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284 Effects of a xylanase and an emulsifier in diets with dried yeast on nursery pig performance.

A. Hesse*, J. Less, T. R. Radke, V. G. Perez,
ADM Animal Nutrition, Decatur, IL.

Two experiments evaluated the effect of using xylanase alone (XY) or with an emulsifier (XY+EM) in pigs fed increasing levels of dried yeast (DY). Both experiments were a RCBD; blocks were 3 BW categories × 2 nursery rooms. Each exper-

iment had 8 dietary treatments in a 4 (DY at 0, 2.5, 5, or 10%) × 2 (None vs. XY+EM in Exp. 1, or None vs. XY in Exp. 2) factorial arrangement. Each treatment had 6 block-replicates; experimental units were pens with 4 pigs (~21-d old; 5.8 ± 0.2 kg BW in Exp. 1, and 6.7 ± 0.4 kg BW in Exp. 2). Sexes were kept balanced among treatments, within block. Performance was measured and feed was changed at the end of each feeding phase ($n = 4$): d 7, 14, 28, and 42. Dietary treatments were fed for the full 42 d of the trial. Inclusion of DY (48% CP; 3699 kcal ME/kg) replaced fish meal and soy protein concentrate from d 0–14, and then soybean meal from d 14–42. Xylanase (25 g enzyme/t) was added without consideration of energy or nutritional value. The emulsifier (8527 kcal ME/kg) was added at 1% of diet replacing fat. Data were analyzed using the MIXED procedure of SAS; block was a random variable. Linear and quadratic polynomials were used to assess DY level. Dietary DY did not interact with XY+EM (Exp. 1) or XY (Exp. 2). In Exp. 1, inclusion of XY+EM improved ($P < 0.05$) G:F (802 vs. 856 g/kg; SEM = 17) on d 0–14, as well as the overall (d 0–42) ADG (411 vs. 432 g/d; SEM = 17) and ADFI (608 vs. 636 g/d; SEM = 29). In Exp. 2, no main effect of XY was detected. The inclusion of DY up to 10% of diet did not affect pig performance from d 0–14. In both experiments, increasing levels of DY reduced (linear, $P < 0.05$) the overall (d 0–42) ADG (Exp. 1: 441, 424, 409, 411 g/d; SEM = 18; and Exp. 2: 502, 491, 478, 464 g/d; SEM 13, for 0, 2.5, 5, and 10% DY, respectively). In conclusion, DY may be used up to 10% of the diet to replace fish meal and soy protein concentrate without affecting pig performance during the first 14 d postweaning. Inclusion of XY+EM improves nursery pig performance, whereas XY alone did not.

Key Words: Xylanase, Emulsifier, Grain Distillers
Dried Yeast
