Effects of high protein canola meal on digestibility of phosphorus and growth performance of weanling pigs. Y. She¹, H. H. Salgado², D. Li³, and H. H. Stein¹, ¹University of Illinois at Urbana-Champaign, Urbana, ²Laval Univ., Quebec City, QC, Canada, ³CAU, Beijing, China.

Two experiments were conducted to evaluate the nutritional value of high-protein canola meal (CM-HP) and conventional canola meal (CM-CV) in diets fed to weanling pigs. Experiment 1 was designed to compare the apparent total tract digestibility (ATTD) and the standardized total tract digestibility between CM-HP, CM-CV and soybean meal (SBM). Forty eight growing barrows (initial BW: 16.8 ± 1.18 kg) were placed in metabolism crates and allotted to a randomized complete block design using a 2 × 3 factorial arrangement with 8 replicate pigs per diet. Diets were provided for 5 d with total collection of feces over the final 5 d. Results indicated that as phytase was added to the diets, the ATTD and STTD of P increased (P < 0.01) from 41.9 to 57.5% and 45.1 to 60.8%, respectively, in CM-HP; from 40.8 to 60.5% and 44.5 to 64.3%, respectively, in CM-CV; and from 61.0 to 74.2% and 66.7 to 80.5%, respectively, in SBM.

In Exp. 2, 405 pigs (initial BW: 10.07 ± 1.41 kg) were randomly allotted to 9 dietary treatments with 9 replicate pens per treatment. There were 4 to 6 pigs per pen. The control diet was a corn-SBM diet. Four additional diets were formulated by adding 10, 20, 30, or 40% of either CM-HP or CM-CV to the control diet. Results indicated that increased inclusion rate of CM-CV increased (quadratic, P < 0.05) ADG of pigs. Increased inclusion rate of CM-HP or CM-CV decreased (linear, P < 0.05) ADFI, but increased (linear, P < 0.05) G:F. Pigs fed CM-CV had greater (P < 0.05) ADG and G:F than pigs fed CM-HP. In conclusion, there is no difference in the ATTD or STTD of P between CM-HP and CM-CV, and inclusion of up to 40% CM-HP or CM-CV has no negative effects on growth performance of weaned pigs from 2 wk post-weaning.

Key Words: canola meal, phytase, pigs