Australian Government
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Pork CRC
CRC for High Integrity Australian Pork

1A-105: *Developing commercially-viable, confinement-free farrowing and lactation systems* Part 2: Utilising confinement-free systems to maximise economic performance – 'Two-stage' farrowing and lactation system.

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Aims and Objectives

The aim of this experiment was to investigate sow performance, sow welfare, piglet survival and growth and the incidence of lactational oestrus in a 'two-stage' farrowing and lactation system under Australian conditions.

Key Findings

- There was no significant difference in the piglet survival (over the whole farrowing and lactation period), number of piglets weaned and sow growth between housing systems. However, piglet growth rate and weaning weight was reduced and a higher percentage of pigs died (mainly due to being unthrifty) after being mixed into the group lactation system, which may be attributed to cross suckling, increased socialisation and activity, increased risk of being overlain by sows in the group and perhaps reduced sow feed intake.
- Further research is required to assess piglet survival, long-term implications of this growth-check and piglet welfare pre and post-weaning from group lactation systems.
- There was a trend for higher piglet mortality in the PigSAFE system which supports the need for further development of these loose farrowing systems under Australian conditions. The majority of piglet deaths in all housing systems occurred within the first two days post-partum.
- Sows moved from the PigSAFE pens to a group lactation system had less fresh injuries (resulting from aggression), lower salivary cortisol one day after grouping and suckled their litter quicker than sows introduced to the group lactation pen from a farrowing crate 14 days prior to weaning. It is speculated that sows were familiar with each other (through the design of PigSAFE pen) and had more opportunity to bond with their piglets previously. There appear to be benefits of mixing familiar animals into group lactation systems.
- Spontaneous lactational oestrus occurred in all housing treatments. Approximately 9% of sows in the farrowing crate treatment and 27% of sows in the PigSAFE and group lactation treatments experienced lactational oestrus. However, these levels are not sufficient to enable producers to exploit the possible advantages of mating during lactation. A target level of 85% incidence of lactational oestrus is required in the herd before being able to be adopted as a viable alternate production system. It is speculated that the ability of sow to naturally regulate nursing behaviour and wean piglets by avoidance in loose farrowing and group lactation environment may be implicated.

Application to Industry

The 'two-stage' system has shown promise, however further research is required to better understand piglet survival, growth and welfare in group lactation systems.

There appear to be benefits when familiar sows are mixed into group lactation systems.

A higher incidence of lactational oestrus naturally occurs in loose farrowing and lactation systems.

If a 'two-step' system is further developed and lactational oestrus is viable to implement in such a system, then further research to induce lactational oestrus (i.e. piglet separation and boar exposure in group lactation) in the group pen situation is required.

If mating during lactation is not desired by the pork producer, then producers need to be aware of, and manage, extended wean-to-remate intervals in a proportion of the sows and management strategies may need to be implemented to reduce the risks associated with sows showing signs of lactational oestrus in loose farrowing and lactation systems.