**Effect of Phytase and a Combination of Xylanase, Amylase and Glucanase Tested Alone or Combined on the Growth Performance of Broiler Chickens**

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Knowledge of the interaction between different types of enzymes is of great value for the best use of feed enzymes.

The study was conducted to assess the effects of phytase and a combination of xylanase, amylase and glucanase (XAG) alone or combined in wheat-corn-SBM based diets.

A total of 1000 day-old male broiler chicks were allocated to 5 dietary treatments each with 8 replicates. The treatment diets contained: a positive control (PC) diet, a negative control (NC) diet reduced by 0.50 MJ ME/kg feed, 0.20% Ca and 0.15% aP compared to PC, NC plus either phytase, XAG, or phytase and XAG together.

Birds in PC had higher (*P* < 0.05) weight gain and body weight than those in NC in the starter period. Phytase increased significantly (*P* < 0.05) feed intake (starter and grower period), weight gain (starter and overall period) and body weight while XAG numerically improved (*P* > 0.05) FCR compared to NC. The combination of phytase and XAG improved feed intake (starter period), weight gain (starter and overall period) and body weight significantly (*P* < 0.05) and FCR numerically (*P* > 0.05) compared to NC. The obtained results of the combination were numerically better than those of the PC.

In conclusion, phytase or XAG alone improved feed intake and weight gain, and numerically FCR in broilers fed diets low in ME, Ca and aP. Furthermore, phytase and XAP together improved the growth performance beyond that of the products alone, suggesting beneficial effects when combining phytase and XAP.