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GROUP FARROWING IN LOW-COST SHELTERS

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Several group-farrowing systems that attempt to meet the behavioural needs of sows around parturition have been developed in response to welfare concerns associated with the use of farrowing crates (Pedersen *et al*. 1998). However, all require more floor area than crate farrowing systems. This study investigated the use of a Swedish group-farrowing model in a low-cost farrowing shelter (FS) to reduce the capital cost of providing increased space per sow place.

The FS (25.2 m L x 9.1 m W x 4.0 m H) comprised of a steel frame covered with white woven polyethelene, with roll-up curtains suspended above concrete panels on the sides and mesh gates on the ends. The floor was deep-litter (barley straw) on a concrete base with a raised feeding platform (FP) formed across the centre of the FS. The FS was divided across the FP into two identical pens (10.8 m x 9.1 m) each holding up to 10 sows and provided with four wet/dry feeders, a water trough and piglet creep area positioned on the FP. De-mountable plywood farrowing cubicles (FCs) (2.4 m x 1.8 m x 1.2 m) with an entrance 0.45 m above floor level in the front of the FC were positioned in rows of five on opposite sides of the pen. Two groups of 20 PIC® Camborough 22 gilts were used in a batch farrowing program that operated for five to six parities. Groups of sows, scheduled to farrow within seven days, were moved into the FS two days before the first sow was due to farrow, and allowed unrestricted access to a lactating sow diet. The majority of sows either voluntarily selected or were coaxed into FCs prior to farrowing. Sows that farrowed in communal areas were moved with their litters into FCs at the first opportunity, and confined for a short time until settled. The FCs were removed after ten to 14 days, allowing sows and piglets to mix freely. Creep feed and milk substitute offered in the communal creep areas from 14 days pre- to seven days post-weaning. Weaning was achieved by removing the sows and leaving piglets in situ until nine to ten weeks of age.

Table 1. Sow and litter performance in a group farrowing system.

Number of litters	163	Birth weight (kg)	1.6
Pigs born alive per litter	10.6	Weaning age (d)	29
Stillbirth rate (%)	5.0	Weaning weight (kg)	8.5
Pigs weaned per litter	7.6	Age moved from shelter (d)	69
Pre-weaning mortality (PWM) (%)	28.4	Weight at 69 days (kg)	31.6

While the number of pigs born alive, stillbirth rate, weaning and weight at ten weeks met industry targets, PWM was unacceptably high but consistent with other studies (Pedersen *et al*. 1998). Approximately 55% of deaths occurred within 72 hours of birth, of which 77% were classified as overlays, although the proportion due to pre-existing conditions was not determined. Piglets of low birth weight, from large litters, and from litters farrowed in communal areas were particularly vulnerable. High feed intakes following unrestricted access to feed prior to farrowing may have induced undetected Mastitis-Metritis-Agalactia in some sows, perhaps adversely affecting PWM.

Pre-weaning mortality tended to be higher in batches that farrowed in summer compared to other seasons (32.4% vs 23.9%, P=0.127). Some sows were reluctant to occupy FCs in hot weather, preferring to form unhygienic wallows in the deep-litter below spray cooling nozzles provided over communal areas, indicating that deep-litter may not be appropriate for lactating sows in warm climates. However, the high PWM experienced appeared to be a consequence of group-housing of farrowing sows, rather than environmental conditions or the type of structure used. Although the system investigated appeared to meet many of the behavioural needs of sows around parturition, and provided a low-stress environment for piglets at weaning, any welfare benefits from farrowing sows in an enriched environment were achieved at the expense of piglet survival.

PEDERSEN, B.K., JENSEN, K.H. and NIELSEN, N.P. (1998). *Proc. 15th Int. Pig Vet. Soc. Congr.*, Birmingham, England, pp 273-280.

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