

EFFECT OF RADIANT HEATING AT THE BIRTHS PLACE OF NEWBORN PIGLETS

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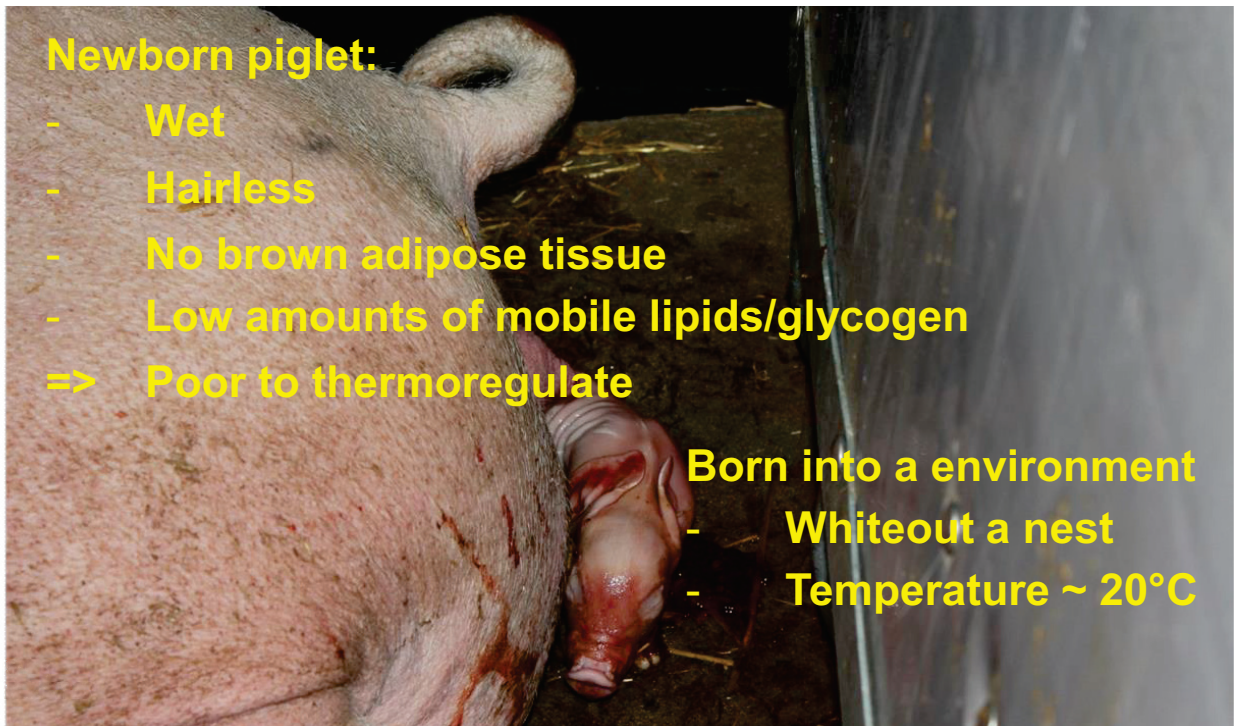
BACKGROUND

Sustaining a normal body temperature within the first hours of a piglet's life is one of the main indicators for piglet survival

Hypothermia is rarely recorded as cause of death in commercial pig herds, but it might often be the primary cause of starvation, crushing and disease

(Herpin et al., 2002, Baxter 2009, Pedersen et al., 2011)

BACKGROUND



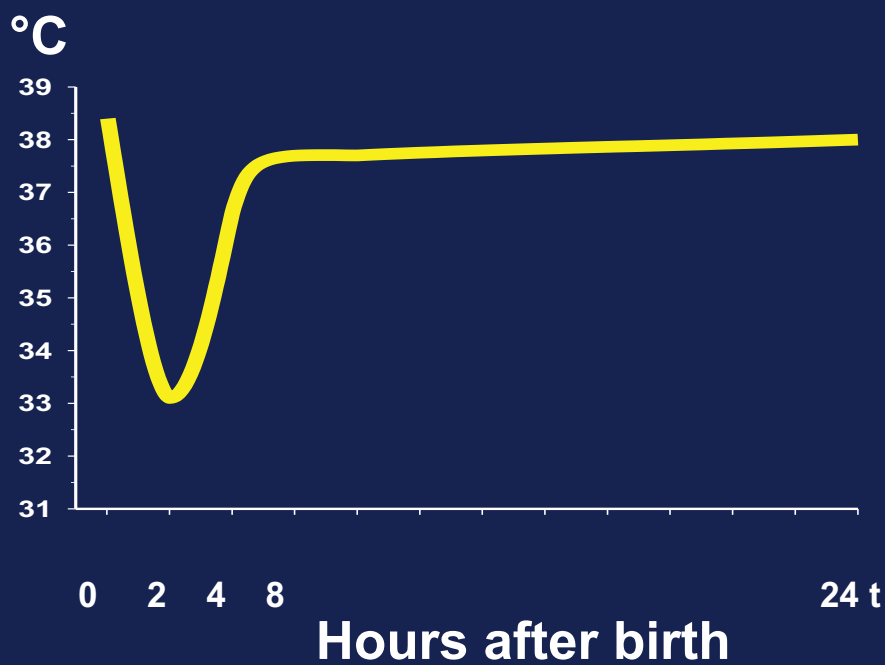
Newborn piglet:

