

inclusion of Xylanase B improved ($P < 0.05$) both DE and ME, from 3,564 to 3,624 kcal/kg and from 3,410 to 3,488 kcal/kg, respectively. For wheat-SBM-wheat middlings diets, DE was improved ($P < 0.05$) from 3,379 to 3,452 or 3,445 kcal/kg if Xylanase A or B was added, respectively, and ME was improved ($P < 0.05$) from 3,233 to 3,310 kcal/kg if Xylanase A was added. In conclusion, the xylanases used in this experiment improved the digestibility of dietary fiber in the stomach and hind-gut and improved energy status of pigs fed wheat-based diets, but not for corn-based diets.

Key Words: dietary fiber, xylanase, pigs

152 Degradation of Dietary Fiber in the Stomach, Small Intestine, and Large Intestine of Growing Pigs Fed Corn- or Wheat-Based Diets without or with Microbial Xylanase. J. J. Abelilla*, H. H. Stein, *University of Illinois at Urbana-Champaign, Urbana, IL*

An experiment was conducted to test the hypothesis that microbial xylanase contributes to the degradation of fiber in wheat- and corn-based diets. Twenty-four growing barrows (initial BW: 28.51 ± 1.86 kg) were prepared with a T-cannula in the duodenum and a second T-cannula in the distal ileum and allotted to a 24×4 Youden square design with 12 diets and 4 18-d periods. Two diets based on corn and soybean meal (SBM) without or with distillers dried grains with solubles (DDGS) and 2 diets based on wheat and SBM without or with wheat middlings were formulated. Each diet was formulated without microbial xylanase or with Xylanase A or Xylanase B. Fecal samples were collected from the feed provided from d 8 to 13, ileal digesta were collected on d 15 and 16, and duodenal digesta were collected on d 17 and 18. Results indicated that the apparent ileal digestibility (AID) of GE in corn-SBM diets was greater ($P < 0.05$) than in corn-SBM-DDGS diets (77 vs. 68%) and the AID of GE in wheat-SBM diets was greater ($P < 0.05$) than in wheat-SBM-wheat middlings diets (77 vs. 66%), but no difference was observed for the AID of total dietary fiber (TDF). The apparent total tract digestibility (ATTD) of TDF in corn-SBM diets was greater ($P < 0.05$) than in corn-SBM-DDGS diets (73 vs. 67%) and the ATTD of TDF in wheat-SBM diets was greater ($P < 0.05$) than in wheat-SBM-wheat middlings diets (73 vs. 68%). Inclusion of Xylanase B improved ($P < 0.05$) apparent duodenal digestibility and ATTD of TDF in wheat-SBM diets from 18 to 30% and from 72 to 74%, respectively. The ATTD of TDF in wheat-SBM-wheat middlings diet was improved ($P < 0.05$) from 66 to 69% if Xylanase A or B was added. For wheat-SBM diets,