
A total of 1,099 pigs (PIC 1050 × 337; initially 34 kg) were used in a 104-d study to determine the influence of a Bacillus product and diet type on growth performance, carcass traits, fecal consistency, and pen cleaning time in growing pigs raised under commercial conditions. Pens were allotted in a completely randomized design with 26 to 27 pigs per pen and 7 replications per treatment. Treatments were arranged as a 3 × 2 factorial with main effects of Bacillus product (0, 1x, or 10x) and diet type (corn-soybean meal or a by-product diet with 30% dried distillers grains with solubles in all phases and 20% bakery until 54 kg). The dose of Bacillus in the diet was approximately 200 million and 2 billion cfu/g for the 1x and 10x levels, respectively. Overall (d 0 to 104), no differences were found in growth performance or carcass composition for pigs fed the Bacillus product; however, pigs fed the 1x level of Bacillus tended (quadratic, P = 0.10) to have the lowest ADG (998, 976, and 985 g for 0, 1x, and 10x Bacillus level, respectively). Manure texture score tended to increase (linear, P = 0.07) as Bacillus dose increased, indicating that pigs fed the Bacillus product had firmer stools. Wash time was numerically reduced (linear, P = 0.16) as Bacillus level increased in the diet (10.8, 10.6, and 9.9 min for 0, 1x, and 10x Bacillus level, respectively). For diet formulation, pigs fed the diet containing by-products had increased (P = 0.01) ADFI compared with pigs fed the corn-soybean meal diet (2629 vs. 2537 g, respectively). With no difference in ADG, feed efficiency was poorer (P < 0.01) for pigs fed byproduct diets (0.38 vs. 0.39). Pens that contained pigs fed byproduct diets required more (P < 0.01) time to wash (11.6 vs. 9.3 min), which appeared to be the result of looser manure texture (P = 0.09) and increased (P = 0.08) manure buildup. The Bacillus product tested did not improve growth performance, but altered fecal consistency and barn wash time.

Key Words: Bacillus, by-products, fecal consistency, pigs wash time

295P Effects of sericite supplementation on nutrient digestibility, blood profiles, and noxious gas emission in growing pigs. H. Y. Beak*, X. Y. Guo, and I. H. Kim, Department of Animal Resource & Science, Dankook University, Cheonan, Chungnam, South Korea.

This study was conducted to assess the effects of sericite on nutrient digestibility, blood profiles, and noxious gas emission in growing pigs. Six [(Duroc × Yorkshire) × Landrace] pigs were used in a 3 × 3 Latin square design. Dietary treatments included 1) CON (basal diet), 2) T1 (CON + 0.5% sericite), and 3) T2 (CON + 1.0% sericite). Each experimental period lasted 7 d. Pigs were fed diets containing Cr2O3 (0.2%) and after 5 d adaptation period to the diet, fecal samples were collected on d 6 and 7 of each period. All pigs were bled on d 0 and 7 of each period. The GLM procedure of SAS (1998) was used to determine the period and time effects. No time effect or interaction between treatment and time were observed. Throughout the entire experimental period, the dry matter (76.5, 79.5 vs 82.2%) and nitrogen (78.8, 82.7 vs 84.3%) digestibility was improved (P < 0.05) in the T1 and T2 treatments compared with CON treatment. There was no difference in energy digestibility among the 3 treatments. The concentration of Fe (146, 146 vs 96 µg/dL) blood was decreased (P < 0.05) by T2 treatment at the end of the experiment, and the TIBC was not affected by any treatments during the experiment period. No differences were observed in fecal NH3, H2S, and total mercaptans during the whole experiment. In conclusion, diets supplemented with 0.5 or 1% sericite may prove effective in improving nutrient digestibility and Fe concentration can be decreased by 1% sericite in growing pigs.

Key Words: sericite, noxious gas emission, growing pigs

296P Effects of dietary fermented wheat by Bacillus subtilis on growth performance, nutrient digestibility, microbial shedding and fecal noxious gas emission in growing pigs. X. Y. Guo*, S. M. Hong, and I. H. Kim, Department of Animal Resource & Science, Dankook University, Cheonan, Chungnam, South Korea.

This research was conducted to evaluate the effect of fermented wheat (FW) by Bacillus subtilis on growth performance, nutrient digestibility, microbial shedding, and fecal noxious gas in growing pigs. A total of 120 pigs with initial BW of 28.8 ± 1.81 kg [(Landrace × Yorkshire) × Duroc] were randomly allotted into 1 of 5 dietary treatments with 6 replicate pens per treatment and 4 pigs per pen. Every