- Wet
 - Hairless
 - No brown adipose tissue
 - Low amounts of mobile lipids/glycogen
- => Poor to thermoregulate

Born into a environment

- Whiteout a nest
- Temperature ~ 20°C

Piglets rectal temperature at 21°C



BACKGROUND



Floor heating in the farrowing area reduced the drop in piglets rectal temperature and improved piglet survival

(Malmkvist et al., 2006, Pedersen et al., 2013)

But....

The main part of the farrowing pens are with partly or fully slatted floor



AIM

Can radiant heating provided at the birth place

- Reduced the drop in rectal temperature in new-born piglets?
- Reduced time for piglets to recovery to a normal body temperature?

METHOD AND MATERIALS

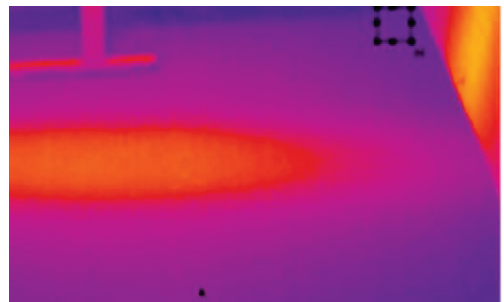
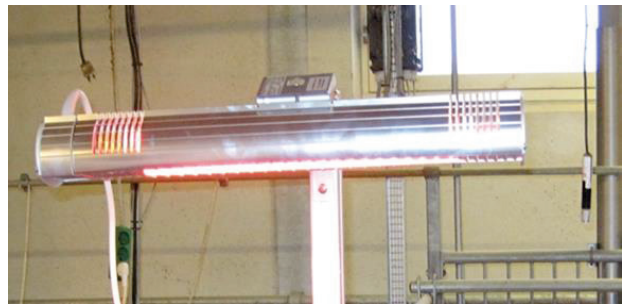
- 36 second-parity Danish Landrace x Yorkshire sows
- 3 batches of 12 sows each
- Room temperature ~ 20°C

- Two groups: A control group and a heat group

TREATMENT

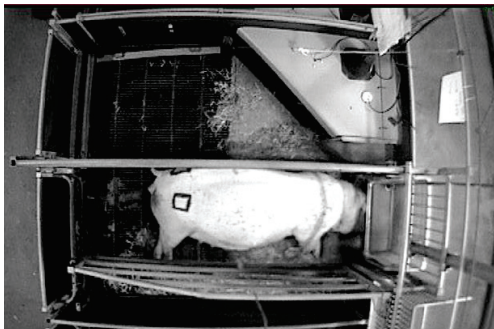
The heat treatment:

