

# POSTURE AND BEHAVIOUR AND LOCATION OF PIGLETS DURING AND AFTER FARROWING OF GILTS SELECTED FOR COMPONENTS OF EFFICIENT LEAN GROWTH

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Differences in maternal behaviours between sows of breeds with high or low lean growth rate have been reported (Meunier-Salaun *et al.*, 1991). In the current study, gilt posture and behaviour and piglet locations during the farrowing period and the 2 h post-farrowing period were measured to determine if particular selection strategies were associated with maternal behaviours which may have contributed to the observed responses in reproductive performance.

The study included 139 Large White gilts from lines divergently selected over seven generations for daily food intake, lean food conversion and lean growth rate on *ad libitum* or restricted (LGS) feeding (Kerr and Cameron, 1995). Gilt posture and behaviour traits and the locations of their piglets were determined from video recordings assessed at 5 min intervals. Gilts were housed in slatted farrowing crates with no bedding. The binomial data were analysed with a generalised linear model and a logit link and the relationship between the proportion of time (p) exhibiting a behaviour and the logit score (x) is  $p = e^x / (1 + e^x)$ .

During farrowing, the proportion of time gilts spent lying and changing posture were 0.74 and 0.19, respectively, with an alert (0.69) or restless (0.19) behaviour exhibited. High LGS line gilts spent significantly more time lying on their side (0.96 v. 0.80; logit score : 3.2 v. 1.4, s.e.d. 0.5) and less time changing posture (0.05 v. 0.30; logit score -3.0 v. -0.8, s.e.d. 0.4) than low LGS gilts. Gilts proportionately spent 0.94 of the time lying. Gilts were either alert (0.81), restless (0.05) or sleeping (0.08). There were no significant line differences in gilt post-farrowing behaviour or posture.

The proportion of observed piglets relative to the number born in the litter averaged 0.41 during farrowing and 0.51 in the 2 h post-farrowing period. Piglets spent most time at the udder (0.55 during farrowing and 0.87 during 2 h post-farrowing) and at the gilt's head, feet and vulva (0.24) during farrowing. High LGS piglets spent significantly less time (0.06 v. 0.15; logit score -2.8 v. -1.7 s.e.d. 0.5) at the gilt's head, back and vulva or at the creep during farrowing. In the post-farrowing period, there were no significant differences between selection lines in the time spent by piglets at the udder.

There was greater variation in gilt posture and behaviour during farrowing than in the post-farrowing period. Divergent selection for components of efficient lean growth rate, based on *ad libitum* feeding was not associated with correlated responses in gilt behaviour and posture or in piglet location. However, relative to low LGS line gilts, selection for high LGS had positive effects on gilt behaviour and posture during farrowing; characteristics which are thought to be beneficial for the welfare of the gilt and her piglets.

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## References

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