

Response to feeding 5 ppm ractopamine to finisher swine: Pork quality

Z. Pietrasik¹, P. Shand¹, A.D. Beaulieu², P. Leterme²,
J. Merrill³ and J.F. Patience²

¹University of Saskatchewan, Dept Applied Microbiology & Food Science, 51 Campus Dr, Saskatoon, SK S7N 5A8; ²Prairie Swine Centre Inc., Saskatoon, SK; ³Elanco Animal Health, Guelph, ON; *Email*: zeb.pietrasik@usask.ca

Ractopamine-HCl (ractopamine) consistently shows benefits in growth performance and carcass composition. Its effects on pork quality are less clearly defined. An experiment was undertaken to evaluate the impact of feeding ractopamine for 28 days on pork quality, composition and sensory attributes. Eight pens of barrows and 8 pens of gilts received a control (CTL) diet (3.3 Mcal DE/kg; 0.63% TID lysine); an equal number of pens received a treatment (RAC-Lys) diet (3.3 Mcal DE/kg; 0.83% TID lysine; 5 ppm ractopamine), providing 136 barrows and 132 gilts per treatment (initial weight 86.1 kg). Two pigs from each CTL and each RAC-Lys pen, closest to the mean weight for that pen, were selected on day 28 for detailed pork quality evaluation. Loins were harvested one day post-slaughter in a commercial packing plant and cut into one inch chops for measurement of drip loss, subjective color scores, proximate composition, sensory evaluation and Warner-Bratzler shear force (WBSF). To evaluate the effect of enhancement, a portion of the loin was injected to 110% over the raw meat weight with brine (0.4% NaCl; 0.3% sodium tripolyphosphate). RAC-Lys had no effect on pH or on the CIE L* color score ($P>0.10$); both CIE a* and b* values were slightly reduced ($P<0.05$). RAC-Lys had no effect on Canadian, American or Japanese subjective color score systems, on purge losses or on cooking losses in either non-injected or enhanced loin samples ($P>0.10$). RAC-Lys increased the WBSF (64.9 vs. 72.8 N; $P<0.05$). There was no effect of RAC-Lys on juiciness, flavour desirability or overall acceptability in non-injected or enhanced loin chops ($P>0.10$). RAC-Lys reduced initial tenderness slightly, from 5.6 to 5.2 in non-injected loin chops and from 6.8 to 6.4 in enhanced loin chops ($P<0.05$).

Implications: The inclusion of 5 ppm ractopamine with added lysine in the diet of finishing pigs will not markedly affect eating quality of pork. In this experiment, tenderness was slightly decreased, while other sensory attributes were unaffected.