- A radiant heater (500 W)
- 0.90 m over the farrowing area

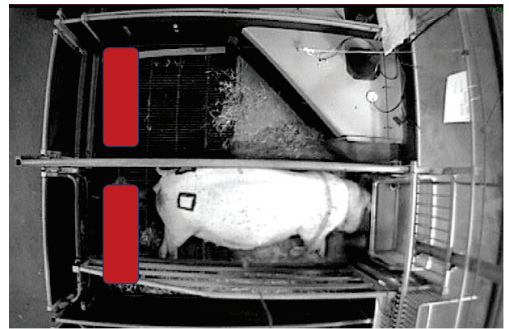


TREATMENT

Control



Heat



Day -1

Birth 1. pig

Birth +12h

Heat on in creep area

-

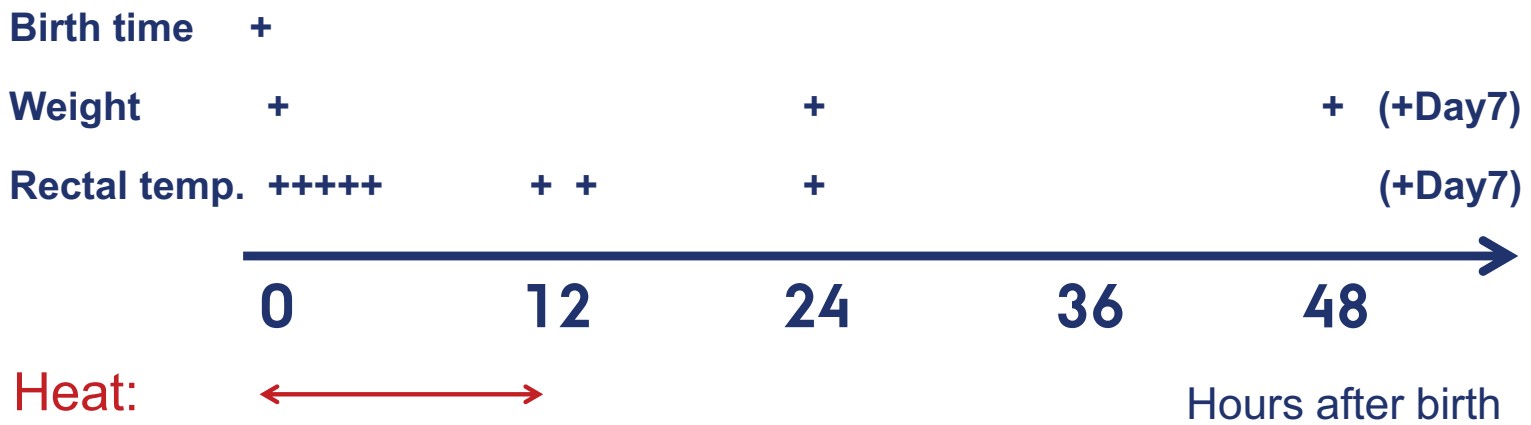
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Heat on in creep area

Radiant heat on

Radiant heat off

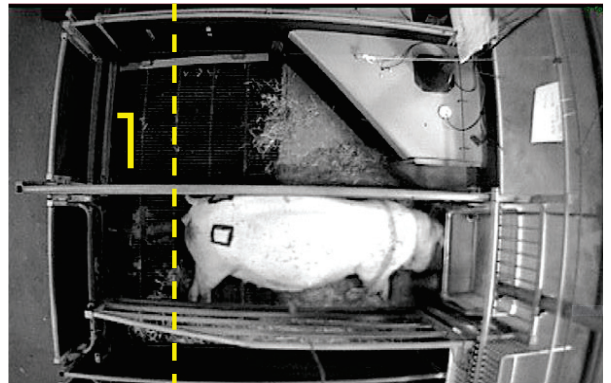
DATA SAMPLING



DATA SAMPLING

Behavioural observations:

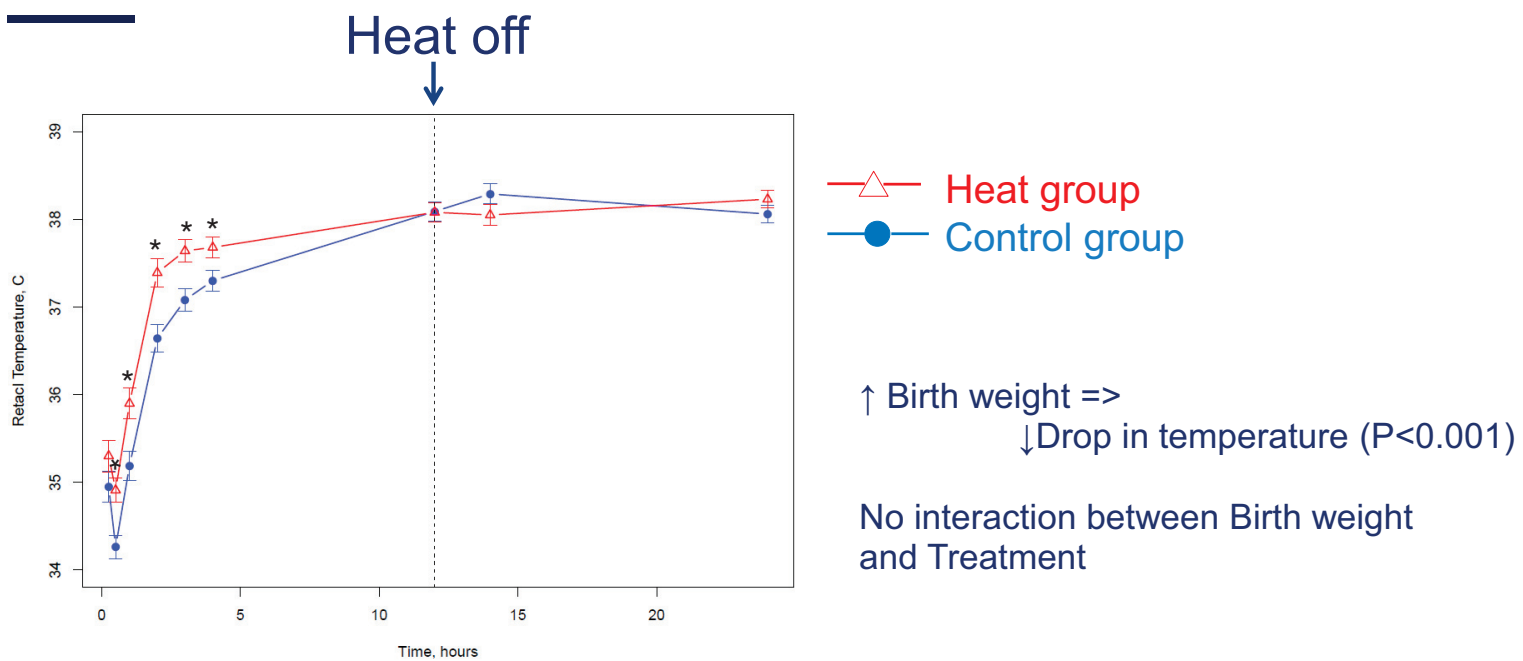
- Time to leave zone 1 (the heated area)
- Time to first contact with udder
- Time to first suckling



