

Assessment of the Group Housing System at the Arkell Swine Research Station

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Background

In 2000, one of two gestation rooms at the Arkell Swine Research Station was converted from standard dry sow stalls to a group housing facility with floor feeding. The room had contained 3 rows of 36 stalls with four alleyways. The new floor plan eliminated all alleyways, but was used to house the same number of sows. Therefore, the system was operated at a floor space allowance of 32-35 ft²/sow. Increasing the stocking rate to achieve a floor space allowance of 25 ft²/sow would make the system more economical for commercial application, but any effect on the performance or welfare of the sows was not known. Groups were mixed after 35 days post-mating and sows had been confirmed pregnant. Group sizes ranged from 11-31 sows.

Objectives

- To compare performance of sows in static groups in the Arkell system at 25, 30 and 35 ft²/sow and in gestation stalls.

Results

Data from Multiparous Sows	25 ft ²	30 ft ²	35 ft ²	Stall
# of groups	4	5	6	-
Total # of sows	88	77	82	78
# Born alive	10.5 ± 0.1	10.3 ± 0.3	10.2 ± 0.5	9.6 ± 0.3**
# Mummy	0.3 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	1.4 ± 0.2
# Stillborn	1.0 ± 0.1	0.9 ± 0.1	1.2 ± 0.1	0.4 ± 0.1
Birth weight (kg/piglet)	1.6 ± 0.01	1.6 ± 0.04	1.6 ± 0.03	1.5 ± 0.03**

**The mean of the groups was different from the population mean of stalled sows ($P < 0.05$)

- 42.3%, 29.8% and 31.2% of the sows had multiple skin scratches on the day after mixing when housed at 25, 30 and 35 ft²/sow ($P > 0.1$). After two weeks, most wounds had healed, and for the remainder of gestation, fewer than 5% had multiple scratches.
- Body condition was not affected by group housing at any of the space allowances ($P > 0.1$), but the herd tends to be over-conditioned (avg. body condition score ~3.5/5).

Take-home message

- Housing sows in groups versus stalls in the Arkell system does not compromise farrowing performance or affect body condition.
- Nearly 1/3 of the sows have multiple shoulder scratches from fighting when groups are formed, but the shoulder scratches are a short-term consequence of group-housing.

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