

Nutrient digestibility of five samples of canola meal fed to ileal-cannulated grower pigs

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Canola meal (CM) is an alternative for soybean meal (SBM), but CM quality varies among crushing plants. An 8 × 8 Latin square was conducted feeding 8 ileal-cannulated grower-finishing pigs (32 kg initial BW) to evaluate the apparent ileal digestibility (AID) of CP and AA in 5 CM samples from 5 Western Canadian crushing plants). Pigs were fed 8 diets (SBM, 5 CM, basal, and N-free). For SBM and CM diets, 40% of test feedstuff sample was mixed with 60% barley and wheat-based basal diet. Pigs were fed diets at 2.8 × maintenance (110 kcal of DE per kg of BW^{0.75}) divided into equal 2 meals daily offered at 8:00 and 15:00 for eight 9-d periods. Following 5 d of acclimation, feces were collected on days 6 and 7, and digesta on days 8 and 9. Standardized ileal digestibility (SID) of CP and AA was determined by subtracting basal endogenous AA losses. On DM basis, the SBM and 5 CM contained 51 and 39-45% CP; 7 and 24-27% NDF; and 4.70 and 4.73-4.82 Mcal/kg GE, respectively. The SID of Lys, other indispensable AA (except His), dispensable AA (except Glu) was greater ($P<0.05$) for SBM than for the 5 CM. Among the 5 CM samples, the SID of Lys ranged from 75 to 80% ($P<0.05$), of Thr from 70 to 76% ($P<0.05$), and of Met from 82 to 86% ($P<0.05$). In conclusion, the SID of most AA was lower in CM than in SBM likely due to the greater fiber content in CM. The SID of AA differed among the 5 CM samples, but could not be associated to changes in chemical composition. The range in quality of CM is sufficient to warrant establishment of rapid quality evaluation measurements to predict AA quality of CM.

Implications: The findings in this study will give us a better understanding on the AA quality of conventional varieties of *B. napus* canola seeds. Furthermore, according to the results obtained in this study, we would suggest adding coproducts and alternative ingredients in the livestock to reduce ingredient costs for swine industry, and improve the quality of animal proteins in pig carcass.