

## GROWTH PERFORMANCE, CARCASS CHARACTERISTICS AND MEAT QUALITY OF PIGS RECEIVING A DIETARY BETA-AGONIST

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Beta-agonists have been frequently shown to improve production and carcass characteristics of pigs (Peters 1989). However, little research has been reported on the quality of meat produced and most growth and carcass data have been collected on pigs which are generally not as lean as Canadian pigs. Therefore, the objective of this research was to evaluate growth and meat quality in lean, crossbred gilts and barrows receiving dietary Ractopamine.

Crossbred barrows and gilts ( $n=128$ ) were assigned to 1 of 4 treatments at 64 kg and fed a corn-soy pelleted diet, *ad libitum*, containing either 17.5% or 19.5% crude protein, and either 0 or 20 mg/L Ractopamine (RAC, Elanco Division, Eli Lilly Co) until slaughtered at 98 kg. Growth performance and carcass parameters were obtained. One-half of the carcass was separated into retail cuts with the bellies and ham undergoing curing and processing. Samples of loin, ham and bacon were examined for both raw and cooked meat quality and nutritional value.

Few interactions existed and there was little difference between animals due to dietary protein content and the expected differences between gilts and barrows were observed. RAC-fed pigs grew more quickly (0.90 v. 0.75 kg/day,  $P<0.01$ ), had a tendency to lower 10th rib fat thickness (20.8 v. 22.3 mm,  $P=0.08$ ) and a larger loin area (44.6 v. 40.6 mm,  $P<0.01$ ) than control pigs. Estimated lean yield, predicted from backfat and loin eye diameter using the standard grading equation, was 50.1 v. 49.3% ( $P<0.05$ ) for treated and untreated pigs, respectively. Nutritional value of the meat was improved by RAC feeding, as measured by decreased fat (43.2 v. 50.5% of DM.) and cholesterol concentrations (43.4 v. 47.5 mg/100 g,  $P<0.01$ ) in the raw loin. Fat and cholesterol concentrations were similarly lower for gilts than for barrows ( $P<0.01$ ). Cured and cooked hams from RAC-treated pigs had a higher processing yield (99.6 v. 96.4%,  $P<0.01$ ) while bellies of RAC-treated pigs produced leaner bacon ( $P<0.01$ ) without it being thinner ( $P>0.05$ ).

RAC treatment resulted in tougher meat as determined by Warner-Bratzler shear (4.72 v. 4.22 kg,  $P<0.05$ ) and fragmentation index (822 v. 672,  $P<0.01$ ) of the loin. Generally, the laboratory measurements of eating quality characteristics of the meat showed that the differences due to RAC treatment were often similar in magnitude to those due to sex. Therefore, these differences are not considered to be large enough to adversely affect the eating quality of pork.

PETERS, A. R. (1989). *Vet. Rec.* 124: 417.