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# PROMOTING NEONATAL PIGLET SURVIVAL IN ORGANIC PIG PRODUCTION THROUGH IMPROVED MANAGEMENT AND HOUSING



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# PRESENTATION AND DISCUSSION

# STUDY 1: TEMPERATURE & HUMIDITY

- ▶ Indications of variation in piglet mortality (PM) in different seasons
- ▶ Quantification of temperature and humidity fluctuations inside farrowing huts and relation to PM – only a few studies
- ▶ **Aim:** To quantify the relation between environmental temperature at the time of farrowing for neonatal piglet mortality.
- ▶ **Hypotheses:** Temperature  $\geq 25$  °C or  $\leq 15$  °C day one to seven *pp*  $\rightarrow$   $\uparrow$  piglet mortality - The effect of the temperature on piglet mortality may be influenced by the humidity within the hut.



# STUDY 2: REDUCING HEAT STRESS OF SOWS

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## Background

- ▶ Temperature within the huts becomes high (+45 °C in uninsulated)<sup>1</sup>
- ▶ Tendency towards ↑ PM during summer<sup>1</sup> + Danish producer = 10 % increase in PM
- ▶ Hyperthermia → ↓ feed consumption<sup>2</sup>, ↓ / halted milk production<sup>2</sup> and behavioural changes
- ▶ Common measures to reduce heat stress = access to a wallow + less straw
- ▶ Producer initiatives: Access to poplar, shade next to the hut

<sup>1</sup>Randolph et al. (2005), <sup>2</sup> (Mullan et al., 1992; Prunier et al., 1997; Quiniou and Noblet, 1999)

# STUDY 2: REDUCING HEAT STRESS OF SOWS

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## Aim

To test the effects of providing access to a shaded area during farrowing on heat stress and behaviour of importance for piglet mortality and growth.



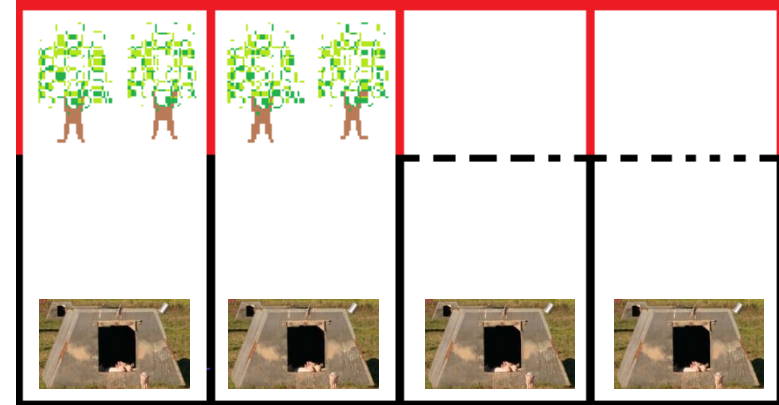
Photo Janne Hansen



# METHOD

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- ▶ Pilot study in May 2015
- ▶ Main study in one herd from June 2015 – August/September 2015
  
- ▶ Treatment will be +/- access to poplar
  - › Sows may choose to farrow in poplar
- ▶ 20 – 30 replicates of each treatment
- ▶ All sows will have access to a wallow
  
- ▶ Paddocks will not be of the same size





# METHOD – FOCAL RECORDINGS

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Behaviour (video)	Other
Time spent inside the hut	Farrowing duration*
Farrowing location	Time of farrowing
Postural changes	Inter birth interval
Nursing frequency	Respiration frequency
Nursing duration	Rectal temperature*
Piglet location within the hut	Farrowing fever*
	Number of live born/ stillborn piglets
	Piglets that die before weaning
	Time and cause of death
	Birth and weaning weight

\*only recorded on day one to three *pp*



# METHOD – GENERAL RECORDINGS

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- ▶ Recordings – incl. all sows belonging to the farrowing batch

Behaviour (manual scanning)	Other
Farrowing location	Number of live born/ stillborn piglets
Location on paddock (hut, poplar, wallow)	Piglets that die before weaning
	Time of death





# HYPOTHESES

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- ▶ Access to poplar will:

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Behaviour	Other
↑ Time spent outside hut	↓ Farrowing duration*
↑ Farrowing outside	↓ Inter birth interval
↓ Postural changes	↓ Respiration frequency
↑ Nursing frequency	↓ Rectal temperature*
↑ Nursing duration	↓ Farrowing fever*

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\* Only recorded day one to three *pp*



# STUDY 3: NOT YET DEFINED

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- ▶ Planned for next year
- ▶ So far the plan is: To provide access to a shaded/cooled hut
- ▶ Alternatives:
  - › Reducing cold stress of piglets during winter
    - › E.g. using different quantities (use during winter approx. 40 kg per hut) or lengths of straw
  - › Providing access to shaded wallow
  - › Providing birth supervision/assistance
    - › Obstetric aid, drying of piglets
  - › Nursing sows



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