



## Concentrating Energy In Young Pig Diets

When considering including canola meal in your feeding program, how do you look at it? As a traditional supplemental protein source or as a novel feed energy source? In contrast to conventional canola meal that has had the oil solvent-extracted (only 2 - 3% fat), expeller- or extruded-pressed (10 -17% oil), or screw-pressed (15 – 20% oil) canola meal with residual oil content provides producers opportunities to dense up the energy in young pig rations and reduce feed cost.

Canola meal has long been considered a traditional protein source. Recent work conducted by Dr. Eduardo Beltranena at Alberta Agriculture and Rural Development and Dr. Ruurd Zijlstra at the University of Alberta in conjunction with Gowans Feed Consulting has looked at canola meal beyond replacing imported soybean meal in western Canadian pig diets. Expeller-, extruded or screw-pressed canola meal can be considered novel feed energy sources as their residual oil provides dietary energy at a lower cost per calorie than adding these calories from traditional feed fat sources.

### Expeller-Pressed Canola Meal Greater Value to Weaned Pigs

Results indicate that feeding increasing levels of expeller-pressed canola meal to weaned pigs although linearly reduced diet energy, dry matter, and crude protein digestibility due to increasing fibre content, it did not affect daily weight gain, feed efficiency, and nursery end pig weight.

Another study evaluated feeding expeller-pressed canola meal (18 and 22.5%) to hogs. Increasing expeller-pressed canola meal inclusions linearly reduced daily weight gain, feed disappearance, and feed:gain, but it did not affect carcass backfat or loin depth. Pushing meal inclusion at such levels merely delay achievement of slaughter weight by 3 days. Therefore, feed inclusion rates of expeller-pressed canola meal for hogs should be based on targeted growth performance and carcass weight.

### Feeding Extruded and Pressed Canola Meal

Extruded-pressed canola meal has similar oil content as expeller-pressed meal, but greater fat and amino acid digestibility. In another experiment, the researchers examined feeding low energy growout diets containing 7.5 or 15% extruded-pressed canola meal with and without a feed enzyme complex (Ronozyme VP™). The enzyme complex was expected to increase growth performance comparable to that of a high energy diet without enzymes fed to hogs in the same experiment.

Enzyme complex inclusion increased daily weight gain and feed:gain at the 7.5%, but not at 15% extruded-pressed canola meal inclusion. It appears that there was not sufficient enzyme at the 15% meal inclusion to show an improvement. Feeding extruded-pressed canola meal to hogs reduced carcass weight and dressing percentage by 0.5% points. As per feeding fibrous coproducts like dried distillers grains or millrun, feeding canola meal increased gut content and weight, so pigs should be taken to a slightly heavier live market weight (extra 2 kg) to result in the same carcass weight after evisceration.

One important fact to keep in mind is that small local plants, producing high-residual oil canola meal, main objective is producing bio-diesel and tend to purchase off-grade canola seed. Their raw material is therefore variable, and so is the colour and nutrient profile of the meal produced for animal feeding. There are no major issues feeding green canola, but heated seed can contain mycotoxins and other contaminants. Producers thus need to get to know their supplier and manage the feed risk.

### Benefit to the Producer

Producers can incorporate up to 20% screw-, expeller- or extruded-pressed canola meal as a replacement for feed fat, soybean meal, and some cereal grain. Payback of feeding these residual oil canola meals will be greatest for pigs in the energy dependant growth phase. That is the late nursery and grower periods when appetite still constrains growth. As prices of soybean meal, tallow and oil increase or remain high, greater feed cost reduction opportunities exist least-cost formulating residual oil canola meals in pig feeds.

#### Oilseed Co-Products as Alternative Ingredients

<http://www.prairieswine.com/oilseed-co-products-as-alternative-ingredients/>

#### Nutritional Value of Expeller-Pressed Canola Meal

<http://www.prairieswine.com/the-nutritional-value-of-expeller-pressed-canola-meal-for-grower-finisher-pigs/>

#### Effect of Feeding Solvent Extracted Canola Meal on Growth Performance

<http://www.prairieswine.com/the-effect-of-feeding-solvent-extracted-canola-meal-on-growth-performance-and-diet-nutrient-digestibility-in-weaned-pigs/>