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POULTRY SCIENCE - Metabolism & Nutrition II

ABSTRACT ([Poult. Sci. 93 \(E-Suppl. 1\)](#)):

M63 Evaluation of a thermotolerant xylanase on broiler growth performance and dietary ileal digestible energy value

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The objective of the current experiment was to evaluate xylanase inclusion on male broiler growth performance and ileal digestible energy (IDE).

The experimental design consisted of three dietary treatments including a low energy control containing 2940 kcal/kg, 2990 kcal/kg, and 3035 kcal/kg AME in the starter, grower, and finisher diets, respectively. The additional two treatments included the control supplemented with xylanase at 0.01% (X1) or 0.02% (X2). Each treatment consisted of twelve replicate pens with 35 male broilers placed per replicate for a 42 d grow-out. The diets were fed as a crumble during the starter phase and a pellet during the grower and finisher phases and were pelleted at a temperature of 85°C. Xylanase was added to the feed prior to pelleting. The dietary program consisted of three dietary phases including the starter from 1 to 14 d, grower from 15 to 28 d, and finisher from 29 to 42 d. Body weights and feed consumption were determined at 14, 28, and 42 d. Ileal contents were collected from 5, 4, and 3 birds at 14, 28, and 42 d, respectively, and pooled on a per pen basis. Titanium dioxide was used as an in- digestible marker for the determination of ileal digestibility of energy.

No significant differences were observed on body weight with the inclusion of xylanase when compared to the control throughout the experiment. At 28 d, the inclusion of xylanase X1 improved (p<0.01) FCR compared to the control diet (1.424 vs 1.454). FCR was also improved (p<0.01) at 42 d for birds fed X1 when compared to the control (1.689 vs 1.733). At 28 d, IDE was increased (p<0.05) 88 kcal/kg when birds were fed X1 when compared to birds fed the control diet. At 42 d, IDE was increased (p<0.05) from 2,930 kcal/kg in the control diet to 3,104 and 3,110 kcal/kg in the birds fed the X1 and X2 diets, respectively. At 42 d, IDE digestibility coefficient was increased (p<0.05) at both inclusion rates (X1 and X2) when compared to the control (0.702 and 0.703 vs 0.663, respectively). In conclusion, increases in IDE with xylanase supplementation at 28 and 42 d were observed to improve FCR.

Key Words: Xylanase, Broiler, Performance, Digestible Energy