

Can feeding stalls be used by low ranking sows as hiding spaces at mixing?

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The welfare of low ranking sows in group-housing systems has become a concern because they usually suffer from more injuries. The objective of this study was to determine whether feeding stalls could be used as hiding spaces by low ranking sows to escape aggression and reduce aggression-associated injuries at mixing in a group-housing system. Multiparous sows (n = 150, Parity 1 to 9) were allocated to two treatments (5 replicate pens/treatment, 15 sows/pen, space allowance = 2.2 m²/sow) after weaning. The treatments included: 1. feeding stalls only accessible for one hour during feeding (LIMIT) or; 2. feeding stalls accessible at all times (FREE). All sows were video-recorded and aggression during the first 4 h after mixing was registered. A ranking index was determined for each sow based on outcomes of aggression. Injury scores were evaluated before and 48 h after mixing. Body weight, back fat thickness and condition scores were measured before mixing and at the end of gestation. Data were analyzed using the Glimmix Procedure of SAS. Frequency of aggressive interactions was higher in the LIMIT than in the FREE pens (50.8 vs. 39.6 fights/4h/sow, SE = 3.3; P = 0.01). Consequently, sows in the LIMIT pens had higher total injury scores caused by aggression than sows in FREE pens (13.37 vs. 11.57, SE = 0.56; P = 0.01). High and middle ranking sows had higher injury scores caused by aggression to their head and shoulders (6.02 and 6.39 vs. 4.91, SE = 0.63, P = 0.01), but low ranking sows had the highest injury scores to their bodies (7.25 vs. 5.66, 6.76, SE = 0.47; P = 0.01). Neither treatment nor ranking affected changes in body weight, condition scores or back fat thickness during the gestation period. These results suggest that feeding stalls can be used by all sows as hiding spaces to reduce the number of fights and injuries to sows at mixing.

Key words: Group-housing, Sows, Ranking, Aggression