

P084 **Effect of rate of daily gain on nutrient and energy digestibility in growing-finishing pigs.** N. W. Jaworski^{1,*}, A. Owusu-Asiedu², D. Petri³, H. H. Stein¹, ¹*Animal Science, University of Illinois, Urbana*, ²*Danisco Animal Nutrition, DuPont Industrial Biosciences*, ³*Animal and Environmental Applications, DuPont Nutrition and Health, Waukesha*.

An experiment was conducted to test the hypothesis that slow-growing pigs have reduced digestibility of energy and nutrients compared with faster-growing pigs if fed a diet based on corn, soybean meal, and distillers dried grains with solubles. Two experimental diets were used. The phase 1 diet was fed from 25 to 50 kg and the phase 2 diet was fed from 50 to 90 kg. Titanium dioxide (0.4%) was included in the diets as an inert marker. One hundred pigs (initial BW: 24.1 ± 2.0 kg) were randomly allotted to 2 pens by initial BW and sex. Each pen had 25 barrows and 25 gilts and had 6 feeders and 12 nipple drinkers to allow ad libitum feed and water consumption. Pigs were weighed individually at the start of the experiment, every fortnight, and at the end of each phase. Daily allotments of feed and feed left in feeders were recorded every fortnight and at the end of each phase. When pigs had an average BW of approximately 50 and 90 kg, 3 fast-growing pigs and 3 slow-growing pigs within each pen were selected, sacrificed, and immediately processed to collect digesta samples from the stomach, duodenum, jejunum, ileum, cecum, colon, and rectum. The ADG for these pigs were within 2 SD of the mean of the pen average. Data were analyzed with SAS Proc Mixed as a 2 X 2 factorial with 2 growth rates and 2 phases. There were no interactions between growth rate and phase and no differences in digestibility of energy and nutrients between fast- and slow-growing pigs. Phase 1 pigs had greater ($P < 0.05$) apparent total tract digestibility of DM, Ca, and P than phase 2 pigs, but phase 2 pigs had a greater ($P < 0.05$) apparent jejunal digestibility of DM, GE, crude fiber, ADF, and NDF than phase 1 pigs, but for all other measurements, no differences between phase 1 and phase 2 were observed. In conclusion, the digestibility of energy and nutrients is not different between fast- and slow-growing pigs and differences in energy or nutrient digestibility is not the reason for differences in pig growth rates within a pen.

Key Words: digestibility, growth rate, variation