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## Sow gestation housing systems and sow longevity

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Evaluations of the effect of housing on sow longevity are limited. The effects of housing system on longevity are mediated through production performance and conditions such as injuries and lameness. Limitations in comparing stall housing system with group housing system are related to the lack of comparability in genetics, feeding, and management. The existence of several management variations within group housing systems also makes conclusions valid to all group housing systems difficult. Group housing systems are criticized for increased chances of aggression and consequent injuries and locomotor problems. However, it is important to study the effect of housing systems on sow longevity given the current discussion in the industry about sow gestation housing systems. The Southern Research and Outreach Center at Waseca has both individual gestation stalls (200cm long X60 cm wide X 97 cm high) and group pens (12.75 m X 6.75 m) with electronic sow feeders (ESF). Both systems have total slatted floors. The objective of the present study was to compare the longevity of sows housed in stalls and in pens with ESF during gestation. A total of 712 (382 housed in group pens with ESF and 330 housed in stalls) sows that farrowed for the first time during January 2004 to December 2006 were included in this study. These sows

were followed for 750 days after farrowing. A time to event analysis was used in the evaluation. The survivability of the sows housed in the two gestation housing systems were compared (Kaplan-Meier curves, Proc lifetest, SAS v 9.1). The test of equality over strata (Log-rank test) indicated no significant difference in the survivor function of the two groups (Chi-square = 0.3297,  $P = 0.57$ ). Approximately 93% of the sows in both housing systems survived at 150 days post farrowing, but were reduced to 57 and 58% respectively in the group pens with ESF and individual gestation stalls by day 750 after the first farrowing. The removal reasons varied significantly in the two housing systems. The proportion of sows removed for lameness was higher ( $P < 0.05$ ) among those sows removed from the group pens with ESF (32%) compared to the stalls (8%). However, the proportion of sows removed for other reasons was lower ( $P < 0.05$ ) in the group pens (18%) compared to the stalls (34%). The proportion of sows removed for reproductive problems also tended to be higher ( $P = 0.07$ ) in the stalls (58%) compared to group pens with ESF (51%). Although the overall longevity is similar in both housing systems, the study indicates a higher proportion of removals due to lameness in group housed sows. This is a welfare concern and needs to be addressed.