

Effect of Replacing Soybean Meal in Weaner Diets with Ground or Extruded Canola Seed and Peas on Pig Performance

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Raw ground peas have been successfully fed to weaned pigs at 20% of the diet by weight. Raw, cooked or extruded canola seed has been fed at levels as high as 30% with variable results. The present study investigated the effect of a dietary inclusion of a 25:75 mixture of canola seed and peas (peacanseed) on weaned pig performance. Eighty pigs, weaned at 4 week of age, were fed ground or extruded peacanseed at 0, 15 and 30% by weight in the diet to partially replace soybean meal. Each of the five treatment groups consisted of 4 pens with 4 pigs each. Diets were cold pelleted prior to feeding. Feed and water were always available. Pigs were weighed weekly. Feed usage was also monitored on a weekly basis. Average daily feed intake (ADFI), average daily gain (ADG) and feed efficiency (F/G) of pigs were compared among treatment groups for the 4 week post weaning experimental period. ADFI differed ($P=0.02$) among treatments with the control (765 g) and the 15% extruded (750 g) treatments being the highest followed by the 15% ground peas and the 30% ground peas treatments (660 g) while the 30% extruded was the lowest (628 g). ADG was highest ($P<0.01$) for the 15% extruded (554 g) and control (543 g) treatments followed by the 15% ground (477 g) and 30% extruded treatments (480 g) while 30% ground was the lowest (463 g). F/G was not affected by treatment ($P=0.15$). At 15% peacanseed level, extrusion produced a slight improvement in ADFI and ADG over the ground form. However, extrusion did not improve performance at the 30% inclusion level. These results indicate that a peas/canola seed mixture, containing 25% canola seed, can be successfully included in weaned pig diets at up to 15% and that extrusion improves performance slightly over the raw ground form.

Implications: It is preferable to heat treat canola seed before feeding to weaner pigs. Although feed intake was not affected at the 15% level of inclusion of the canola seed/peas mixture, daily gain is reduced. Therefore, this level of inclusion which contains 4% canola seed, should be the limit of inclusion of canola seed in weaner diets.