
320 Digestible phosphorus in canola meal, 00-rapeseed meal, and 00-rapeseed expellers without and with microbial phytase fed to nursery pigs. T. Maison, H. H. Stein*, *University of Illinois, Urbana-Champaign.*

This experiment was conducted to measure apparent total tract digestibility (ATTD) and standardized total tract digestibility (STTD) of P in canola meal, 00-rapeseed meal, and 00-rapeseed expellers fed to nursery pigs. Two hundred sixteen barrows (initial BW: 18.0 ± 1.5 kg) were allotted to a randomized complete block design with 36 diets and 6 replicate pigs per diet. Five samples of canola meal from solvent-extraction crushing plants in North America, 8 samples of 00-rapeseed meal from solvent-extraction crushing plants in Europe, and 5 samples of 00-rapeseed expellers from mechanical-press crushing plants in Europe were used in the experiment. Eighteen diets were prepared by including each source of canola meal, 00-rapeseed meal, and 00-rapeseed expellers in 1 diet. Eighteen additional diets that were similar to the previous 18 diets, with the exception that 1500 units of microbial phytase was included in each diet, were also formulated. The only source of P in the diets was canola meal, 00-rapeseed meal, or 00-rapeseed expellers. Pigs were placed in metabolism cages that allowed for total feces collection. Pigs were fed at 2.5 times their estimated energy requirement for maintenance. Ingredients, diets, and feces were analyzed for P, and the ATTD and STTD of each source of canola meal, 00-rapeseed meal, and 00-rapeseed expellers were calculated. A constant value for endogenous phosphorus loss of 190 mg/kg DMI was used to calculate STTD of P. Results indicated that the ATTD and STTD of P for canola meal were not different from values obtained in 00-rapeseed meal, and the ATTD and STTD of P in 00-rapeseed meal were not different from values for 00-rapeseed expellers. The ATTD and STTD of P increased ($P < 0.001$) from 44.99 and 48.82% to 64.08 and 67.97% for canola meal, from 46.77 and 50.36% to 63.53 and 67.29% for 00-rapeseed meal, and from 44.83 and 48.60% to 69.28 and 72.99% for 00-rapeseed expellers by using microbial phytase in the diets. In conclusion, The ATTD and STTD of P for canola and 00-rapeseed products are not different, and addition of microbial phytase can improve the digestibility of P in canola, 00-rapeseed meal, and 00-rapeseed expellers.

Key Words: canola meal, digestibility, pig, phosphorus, 00-rapeseed meal, 00-rapeseed expellers