



# Xylamax<sup>®</sup>

## Poultry Science Journal: Metabolism & Nutrition IV

### ABSTRACT ([Poult. Sci. 94 \(E-Suppl. 1\)](#)):

#### M123 Evaluation of a thermotolerant xylanase on broiler growth performance and ileal digestible energy

Cody Flores\*<sup>GS1</sup>, Rocky Latham<sup>1</sup>, Patrick Biggs<sup>2</sup>, Jason Lee<sup>1</sup> *1Texas A&M University, College Station, TX, USA; 2BioResource International, Inc., Durham, NC, USA*

**This study evaluated the effect of a thermotolerant xylanase (XYL) on male broiler growth performance and ileal digestible energy (IDE). A randomized complete block design study included four treatments with 10 replicates of 44 male broilers per replicate for a total of 1760 broilers for a 41-d assay period. The dietary treatments consisted of a positive control (PC) based on corn/soy that contained DDGs, negative control (NC) diet (-150 kcal/kg ME), NC+10,000 XU/kg XYL (XYL10), and NC+20,000 XU/kg XYL (XYL20). All diets contained a phytase and were pelleted at 80C. The dietary program consisted of 3 phases: starter (1-14 d), grower (15-27 d) and finisher (28-41 d). Growth performance was determined at 14, 27 and 41 d. Ileal contents were collected from 5, 4 and 3 birds at 14, 27 and 41 d, respectively, and pooled on a per pen basis. All data were subjected to one-way ANOVA using GLM (SPSS) with means deemed significantly different at  $P<0.05$ . The 150 kcal/kg reduction in energy resulted in a decreased ( $P<0.05$ ) body weight (BW) at 14 and 27 d between the PC and NC diets. Supplementing XYL20 improved BW at 14 and 27 d making it similar to the PC while greater than ( $P<0.05$ ) the NC. Birds fed XYL10 had a BW that was greater than ( $P<0.05$ ) the NC and similar to the PC at 27 d. At 41 d, BW gain (BWG) of birds fed XYL20 (2.871 kg) was significantly higher than the NC (2.797 kg) yet similar to the PC (2.856 kg), whereas the BWG of birds fed XYL10 (2.856 kg) were similar to both the PC and NC. The 41-d weight-adjusted FCR was different ( $P<0.05$ ) for the PC (1.67) and NC (1.72) while the two XYL treatments were intermediate (both at 1.68). The reduction in metabolizable energy between the PC and NC was evident in the IDE between those two treatment at 14, 27 and 41 d with the NC showing an IDE that was 244, 166, and 256 kcal/kg lower than the PC ( $P<0.05$ ). When XYL10 was supplemented to the NC, the IDE at 14 and 41 d was increased ( $P<0.05$ ) 121 and 84 kcal/kg, respectively, while being similar to the PC. Birds fed XYL20 showed a similar response with an increase ( $P<0.05$ ) in IDE of 138 and 166 kcal/kg over the NC that was also similar to the PC. Xylanase inclusion increased IDE which correlated to improvements in growth performance in male broilers fed a reduced energy diet.**

**Key Words:** Xylanase, Broiler, Performance, Digestible Energy