

Nonruminant Nutrition: Nutritional Values I

698 Digestible and metabolizable energy concentration in canola meal, 00-rapeseed meal, and 00-rapeseed expellers fed to growing pigs. T. Maison* and H. H. Stein, *University of Illinois at Urbana-Champaign, Urbana.*

This experiment was conducted to measure DE and ME in canola meal, 00-rapeseed meal, and 00-rapeseed expellers fed to growing pigs. Twenty 3 barrows (initial BW: 27.7 ± 2.92 kg) were allotted to an 8×23 Youden square design with 8 periods and 23 animals. Twenty-three diets were prepared. One diet was a corn based basal diet; 6 diets were based on corn and each of 6 samples of canola meal from solvent-extraction crushing plants in North America (average of 4,218 kcal GE/kg, 38.0% CP, and 3.82% crude fat); 11 diets were based on corn and each of 11 samples of 00-rapeseed meal from solvent-extraction crushing plants in Europe (average of 4,210 kcal GE/kg, 36.2% CP, and 3.87% crude fat); and 5 diets were based on corn and each of 5 samples of 00-rapeseed expellers from mechanical-press crushing plants in Europe (average of 4,721 kcal GE/kg, 35.6% CP, and 11.5% crude fat). Pigs were fed at 3 times their estimated energy requirement for maintenance, and were placed in metabolism cages that allowed for the total, but separate, collection of feces and urine. The concentration of DE and ME in corn was calculated from the basal diet and the contribution of DE and ME from corn to the remaining diets was then calculated, and the DE and ME of each source of canola meal, 00-rapeseed meal, and 00-rapeseed expellers were calculated by difference. Results of the experiment indicate that the apparent total tract digestibility in 00-rapeseed expellers (78.32%) was greater ($P < 0.01$) than in 00-rapeseed meal (70.63%), but no difference between 00-rapeseed meal and canola meal (69.82%) was observed. The concentration of DE and ME in canola meal (3,378 and 3,127 kcal/kg DM) were not different from DE and ME in 00-rapeseed meal (3,461 and 3,168 kcal/kg DM), but 00-rapeseed expellers had greater ($P < 0.01$) DE and ME (4,005 and 3,691 kcal/kg DM) than 00-rapeseed meal. In conclusion, the concentration of DE and ME is not different between canola meal and 00-rapeseed meal, but 00-rapeseed expellers contain more DE and ME than 00-rapeseed meal.

Key Words: canola meal, rapeseed product, pig