

Carcass Characteristics and Meat Quality of Pigs Fed Diets Containing Peas and Canola Meal

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An experiment was carried out to evaluate carcass characteristics and meat quality of pigs fed wheat-based diets supplemented with soybean meal (SBM), peas, or a combination of peas and canola meal (peacan meal). A total of 72 pigs (36 barrows and 36 gilts) were allocated to the three dietary treatments starting at 50 kg live weight and fed to 110 kg. Following slaughter, carcasses were graded and cut out to determine carcass composition. Quality of the backfat was determined using a fat hardness meter. Muscle samples were collected for the evaluation of meat quality and sensory attributes (taste panel).

Dietary treatment had no effect on carcass grade, lean yield, relative proportions of the principal cuts, loin eye area or proportion of lean, fat and bone in the carcass. The peacan supplemented diet resulted in carcasses with softer fat ($P<0.05$) compared to the SBM supplemented diet, while the pea supplemented diet produced fat similar in hardness to the SBM diet. This may have been a reflection of different levels of canola oil added to make the diets equivalent in digestible energy. Regardless of source of supplementary protein, there were no differences in muscle color, water holding properties or tenderness of the loin eye muscle. The marbling fat content of loins derived from pigs fed the wheat-pea diet and the wheat-peacan diet was lower ($P<0.05$) than from pigs fed the SBM supplemented diet (1.47% and 1.58% compared to 1.84%, respectively). Loin muscle from pea fed pigs had a slightly higher ($P<0.05$) protein content compared to pigs fed SBM or peacan meal (22.4% compared to 22.1% and 22.0%, respectively).

Implications: This new data, pertaining to pigs of modern genetics and today's heavier slaughter weights will be valuable for assuring local and export markets that Canadian pork from pigs fed peas and/or canola meal is of equivalent quality to pigs fed soybean meal.