of P. But, P can not be utilized by birds due to its availability as the form of Phytate. The present study was conducted to evaluate the effect of the adding exogenous enzyme containing Phytase to broiler feeds containing rice bran on the utilisation of P and also calcium (Ca).

Four identical diets were formulated with different levels of rice bran (0, 20, 30 & 40%) and were supplemented with a commercially available enzyme at the rate of 200 g/ton in par with the commercial recommendation. Three hundred and twenty, day old broiler chicks were fed on commercial broiler starter feed for the first 12 days and were randomly allocated to eight different treatments on day 12. Birds were reared in metabolism cages and each treatment was replicated eight times with five birds per each. Excreta samples were collected during 21-24 days and 38-42 days. Feed intake, body weight and excreta weight were recorded. Both feed samples and excreta samples were chemically analyzed for C and P using atomic absorption spectrometry and spectrophotometry respectively. 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.

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. Effect of enzyme and level of rice bran on Ca utilization was less clear cut. Level of rice bran did have an effect on P utilization with significant difference ($p < 0.05$). Finally, it can be concluded as there is an effect of level of rice bran on the utilization of P, while effect of enzyme is not seen on P and Ca Utilization. Exogenous enzyme mixture containing Phytase is not much effective in improving the performance of broiler chicks fed on rice bran based diets.

Key words: Phytate, Rice bran, Phytase, Calcium, Phosphorus