

BEHAVIOUR AND STRESS PHYSIOLOGY OF GESTATING SOWS IN A COMBINATION OF STALL AND GROUP HOUSING. II.

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Anecdotal information suggests that 26% of sows are stall housed in Australia for most of their reproductive cycles. Confinement of breeding sows and gilts is a controversial welfare issue in livestock production and there is worldwide interest in finding alternative housing systems for gestating sows and gilts. This experiment examined the welfare of gestating sows housed in conventional stalls (treatment labelled “Stalls”) with that of gestating sows housed and introduced to large groups of 85 on deep litter at either mating (“Hoops 0”) or day 35 of gestation after previous housing in stalls (“Hoops 35”). Observations on aggression were conducted and saliva and venipuncture blood samples were collected and analysed for cortisol and various haematology measures, respectively.

Mixing sows in the Hoop treatment at day 35 of gestation rather than day 0 resulted in less aggression (427 vs. 226 bouts over 4 h, $P<0.05$). Sows in the stall treatment had a higher neutrophil count (50.4 vs. 43.8 and 45.0%, $P<0.05$) and a lower lymphocyte count than those in the two Hoop treatments at days 55 and 104 of gestation (35.7 vs. 44.6 and 42.2%, $P<0.05$). Furthermore, sows in the Stall treatment had lower ($P<0.05$) salivary cortisol concentrations than sows in the Hoop 0 treatment at days 0 and 35 (2.59 vs. 5.75nM and 1.57 vs. 3.91 nM), but higher ($P<0.05$) concentrations at day 42 of gestation (4.39 vs. 2.45 nM). The practice of housing sows in stalls immediately after mating and delaying mixing in large groups until pregnancy is confirmed, by reducing aggression and stress at mixing, may provide some distinct welfare advantages over housing sows in either stalls or large groups for the entire gestation.