# The effect of flooring on skin lesions and lying behaviour of sows in farrowing crates

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## Background

- Farrowing crates under review in the EU because of concerns for sow welfare
- No viable loose farrowing systems yet available
- Possible to improve sow welfare in farrowing crates through modifications to housing and management practices?

## Objective

To evaluate slatted flooring options for farrowing crates in terms of limb lesions and lying behaviour of sows

## Materials and methods

### Animals and housing

- 72 multiparous sows introduced to farrowing crates @ d110 pregnancy in 9 replicates
- 4 flooring treatments:
  - Slatted steel (SS), n=19 (Fig. 1)
  - Slatted steel with checker plate panel (CP), n=18 (Fig. 2)
  - Expanded cast iron (CI), n=18 (Fig. 3)
  - Plastic coated expanded metal (PL), n=17 (Fig. 4)

### Measurement

- Behaviour of 10 sows/treatment recorded on video for 3hrs after sows entered the crates
  - Latency to lie (secs)
  - Time taken to go from lowering the knees to sternal recumbency (secs)
  - Abnormal lying e.g. lower hind instead of lower knees
- Limb lesions
  - Skin inspections on -6,-5, 1, 1, 8, 15, 21 and 27 days relative to farrowing (d0)
  - Lesions scored from 0 to 6 according to severity as per Boyle *et al.* (2000)

Statistics: Data were analysed by non-parametric tests using the NPar1Way procedure in SAS

Fig. 1

Fig. 2

Fig. 3

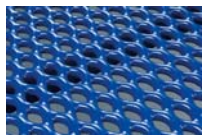
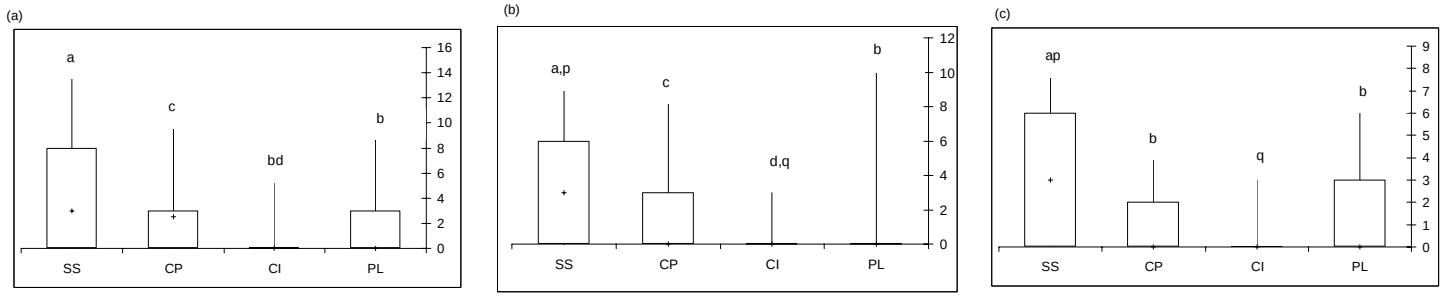


Fig. 4

## Results

**Figure 5. Box plots of the hind limb lesion score data from sows on slatted steel (SS); SS with checker plate panel (CP); cast iron (CI) and plastic coated expanded metal (PL) flooring in farrowing crates on days 8 (a), 15 (b) and 21 (C ) post-partum**




abcd P<0.05; pq P<0.01; xy P<0.001

- Sows on slatted steel had higher hind limb lesion scores than CI and PL sows on days 8, 15 and 21 and than CP sows on day 21
- Sows on slatted steel with a checker plate panel had higher hind limb lesion scores than CI sows on days 8 and 15
- Sows took on average 22 mins 51secs to lie down after entering the crate and 23 secs to go from lowering the knees to sternal recumbency
- There were no treatment effects on lying behaviour however, sows on plastic coated expanded metal had the shortest latency to lie (15min 13secs) and the fastest lying times (17 secs) (P>0.05)
- Of the 40 sows observed, 4 (10%) adopted abnormal lying sequences, 2 (5%) were still standing 3 hours after entering the farrowing crate and 2 (5%) had at least one failed attempt to lie before lying successfully

## Conclusions

- Sows can have difficulty lying down in crates and flooring influences this behaviour
- Slatted steel was the most injurious while cast iron was the least injurious flooring option

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