

1A-105: Developing commercially-viable, confinement-free farrowing and lactation systems Part 1: The PigSAFE system.

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Project Participants

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Aims and Objectives

The use of farrowing crates can improve the welfare of neonatal pigs by providing warmth and limit the risk that piglets become chilled and die from either starvation or being overlain by the sow. Farrowing crates and the lack of straw bedding, however, restrict the ability of the sow to move around and perform “normal” pre-farrowing behaviours such as nest-site selection, nest-building activity and bonding with the piglets, and thus have been criticised on welfare grounds. Recently loose farrowing pens have been developed with specific farrowing pen design criteria to meet those biological needs of the sow and piglet and the needs of the stockperson. Two of these farrowing pens are the PigSAFE and UMB farrowing pens. The objective of this component of the project was to assess the PigSAFE loose farrowing system compared to a farrowing crate system under Australian conditions. The other part of this project is investigating UMB farrowing pens and a two-stage farrowing systems (PigSAFE farrowing pen to group housing of sows during lactation).

Key Findings

- Piglet survival and number of piglets weaned per sow in the PigSAFE system were comparable to a farrowing crate system under Australian conditions. The majority of piglet deaths in the PigSAFE and farrowing crate system were caused by being overlain by the sow and occurred within 2 days post-partum, regardless of season.
- There was a tendency for piglets to grow faster in the PigSAFE system. Piglet growth may be improved further in the PigSAFE system if creep feeding can be provided.
- Sows in the PigSAFE system tended to eat more in lactation.
- Sows in the PigSAFE system had a better locomotion score and ease of movement score at weaning, compared to sows in farrowing crates.
- The PigSAFE system met the “biological needs” of the sow. The sows were not constrained at all, they were able to move around, the majority of sows exhibited maternal behaviours such as nest building and the sows were able to farrow in an isolated nest area. The current nest design in the PigSAFE pen was successful at promoting at least 90% of the sows to farrow in the designated nest area, regardless of season.
- In the PigSAFE system, piglets and sows spent significantly more time in the dunging area over summer, compared to winter, and as a result piglets were more like to get overlaid in this area. Further research is required to investigate pen modifications that discourage piglets from spending substantial time in the dunging area and/or protect them while they are in the dunging area and thus reduce the risk of piglets being overlain, particularly during summer.

Application to Industry

- The PigSAFE loose farrowing system meets the biological needs of the sow.
- Piglet survival was comparable to farrowing crate system under Australian conditions.
- Due to higher construction costs of the PigSAFE system, piglet survival (or other factors such as piglet growth rate, sow performance etc) will need to improve to increase the commercial viability of the PigSAFE system.
- During the experiment, new management routines were developed and the stockpeople became more confident and skilled working in the PigSAFE system.