
Two studies were conducted to determine the effects of diet form (meal vs. pellet) and feeder design (dry vs. wet-dry) on finisher pig performance. Experiments were arranged as 2 × 2 factorials with 11 replications/treatment. In Exp. 1, 1,290 pigs (initial BW 46.8 kg) were used in a 91-d trial. Pelleted diets averaged 35% fines throughout the study. Overall, pigs fed pelleted diets (0.86 kg/d) or via wet-dry feeders (0.86 kg/d) had greater (P < 0.07 and 0.01, respectively) ADG than those fed meal diets (0.83 kg/d) or with dry feeders (0.83 kg/d). A diet form × feeder interaction (P < 0.01) was observed for G:F. Pigs fed meal or pelleted diets via a wet-dry feeder had similar G:F (0.319 and 0.320, respectively), but pigs fed pelleted diets in dry feeders had poorer G:F than pigs with meal diets in dry feeders (0.349 and 0.369, respectively). In Exp. 2, 1,146 pigs (initial BW 38.2 kg) were used in a 104-d study. From d 0 to 28, a diet form × feeder interaction (P < 0.01) was observed for ADG. Pigs fed pelleted diets from a dry feeder (0.58 kg/d) had decreased ADG compared with pigs fed meal diets from the same feeder type (0.66 kg/d) while there was no difference in wet-dry feeders based on diet form (0.63 and 0.67 kg/d, respectively). Pigs fed pelleted diets (0.392) had poorer (P < 0.01) G:F compared with those fed meal diets (0.443). This appeared to be due to poor pellet quality (39.6% fines). From d 42 to 86, pellet quality improved (4.4% fines) and a diet form × feeder interaction (P < 0.05) was observed for ADG. Pigs fed meal diets in a dry feeder (0.96 kg/d) had lower ADG compared with pigs fed pelleted diets in dry feeders (1.03 kg/d) or pigs fed either diet in wet-dry feeders (1.05 and 1.06 kg/d, respectively). Overall, pigs fed with wet-dry feeders had increased (P < 0.02) ADG and ADFI, and poorer G:F compared with those with dry feeders, while pigs presented pelleted diets had better (P = 0.05) G:F compared with those presented meal diets. Pigs provided high quality pellets via dry feeders had increased growth performance compared with pigs fed meal diets. Conversely, if pellet quality was poor, G:F benefits associated with pelleting were lost.

Key Words: feeder, finishing pig, growth, pelleting

Impact of tylosin phosphate and ractopamine hydrochloride alone or in combination on N metabolism in finishing pigs. C. M. Pilcher*, R. Arentson2, and J. F. Patience3, Iowa State University, Ames, Elanco Animal Health, Greenfield, IN.

Ractopamine hydrochloride (RAC) is a nutrient repartitioning agent added to diets in late finishing to increase weight gain, feed efficiency and carcass leanness. Tylosin phosphate (TP) is a macrolide antibiotic used in swine diets to control diseases such as ileitis and swine dysentery and to improve growth performance. There is very limited information on the effect of these 2 products when used in combination. The objective of this study was to evaluate the effect of TP and RAC alone or in combination on whole-body N metabolism in finishing pigs fed corn-soybean meal or corn-soybean meal-dried distillers grains with solubles (DDGS) based diets. A total of 72 PIC gilts (initial BW = 107.4 ± 0.50 kg) were blocked by weight and randomly assigned to a 2 × 2 factorial arrangement of treatments: TP (0 or 44 ppm), RAC (0 or 5 ppm) and DDGS (0 or 30%). When RAC was included, diets were formulated to contain an additional 0.2% SID Lys. Pigs were housed individually and fed treatment diets for 17 d. TP treated pigs were administered 66 mg tylosin per liter of water for 3 d before receiving treatment diets. Feed was provided twice daily, as much as the pigs could consume within 1 h per meal (ADFI = 2.98 ± 0.045 kg/d). Water was provided to the pigs between feeding periods, ad libitum (ADWI = 7.76 ± 0.23 kg/d). Feces and urine were collected during 2 sampling periods on d 7 and 8 and d 15 and 16. DDGS inclusion reduced apparent total tract digestibility (ATTD) of N (81.2 vs. 83.3; P < 0.0001) and N retention (45.5 vs. 49.7% of N intake; P < 0.01); however, there were no interactions between the response to DDGS and the responses to TP or RAC. RAC increased ATTD of N (83.7 vs. 80.8%; P < 0.0001) and N retention (38.6 vs. 30.0 g/d; P < 0.0001 and 50.1 vs. 45.2% of N intake; P < 0.001). For N retention (g/d), there was an increase in the response to RAC when TP was present in the diet (TP × RAC interaction; P < 0.05). TP also tended to improve ATTD of N (82.6 vs. 81.9%; P = 0.054), but did not affect total N excretion. In conclusion, RAC increased N retention, TP may enhance the response to RAC, and the inclusion of DDGS did not affect the responses to either TP or RAC.

Key Words: ractopamine, tylosin phosphate, swine