

Does environmental background (intensive-raised vs. outdoor-raised) influence the behaviour of piglets at weaning?

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Aims and Objectives The rearing environment in early life has been shown to affect behavioural development, which consequently modifies behavioural response of pigs to stressful environments in later stages of production. In the intensive pig husbandry, pigs are often predominately housed in stimulus-poor environments, where opportunities for expression of species-specific behaviour (rooting, exploring or wallowing) are limited. By contrast, outdoor pigs are able to explore environments and forage, and are able to move away from aggressive conspecifics.

We investigated whether housing during rearing influenced their behavioural responses of piglets to novel challenges on the day of weaning. We used quantitative (time budget analyses) and qualitative (behavioural expressions of these animals scored using Qualitative Behavioural Assessment; QBA) measures to compare the behaviour of 30 outdoor-raised and 30 farrowing shed-raised piglets filmed in an experimental arena (a novel arena test) and exposed to four challenges (each for 5 minutes) on the day of weaning.

Key Findings

Both outdoor-raised and farrowing shed-raised piglets spent a greater proportion of their time investigating their environment (straw, ball and food bowl), vocalising, jumping and sitting during the start of the experiment (the piglets were held in isolation for the first three challenges, total 15-minute duration), but demonstrated calmer behaviour in the presence of another piglet (less jumping and vocalising; more time eating and interacting with the arena walls).

During the first challenge (isolation), outdoor-raised piglets spent a greater proportion of time eating and jumping although there were no quantifiable differences in behavioural expression. For the second challenge (exposure to a novel object - a plastic ball), farrowing shed-raised piglets interacted with the ball more and scored higher on terms such as 'playful' and 'active' while outdoor-raised piglets were scored as more 'calm' and 'cautious' (QBA). When a food bowl was introduced (the third challenge), outdoor-raised piglets spent more time eating the creep feed than farrowing shed-raised piglets, which were more interested in playing with the food bowl itself. Outdoor-raised piglets were scored as more 'calm' and 'passive' while farrowing shed-raised piglets were scored as more 'curious' and 'inquisitive'.

Lastly, there were no significant differences in social behaviour (the fourth challenge - social interaction with another piglet) between outdoor-raised and farrowing shed-raised piglets in terms of the amount of time recorded engaged in aggressive/non-aggressive social interactions or QBA scores; but in the presence of a companion, outdoor-raised piglets ate more while farrowing shed-raised piglets spend more time investigating their environment. Although piglets spent 30% of their time interacting with the other piglet when it was introduced into the arena and half of this time (47%) was engaged in negative interactions (pushing, biting), the levels of aggression were not different between the two groups.

Application to Industry

In conclusion, this study demonstrated that piglets reared in outdoor and farrowing systems differ in their behavioural responses to isolation (novel arena test), interacting with a ball (novel object) and being provided with food, but they did not differ in terms of their social interactions.

One of the concerns for the pork industry is that housing can detrimentally influence behaviour. However, we did not find any difference in the levels of aggression expressed by piglets reared under indoor (farrowing) or outdoor facilities towards another piglet.