



**Project Number & Title:** 1C-114 - REDUCING SOW STRESS AROUND FARROWING

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**Aims and Objectives**

Throughout these experiments we aimed to gain a greater understanding about: how confinement affects the behaviour and potential stress of sows at farrowing; how confinement prior to farrowing and the provision of nesting materials impacts sow performance as well as piglet survival; how the provision of a synthetic olfactory agonist diffuser block in the farrowing crate can reduce sow anxiety and improve piglet performance and; how the use of dietary magnesium in a lactation diet could reduce behavioural indicators of sow stress during farrowing and reduce cortisol levels. The objectives were to positively affect sow welfare whilst in the farrowing crate and improve piglet survival, especially in first few days of age.

**Key Findings**

Providing sows with the freedom of movement in a 360° farrowing crate in the lead up to and during parturition did not negatively affect piglet mortality and altered some of the sows pre-farrow behaviours. Providing sows with nesting materials (straw and hessian sacks) during the pre-farrow stage stimulated sows to perform nest building behaviours. Additionally, the use of straw in the conventional farrowing crate improved post-natal mortality. The use of straw in the farrowing crate is however problematic in that it may block effluent pits which, the use of an inexpensive hessian sack avoids and enabled the sow to exhibit nesting behaviour.

**Application to Industry**

As a result of the outcomes in this study the following recommendations are made:

- Sows housed in farrowing crates with the ability to turn around in the periods leading up to farrowing and during farrowing did not negatively impact piglet survival and positively affected some sow behaviours. Therefore sows can farrow unconfined during this critical period however, close supervision throughout farrowing is recommended to ensure piglet survival is not negatively impacted.
- Sows provided with either straw or hessian sacks pre-farrowing allowed sows to exhibit natural nest building behaviours. The use of straw in the conventional farrowing crate decreased piglet mortality pre- and post-fostering. However, the use of straw can block effluent pits easily whereas the use of the hessian sack could not. Therefore the use of a hessian sack during these critical times is a cost-effective and easy strategy to implement for positive sow welfare advantages.
- The use of the synthetic olfactory agonist in the farrowing crate did not influence sow cortisol levels in response to a snout rope test nor did it effect piglet mortality rates and production. The use of a synthetic olfactory agonist in the farrowing crate is not recommended.
- The use of two diets with increased magnesium levels prior to and post-farrowing did not impact sow cortisol levels, farrowing or piglet performance. Whilst small differences were seen in mortality prior to fostering, the addition of two magnesium sources fed to sows during the transition phase from gestation to lactation did little to impact sow welfare. As a result of these outcomes it is not recommended that increased magnesium levels be included in pre- and post-farrowing diets.