0441 Energy concentration and amino acid digestibility in two sources of canola meal fed to growing pigs.

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Two experiments were conducted to determine DE and ME and standardized ileal digestibility (SID) of CP and AA by growing pigs in a novel canola meal (CM-HP) produced from high protein canola seeds and to compare these values with DE, ME, and SID values determined in conventional canola meal (CM-CV) and soybean meal (SBM). In Exp. 1, 32 growing barrows (initial BW: 47.25 ± 6.23 kg) were individually housed in metabolism cages and randomly assigned to 4 treatments in a randomized complete block design with 8 replicates per treatment. The 4 diets included a corn-based basal diet and 3 diets formulated by mixing corn and each source of canola meal or SBM. Fecal and urine samples were collected for 5 d following a 5-d adaptation period. The DE and ME in CM-HP, CM-CV, and SBM were calculated using the difference procedure. Concentrations of DE and ME in CM-HP and CM-CV were less ($P < 0.05$) than in corn and SBM (DE: 3419 and 3104 vs. 4012 and 4305 kcal/kg DM, respectively; ME: 2842 and 2720 vs. 3854 and 3894 kcal/kg DM, respectively). No differences in concentrations of DE and ME were observed between CM-HP and CM-CV. In Exp. 2, 8 growing barrows (initial BW: 46.4 ± 5.6 kg) had a T-cannula installed in the distal ileum and randomly allotted to a replicated 4 × 4 Latin square design, with 4 diets and four 7-d periods in each square. Three diets that contained CM-HP, CM-CV, or SBM as the sole source of CP and AA were formulated, and a N-free diet was also used. Ileal digesta were collected on d 6 and 7 of each period. The SID of CP and most AA in CM-HP and CM-CV were less ($P < 0.05$) than in SBM. The SID of CP in CM-HP was greater ($P < 0.05$) than in CM-CV. However, no differences were observed in SID of any AA between CM-HP and CM-CV. The concentration of standardized ileal digestible CP and almost all AA was greater ($P < 0.05$) in SBM than in CM-HP and CM-CV, and CM-HP contained more ($P < 0.05$) standardized ileal digestible CP and AA than CM-CV. In conclusion, increased concentration of CP in canola meal does not compromise the DE and ME and the AID or SID of AA. The novel CM-HP supplies more digestible AA than CM-CV.

Key Words: amino acid digestibility, canola meal, energy concentration