323 **Effects of *Bacillus* spp. direct-fed microbial supplementation on the nutrient digestibility by weanling pigs.** A. Owusu-Asiedu[1], N. W. Jaworski[2,*], A. A. Awati[1], H. H. Stein[2], *[1]DuPont Industrial Biosciences—Danisco Animal Nutrition, Marlborough, Wiltshire, United Kingdom, [2]University of Illinois, Urbana-Champaign.*

An experiment was conducted to determine the effect of phytase and a *Bacillus* spp. direct-fed microbial (DFM) supplementation on the nutrient digestibility in weanling pigs. A total of 20 nursery barrows (initial BW: 10.4 ± 1.0 kg) were randomly allotted by BW to 1 of 2 dietary treatments using a randomized complete block design with 2 diets and 10 replicate pigs per diet. The experimental diets were based on corn, soybean meal, and distillers dried grains with solubles; diet 1 (CON) and diet 2 contained CON plus 500 g/MT *Bacillus* spp. (CON + DFM). All diets contained 500 FTU/kg of *Buttiauxella* spp. phytase expressed in *Trichoderma reesei*. Pigs were fed ad libitum and water was available at all times. Pigs were housed in metabolic cages that allowed for total, but separate, collection of feces and urine from each pig during a 5 d balance trial following the marker-to-marker approach. Individual pig weights were recorded at the start and end of the experiment. Also, daily allotments of feed were recorded. Values for the apparent total tract digestibility (ATTD) of GE, crude fiber, and NDF were calculated. Data were analyzed using the MIXED procedure of SAS. The model included diet as the fixed effect and block as the random effect. Results indicated that the CON + DFM diet had a greater ($P < 0.05$) amount of DE (3615 kcal/kg) compared with the CON diet (3518 kcal/kg). The increased DE in the CON + DFM diet resulted in a 9.2% improvement ($P < 0.05$) in the ATTD of NDF by pigs compared with pigs fed the CON diet. In conclusion, nursery pigs fed diets containing *Bacillus* spp. had a greater ATTD of NDF compared with pigs fed CON and this resulted in a 2.8% improvement in DE, which may enable increased utilization of less expensive fibrous feed ingredients in nursery pig diet formulation.

Key Words: digestibility, direct-fed microbials, pig