

Summary: Free Farrowing Systems

The Problem



Farrowing crates, metal crates used to restrain breeding pigs (sows) around giving birth to prevent piglets being crushed, come under pressure to be discontinued due to confinement and barren environments for sows and piglets. The two main types of commercial farrowing system, the indoor farrowing crate or outdoor arks, are extreme opposites for sow freedom, provision of substrate material provided and control over the environment. Few sows are kept outdoors (25% in UK, <1% in France), despite similar reported levels of piglet mortality. Early studies of indoor free-farrowing systems found that mortality was higher in these systems than farrowing crates. However, recent findings from new improved designs, such as the 'PigSAFE' and '360° Farrower', have shown that with appropriate management there can be no difference in piglet mortality.

The Solution

Indoor, commercially viable alternatives and an attitudinal shift to management are required for successful transition away from farrowing crates. Producers should consider the following key design and management factors to maximise piglet survival and improve sow and piglet welfare.

Providing nest building material



Sows have an inbuilt need to nest-build. Once nest-building is completed, this triggers inactivity in preparation for birth. In farrowing crates, this motivation is frustrated because suitable nesting materials are often not provided and sow movement is restricted. Preventing nest-building reduces levels of the hormone oxytocin (important for maternal behaviour), increases the length of parturition (giving birth), and results in more stillbirths and delays to release of colostrum (the nutritious first milk). Providing long straw in free-farrowing systems (a minimum of 2kg) satisfies the motivation for nest-building, improves comfort and creates a more stimulating environment for sows and piglets.

Maximising maternal behaviour



Maternal behaviour has a large effect on piglet survival. The right physical and thermal environment for the sow is key, and selecting sows for maternal behaviour will be important in the future. In comparison to farrowing crates, sows in loose farrowing pens are more reactive to distress calls from piglets and provide better nursing; giving their piglets the best chances of survival and a better start to life.

Providing a suitable thermal environment

Providing the right thermal environment in the first 48-72 hours after birth is essential for piglet survival. Sows regulate piglets' temperature by adapting the volume of bedding in the nest to suit environmental conditions. In indoor free farrowing systems, heated floors and heat lamps in a creep (a separate area for piglets) can be used to reduce mortality. Deep bedding (10-12cm) is recommended for parturition, which can be reduced later on. As lactation continues, a cool floor is needed for sow comfort.



Providing solid flooring

Fully slatted floors can increase injuries, lameness, incidence of Mastitis-Metritis-Agalactia syndrome (MMA), piglet mortality and are less preferred by sows. Providing solid floors is therefore recommended in the nest area, with a slatted floor (<10mm void width, with rounded edges) in the dunging area for hygiene.

Providing adequate space



Insufficient space in the farrowing area is a major factor inhibiting maternal behaviour. Based on allometric equations, (which calculate space based on bodyweight), pens should be 9.75m² to provide adequate space for a nest, a separate feed and creep area, and for suckling piglets to grow.

Summary of other important farrowing aspects

Sows prefer nest sites inside or against a solid wall. Providing sloping walls on each wall give the sow support to lie down carefully and are preferred to farrowing rails. Piglets can also lie between the slope and vertical wall for protection. Mixing multiple sows and their piglets during lactation is best avoided. Providing environmental resources for piglets including foraging materials (e.g. straw, peat) can reduce aggression and belly nosing. An

upward-angled nipple drinker should be provided in the slatted drinking area.