Effects of distillers dried grains with solubles on the digestibility of energy, DM, AA, and fiber, and intestinal transit time in a corn-soybean meal diet fed to growing pigs. P. E. Urriola* and H. H. Stein, University of Illinois, Urbana.

An experiment was conducted to measure the effect of distillers dried grains with solubles (DDGS) on the digestibility of energy, DM, AA, NDF, and total dietary fiber (TDF), and the transit time of digesta in a corn-soybean meal diet (control) fed to growing pigs. Sixteen pigs (initial BW: 38.0 ± 1.6 kg) were prepared with a T-cannula in the distal ileum and another T-cannula in the cecum. Pigs were allotted to 2 treatments with 8 pigs per treatment. In period 1, all pigs were fed the control diet, but in periods 2, 3, and 4 4 pigs were fed the control diet or the control with 30% DDGS. Rate of passage of digesta at the end of the ileum, to the cecum, and over the total tract was measured at the end of period 4. Apparent ileal digestibility (AID) of energy, DM, AA, NDF, and TDF, and the apparent total tract digestibility (ATTD) of energy, DM, NDF, and TDF were measured. Concentration of VFA and pH were analyzed in ileal, cecal, and fecal samples. The AID of Lys (74.1%) was lower ($P < 0.05$) in the DDGS diet than in the control diet (78.6%). The AID of GE, NDF, and TDF were not affected by the inclusion of 30% DDGS in the diet, but the AID of DM in the diet containing 30% DDGS (71.2%) was lower ($P < 0.05$) than the AID of DM in the control diet (74.0%). The ATTD of GE (81.0%), NDF (57.2%), TDF (55.5%), and DM (82.6%) were also lower ($P < 0.05$) in the diet containing DDGS than in the control diet (86.0, 69.3, 66.0, 88.1%, respectively). The concentration of VFA in ileal, cecal, and fecal samples was not different between diets. The pH of ileal and cecal digesta of pigs fed the diet with 30% DDGS (5.48 and 5.48) were greater ($P < 0.01$) than for pigs fed the control diet (5.34 and 5.35, respectively). There was no effect of inclusion of 30% DDGS on the pH of feces. The transit time of digesta from the mouth to the ileum, the cecum, or over the total tract was not affected by DDGS. In conclusion, addition of DDGS to a corn-soybean meal diet fed to growing pigs resulted in a reduction in digestibility of Lys, energy, NDF, and TDF.

Key Words: distillers dried grains with solubles, digestibility, pigs