**The effect of feeding solvent-extracted juncea canola meal on growth performance and diet nutrient digestibility of weaned pigs.** J.L. Landero[*1], E. Beltranena[1,2] and R.T. Zijlstra[1]; University of Alberta, Edmonton, AB, Canada[1]; Alberta Agriculture and Rural Development, Edmonton, AB, Canada[2].

Effects of substitution of soybean meal (SBM) with increasing dietary inclusion novel *Brassica juncea* canola meal (CM) were evaluated on diet nutrient digestibility and growth performance of pigs. Starting 1 wk after weaning at 19 d of age, 240 pigs with an initial BW of 7.7 kg were fed Phase 1 diets for 2 wk (d 0 to 14) and sequentially Phase 2 diets for 3 wk (d 15 to 35). Five pelleted wheat-based diets containing 0, 6, 12, 18, or 24% juncea CM were formulated to contain 2.39 and 2.31 Mcal NE/kg and 5.0 and 4.5 g standardized ileal digestible (SID) Lys/Mcal NE, for Phase 1 and 2 diets, respectively. Juncea CM replaced SBM and diets were balanced for NE using 5.6 to 8.0% and 2.6 to 5.0% canola oil for Phase 1 and 2 diets, respectively and for AA using crystalline Lys, Met, Thr, and Trp. Increasing inclusion of juncea CM linearly reduced ($P$<0.05) apparent total tract digestibility of GE, DM, and CP and diet DE content during both phases. For the entire trial (d 0-35), increasing inclusion of juncea CM linearly reduced ($P$ < 0.01) ADG, ADFI, and G:F. The data [chemical composition of diets and growth performance of pigs] of the present study was combined with data of a similar study replacing SBM with up to 20% conventional *Brassica napus* CM (data reported previously) to conduct a principle component analysis (PCA) to determine diet factors associated with growth performance changes. Dietary crude fat content and content of the glucosinolate gluconapin that is most abundant in juncea CM was tightly associated with the reduced growth performance observed. In conclusion, substitution of SBM with juncea CM linearly reduced diet nutrient digestibility and growth performance of weaned pigs in a dose-response manner. The reduced growth performance was associated with increased dietary crude fat and the glucosinolate gluconapin but could also have been cause by an overestimated NE and SID amino acid content of juncea CM for young pigs.

**Key Words:** canola meal, performance, weaned pig