EFFECT OF HEAT STRESS DURING INTRAUTERINE DEVELOPMENT ON SUBSEQUENT LITTER SIZE IN SOWS

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Conclusions

- Litter size is affected by heat stress during the interval of 80 to 100 days of intrauterine development.
- "Moderate" heat stress improved sows heat stress tolerance later in life.
- "Severe" heat stress compromised sows litter size performances.

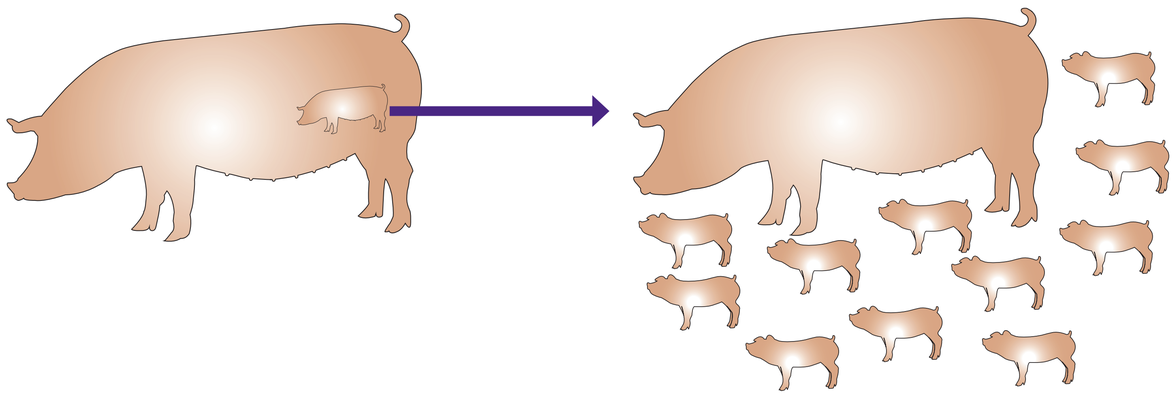
Aim of the study

Investigate the effect of heat stress during intrauterine development on sows' litter size performance later in life.

Materials and Methods

- 21,403 performance records from Yorkshire sows on 16 farms in Spain and Portugal.
- Correlation to define critical period:

Max T° each day sow's own intrauterine development. ⟷ Subsequent litter size performance.



- Critical period divided in three heat stress classes:

Severe ≥ 30° C
Moderate 20° - 29°C
No < 20° C

Results

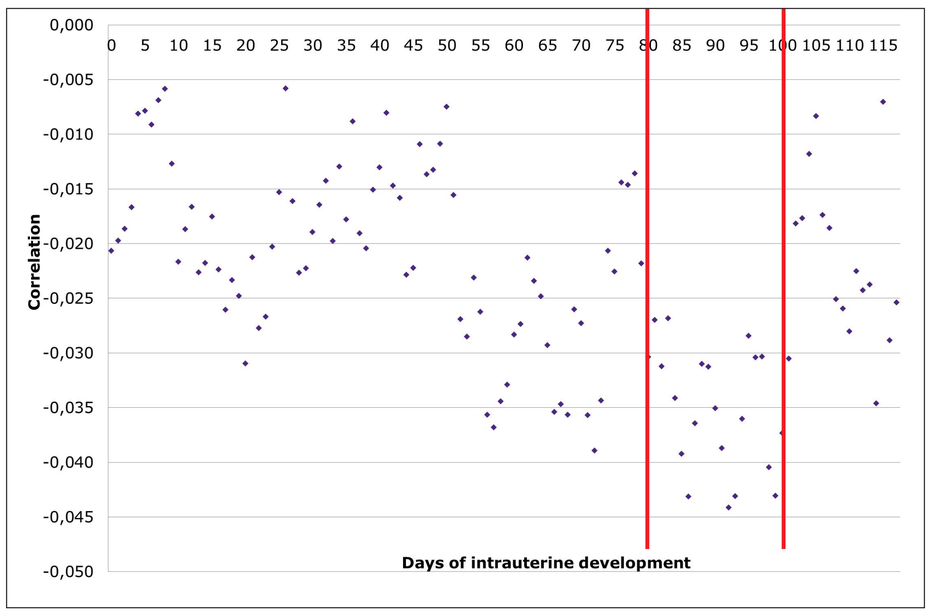


Figure 1. Pearson correlations between litter size of sow and daily maximum temperature while she was in the uterus. Day **0** was the day the sow was conceived.

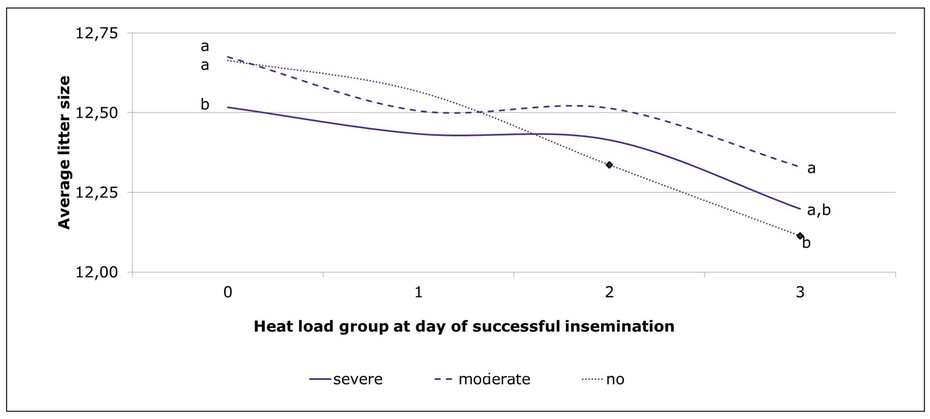


Figure 2. Sow's average litter size in relation to heat load groups at day of sow's successful insemination for the three intrauterine heat stress classes (severe, moderate and no). Heat load group **0** (≤21.7°C), group 1 (21.8 to 24.6°C), group 2 (24.7 to 29.6°C), group 3 (≥29.7°C).

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