

# Voluntary Feed Intake and Growth Performance between Grower Pigs Fed Diets Containing Mustard Meal or Canola Meal

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## Summary

A sample of either mustard meal (*Brassica juncea*) or regular canola meal was included at 15% in diets fed to grower pigs for 28 days. Pigs fed mustard meal tended to have a 5% better growth performance and had a 2.5%-unit better feed efficiency and an equal feed intake than pigs fed canola meal. Mustard meal might thus be a good opportunity ingredient with minimally a nutritional value equal as canola meal.

## Introduction

Mustard meal might be a valuable ingredient for the swine industry domestically and internationally. In some export markets, concerns exist regarding the voluntary feed intake of pigs fed mustard instead of canola meal in their diets. This study therefore compared two diets with either mustard meal or canola meal in the diet at a 15% inclu-

**Table 1.** Analyzed nutrient content of mustard and canola meal

Nutrient, % as fed	Mustard Meal	Canola Meal
Moisture	7.2	9.9
Ash	7.3	7.0
Crude Protein	42.4	39.0
Acid Detergent fibre	11.4	17.0
Neutral detergent fibre	18.8	27.8
Crude fibre	7.7	11.4
Crude fat	1.4	2.5



sion rate, which is an inclusion rate that should allow to assess if the feed intake concerns are indeed valid, or not and if growth performance differences exist.

## Experimental Procedures

A diet containing 15% canola meal was formulated based on 48% corn, 17% soybean meal and 15% wheat was formulated to 3.45 Mcal DE/kg and 2.60 g apparent digestible lysine/Mcal DE. Replacing canola meal 1:1 with mustard meal created a diet containing 15% mustard meal. The pelleted diets were each fed for 28 days to grower pigs housed 5 pigs per pen.

## Results and Discussion

The standard chemical characteristics of mustard meal and canola meal are listed in Table 1.

For each of the four weeks of the experiment, voluntary or average daily feed intake of the grower pigs increased gradually, and differences in voluntary feed intake were not observed between pigs fed mustard meal or canola meal (Table 2).

For the first three weeks of the experiment, average daily gain and feed efficiency did not differ statistically be-

tween pigs fed mustard meal or canola meal ( $P > 0.10$ ). However, pigs fed mustard meal grew 17% more and had a 6%-unit higher feed efficiency during the last week of the experiment ( $P < 0.05$ ), resulting in an overall tendency for pigs fed mustard meal to grow faster than pigs fed canola meal.

Based on these results for feed intake and gain, mustard meal had a higher content of digestible nutrients than canola meal.

**Table 2.** Voluntary feed intake and growth performance of grower pigs fed either mustard or canola meal

Variable	Mustard Meal	Canola Meal
Average daily fed intake (g/d)		
Day 1-7	1,744	1,780
Day 8-14	1,892	1,937
Day 15-21	1,960	1,979
Day 22-28	2,163	2,129
Total: Day 1-28	1,940	1,956
Average daily gain (g/d)		
Day 1-7	981	1,001
Day 8-14	861	872
Day 15-21	947	889
Day 22-28	964 <sup>a</sup>	825 <sup>b</sup>
Total: Day 1-28	939 <sup>A</sup>	897 <sup>B</sup>
Feed efficiency (%)		
Day 1-7	55.9	56.3
Day 8-14	45.4	44.9
Day 15-21	48.4	45.4
Day 22-28	44.6 <sup>a</sup>	38.8 <sup>b</sup>
Total: Day 1-28	48.5 <sup>a</sup>	46.0 <sup>b</sup>

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