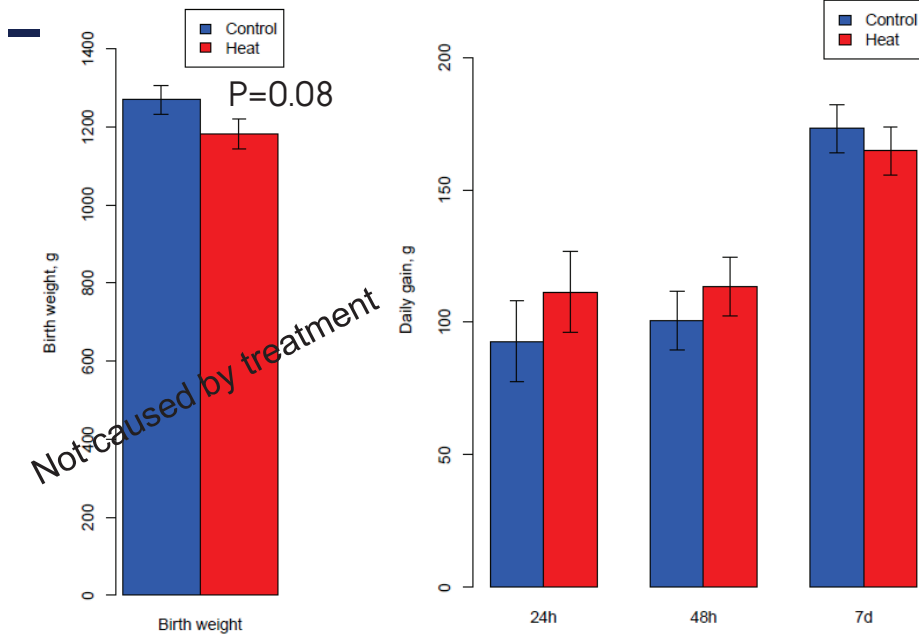
RESULTS



RECTAL TEMPERATURE



WEIGHT

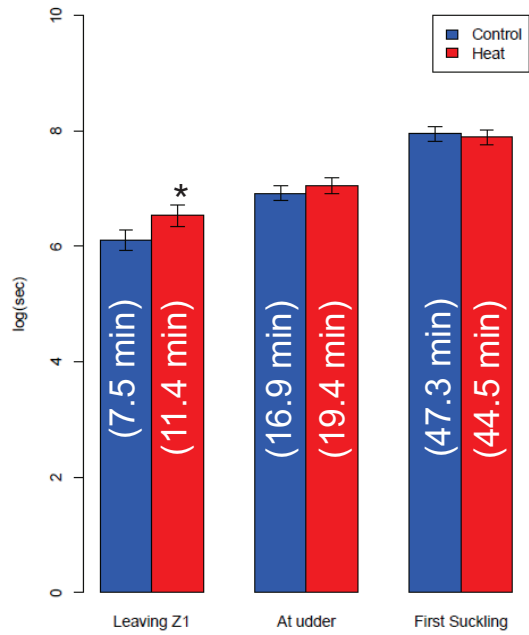


↑ Birth weight =>
↑ Daily gain (P<0.001)

No interaction between Birth weight and Treatment

Confounding effect between Birth weight and Treatment?

BEHAVIOUR



↑ Birth weight =>
↓ Time to leaving Z1 (P<0.001)
↓ Time to at udder (P<0.001)
↓ Time to suckling (P<0.001)

No interaction between Birth weight and Treatment

CONCLUSION

Radiant heat:

- Decrease drop in rectal temperature
- Decrease time to recover to a normal rectal temperature
- Increase time stay in zone 1
- No effect on time to first suckling
- No effect on weight gain

Confounding effect between birth weight and treatment?