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Effect of gestation management system on gilt and piglet performance

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Abstract

Individual gestation housing of pregnant sows in stalls from four weeks after mating is banned in the EU. Two experiments were conducted to study the effect of two gestation management and housing systems (STALL: gilts housed in stalls and PEN: gilts loose-housed in pens with increased feed ratio) on gilt and piglet performance during lactation. Thirty-seven PEN and 33 STALL gilts were used. Backfat, litter pre-weaning mortality and total feed intake (TFI) during lactation were recorded in gilts. Weight and rectal temperature was recorded in piglets. In Exp 1 the behaviour of a subsample of gilts was videotaped during lactation. In Exp 2 saliva cortisol in gilts, thyroid stimulating hormone (TSH) and T4 hormones in piglet blood were measured. PEN gilts had more backfat when moved to the farrowing stalls. PEN gilts tended to have higher cortisol concentration 24 h after entering the farrowing stall and to spend more time sitting or standing up one day before parturition than STALL gilts. PEN piglets had higher bodyweight (BW) on day 0 (Exp 2) and lower T4 concentration than STALL piglets. However, STALL piglets showed higher rectal temperature 60 min after birth and lower mortality at day 2. In Exp 2, STALL piglets also had higher BW and average daily gain at weaning. During lactation, PEN gilts lost more backfat and weaned less piglets. Gilts loose-housed with increased feed ratio during gestation might be more stressed when housed in farrowing stalls than those kept in stalls during gestation, thus compromising their offsprings' thermoregulatory capacity and growth however, from our results, it is difficult to differentiate the effect of feed level from the effect of allocation during gestation.

Keywords: *animal welfare, gilt, housing system, mortality, piglet, thermoregulation*