Dealing with the challenge of early-life piglet hypothermia during the keeping of outdoor farrowing sows

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Introduction

- We explore potential improvements of the housing for farrowing sows and their piglets, during free-ranging outdoor conditions.
- Concern: Piglet mortality found to be 29.5% of total born piglets in Danish outdoor herds.[1]
- Indoor: Additional heat increased piglet vitality, early onset of suckling and reduced mortality.[2]
- Additional heat not previously tested outdoor, under the wider range of seasonal thermal fluctuations.
- Study aim: Test effects of access to a heated creep area for piglets early in life, (2) a pendulum designed to support sow lying down events.

[1] Rangstrup-Christensen et al., Res. Vet. Sci. 118: 171-180, 2018.

[2] Malmkvist et al., Appl. Anim. Behav. Sci. 99: 88-105, 2006.

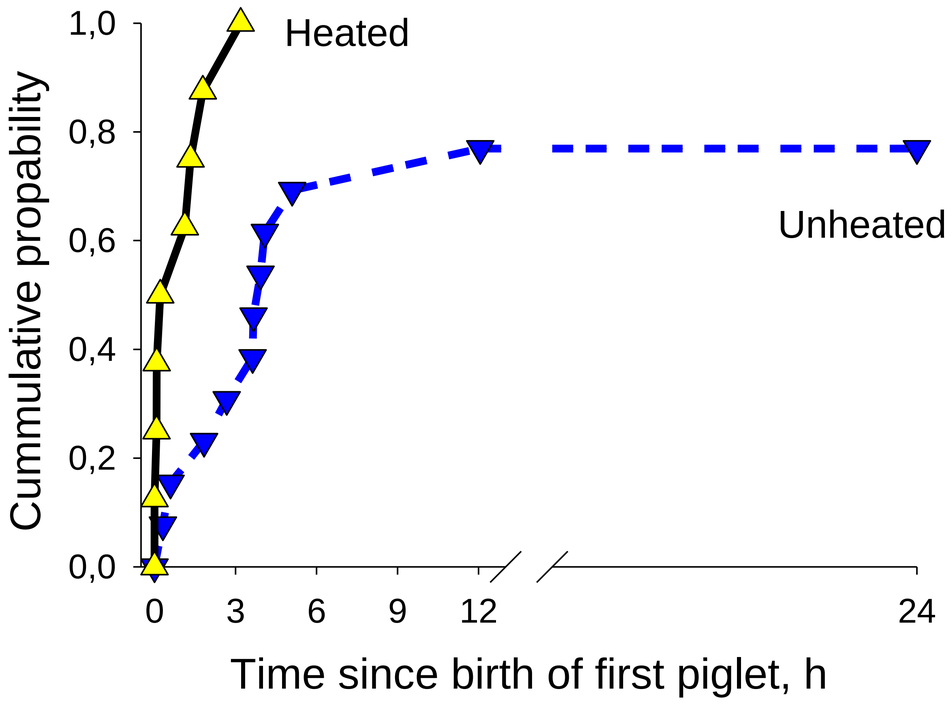
Methods

- Mobile huts from Vanggaard Staldmontage developed for outdoor farrowing on paddocks.

- Creep area: Heated (13 litters) or Unheated (12 litters) in huts holding four pens with one sow/litter.
- Mean number of liveborn piglets: 15 (SD: 3.7), born by 2nd+ parity TN70 sows, March to August.
- Heating: Day -3 to +7 relative to farrowing Day 0.
- Behaviour from video on Day 0-4 of all 25 litters.

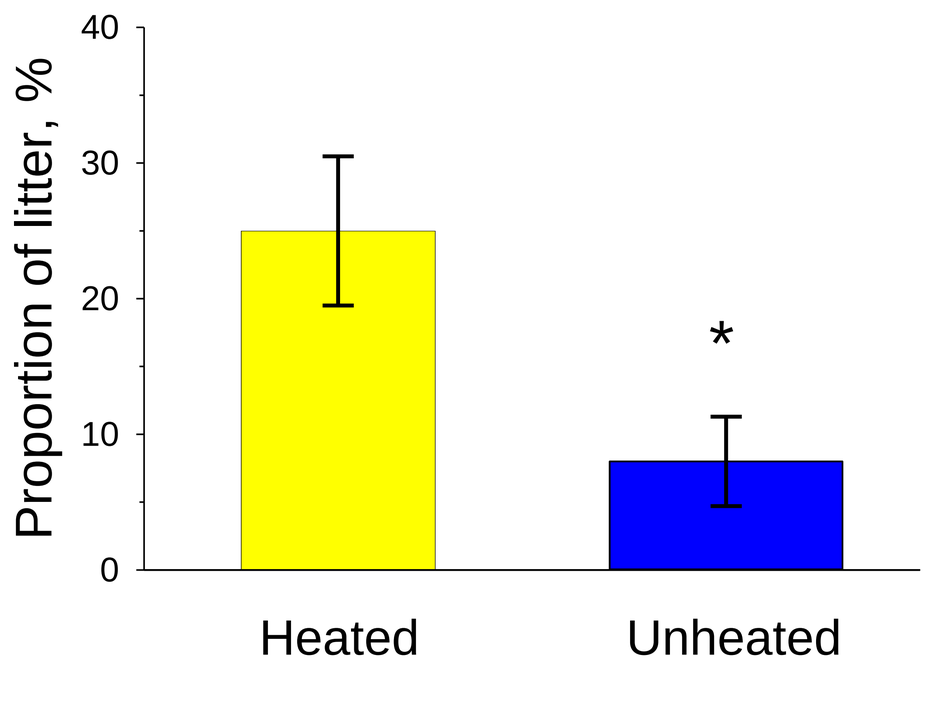
Results

First piglet per litter entering the creep area



- Latency for first piglet to enter the creep area was shorter if heated (survival analysis: χ^2_1=6.9, P=0.009), with an estimated hazard ratio of 3.2 (95% CI: 1.3-8.0) relative to litters with unheated creep area.

Piglets inside the creep area, Day 2



- The proportion of the litter inside the creep area was higher in heated than in unheated area (χ^2_1=5.2, P=0.022), observed every 15 min for 24h on day 2 after birth.

Conclusion

Provision of additional heat resulted in earlier and more extensive use of the piglet creep area early in life. These preliminary results suggests that a heated creep area attract piglets more than an unheated creep area, and thus potentially reduce the risk of piglet hypothermia during management of farrowing sows in outdoor production systems.

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PPILOW

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