

5A-107: Dietary Ractopamine supplementation to improve the productivity of sows

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Aims and Objectives

Previous pilot studies demonstrated that dietary ractopamine (RAC) supplementation of lactation diets for first litter sows reduced weight loss, decreased anoestrus rates post-weaning by 20% and resulted in a 1.4 increase in the number of piglets born alive at the second farrowing. Two comprehensive commercial studies were conducted in this Project to extend the knowledge about RAC supplementation of lactation diets and to determine whether RAC supplementation of lactation diets may offer an economic response.

Key Findings

Almost 800 sows first litter sows were allocated to three treatments. The treatments were; Control (0 ppm RAC during lactation), RACD2W (20 ppm RAC from day 2 of lactation to weaning), and RAC10W (20 ppm RAC from day 10 lactation to weaning). An additional study using a total of 464 first litter sows examined similar treatments, but with a RAC dose of 5 ppm instead of 20 ppm.

Both studies demonstrated that RAC supplementation during lactation, regardless of the supplemental dose, duration and timing relative to farrowing significantly reduced sow weight loss by between 3 and 7 kg during lactation. Despite these changes in body weight loss, there was no effect of RAC supplementation on piglet performance during lactation or subsequent reproduction performance of the sows.

The failure of RAC supplementation to improve subsequent reproductive performance may be attributed to the relatively low weight loss during lactation and excellent reproductive performance of first litter sows within this herd. The average live weight of sows after their first farrowing was in excess of 200 kg and 190 kg in the two studies, respectively. Furthermore, the minimal sow weight loss during lactation indicates relatively high feed intakes during lactation. Consequently, across all treatments, over 85% and 93% of sows exhibited oestrus within 7 days of weaning in the two studies.

Application to Industry

Ractopamine (RAC) supplementation of lactating sow diets may reduce bodyweight loss during lactation. However, where voluntary feed intake during lactation is relatively high and weight loss in first litter sows is limited, RAC supplementation had no significant effect on lactation or reproductive performance of first litter sows.

Supplementation of lactation diets with RAC may be a useful strategy to reduce lactation weight loss and improve subsequent reproduction within herds with a problem of high lactation weight loss, particularly in first litter sows. However there are likely to be other more easily implemented strategies that should be explored to improve voluntary feed intake during lactation, body condition at first farrowing and the consequent reproductive performance.