

Response to feeding 5 ppm ractopamine to finisher swine: Performance and carcass quality

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Ractopamine-HCl (ractopamine) was recently registered for use in Canada, with a recommended diet inclusion level of 5 ppm for an average of 28 days prior to market. Grading methods and standards differ in Canada, so an experiment was undertaken to evaluate the impact of 5 ppm ractopamine on weekly and overall performance and on carcass quality using the Maple Leaf Foods Signature grading grid. 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). Pigs were marketed when they reached a minimum of 116 kg resulting in an average live market weight of 118.3 kg and average dressed weight of 94.4 kg. RAC-Lys increased overall average daily gain from 1.08 kg/d to 1.22 kg/d ($P < 0.001$) and gain:feed from 0.32 to 0.36 ($P < 0.001$). Feed intake was unaffected by dietary treatment ($P > 0.10$). RAC-Lys pigs reached market 3.6 days sooner than controls (26.5 vs. 30.1; $P < 0.05$). Irrespective of week marketed, RAC-Lys pigs grew faster than controls; however, the response to RAC-Lys was greater in magnitude when pigs were marketed within 4 weeks of treatment initiation. RAC-Lys reduced backfat thickness from 20.3 mm to 18.5 mm in barrows ($P < 0.05$) but had no effect in gilts ($P > 0.10$; 15.8 vs 15.6 mm for control and RAC-Lys respectively). RAC-Lys increased loin thickness from 68.3 to 70.8 mm ($P < 0.05$).

Implications:

A diet with ractopamine at 5 ppm plus added lysine resulted in increased rate and efficiency of gain and loin thickness. Although the response to the RAC-Lys treatment was most effective in faster growing pigs, a positive response was also elicited in slower growing pigs.