1C-111: ***Effect of group housing after weaning on sow welfare and sexual behaviour***

Project Leader Jean-Loup Rault

Project Participants Paul Hemsworth, R. Morrison, A. Tilbrook, C. Hansen

Aims and Objectives

This project compared the effects of grouping sows after weaning or after insemination on sexual behaviour, aggression, injuries, stress and reproductive performance. On the day of weaning, 360 sows were either housed in groups of 10 sows at 4.4 m^2 per sow (18 groups) or kept in individual stalls (18 groups in each of 10 sows in individual stalls). Within two days after insemination, a cohort of sows were moved to groups of 7 sows at 2.1 m^2 per sow, grouping those sows from stalls and keeping familiar groups of sows that had been grouped at weaning.

Key Findings

Group-weaned sows showed no difference in the wean to first insemination interval within 5 days of weaning, the onset of oestrus or the length of oestrus compared to stall-housed sows. However, 7% less group-weaned sows were inseminated within 5 days of weaning, and the sexual receptivity test revealed that group-weaned sows were less receptive than stall-housed sows, showing less spontaneous standing during boar exposure and partly compensating by showing a greater response to the back-pressure test in presence of the boar.

Group-weaned sows also showed greater variability in insemination rate, with 3 out of 18 pens retaining only 5 sows out of 10 after day 7. Mixing after weaning resulted in higher levels of stress than mixing after insemination, based on cortisol concentration and aggression, and group-weaned sows lost an average 2.8 kg while the body weight of stall-housed sows remained stable during this first week post-weaning. No treatment effects were found on reproductive variables (conception rate, return rate, farrowing rate, total piglets, born and born alive, and culling rate), but a larger sample size is required to sufficient power to test these effects.

Application to Industry

Sows housed in groups at weaning experienced higher stress than sows housed in individual stalls at weaning and housed in groups after insemination.

Although group-weaned and stall-housed sows performed equally well overall, the greater variability in performance such as insemination rate between pens of group-weaned sows may reduce the predictability of this system.

A possible lower sexual receptivity in group-housed weaned sows also emphasizes the importance of appropriate and sensitive oestrus detection protocols in group-weaning systems.

Research on a larger sample size is needed to assess whether group-weaning affects farrowing performance, particularly between-batch variability and therefore could result in under-use of housing facilities and economic losses for pork producers. This study was performed using what may be considered close to best practice of weaning sows into group. Therefore results could be sub-optimal in other settings (e.g. mixed parity, dynamic grouping, no sow protection at feeding, restricted feed post-weaning, etc.).