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Floor slat direction related to severity of superficial claw lesions in gestating pigs, but not reproductive performance or behavior

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Introduction and Objectives

Claw lesions in female pigs could be related to lameness (Anil et al., 2007), and potentially raise concerns about animal well-being on commercial farms due to the pain. Additionally, slatted concrete floors in gestation are considered to be a major factor for claw lesions (Kornegay et al., 1990).

The objectives of the present study were to compare the occurrence of claw lesions, behavior and reproductive performance of gestating pigs on either parallel or perpendicular slatted floors.

Materials and Methods

A farrow-to-finish farm that used PigCHAMP recording system (PigCHAMP®, Inc., Ames, IA, U.S.A.) was visited three times in 2008 to observe hind claw lesions and behavior in stalled females. All females were housed in a gestation barn with stalls fitted with concrete floor slats either parallel to an animal (PRL, Fig 1) or perpendicular (PPD, Fig 2).

Lesions were scored with a five-point score method (0, 1, 2, 3 or 4) for each of the seven claw areas [wall, heel (including overgrown heel), white line, junction between heel and sole, sole and toe] in each female's four hind claws (Anil et al., 2007).

Two claw lesion scores were calculated:

1. Total score for each claw area was the sum of that area's scores for the 4 hind claws
2. The highest claw lesion score (HCLS) for each area was the highest score recorded for each pig.

Relative frequency (%) of postural behavior (lying, standing or sitting) and stereotypies (vacuum chewing, drinker playing or bar biting) were recorded by point sampling at 15-minute intervals over a six hour period. All statistical analyses were done with SAS (SAS Inst. Inc., Cary, NC, U.S.A.).

Results and Discussion

Females on the PPD floor had higher heel area total scores than those on the PRL floor (2.7 $\pm$ 0.22 vs. 2.0 $\pm$ 0.18; $P < 0.05$).

Also, females on the PPD floor had higher proportions of HCLS $\geq$ 1 in wall and heel areas than those on the PRL floor (34.4 $\pm$ 5.98 vs. 16.2 $\pm$ 3.72%; 90.6 $\pm$ 3.67 vs. 75.8 $\pm$ 4.33%; $P < 0.05$). However, no differences were found for proportions of females with HCLS $\geq$ 2 and $\geq$ 3 in any hind claw area ($P > 0.10$).

Furthermore, there were no differences in postural behavior, stereotypies, or reproductive performance indicators (e.g. numbers of total pigs born, pigs born alive and pigs born dead) between PRL and PPD floors ($P > 0.10$).

Therefore, these results indicate that while PPD floor slats tended to increase lesion scores, it was not severe enough to related to reproductive performance or behavior in gestating pigs.

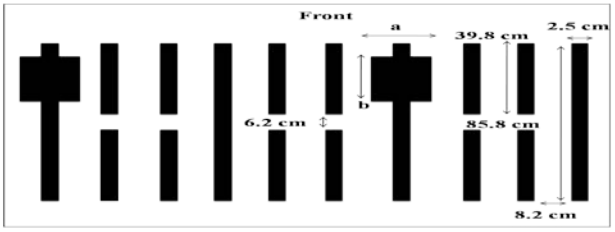

Fig 1. Parallel slatted floor design

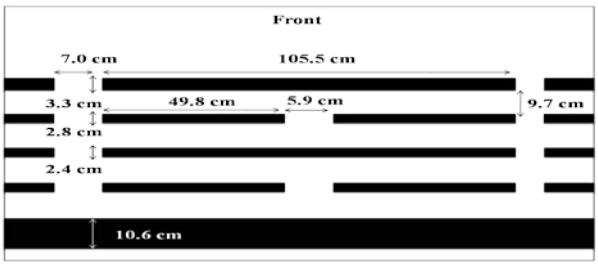

Fig 2. Perpendicular slatted floor design

References

Anil et al. 2007. J. Swine Health Prod. 15 (2): 78–83.

Kornegay et al. 1990. Appl. Agric. Res., 5: 327–334.