GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN

Identification of potential indicators for the early detection of tail biting in pigs

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Introduction

- Tail biting is an abnormal behaviour with negative impact on animal performance, health and welfare

- Problem especially in pig husbandry with undocked pigs

- Currently no universal solution to prevent or reduce tail-biting

- Already known indicators: tail posture and activity

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Reliable objective indicators for an early detection of tail-biting in pigs
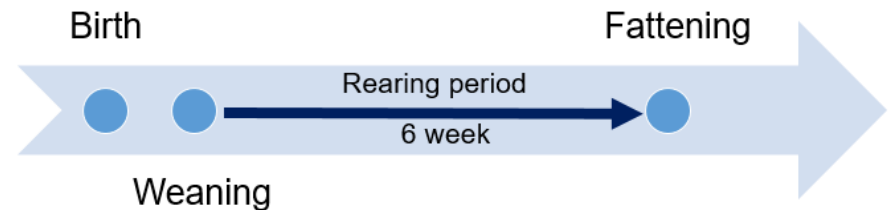
Experimental setup

- Location: Hohenschulen, experimental farm of Kiel University

- February 2017 to March 2018

- 9 consecutive batches

- 10 conventional rearing pens

- Group size of 7 pigs per pen
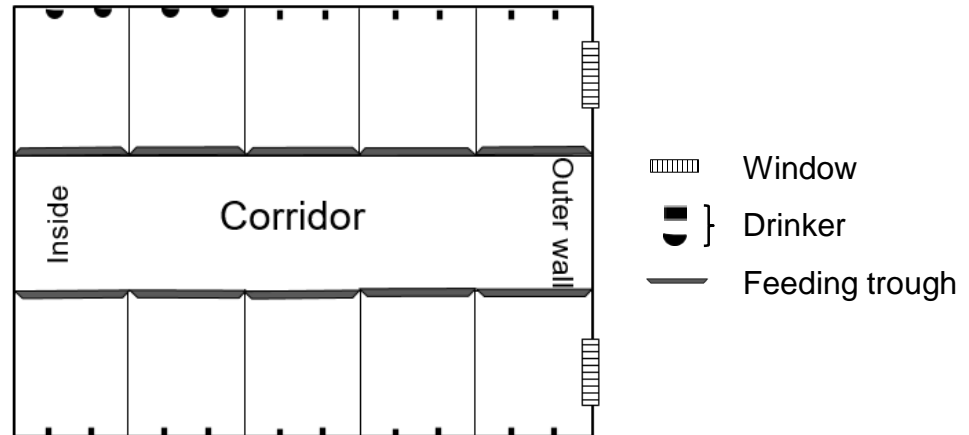
Experimental setup

- 630 undocked piglets in total

- Mixed-gender groups

- Sorted by body weight

- Weaning weight: 8.6 kg (SD 1.43)

- Weaning age: 27 p.p. (SD 1.23)

Data collection

- **Evaluation of tail lesions**

  - Scoring scheme 0-3

  - Animal individual

  - Twice a week

  - Presence of blood

0
No lesions

1
Superficial lesions

2
Small lesions

3
Large lesions

Data collection

- **Indicator tail posture**

  - Animal individual

  - Twice a week

  - Scoring scheme 0-5

    - 1 and 2 → positive

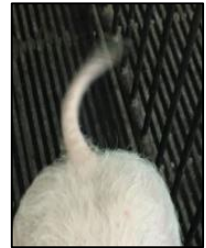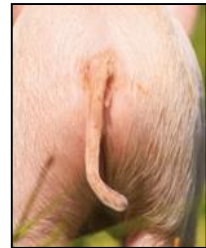   - 4 and 5 → risky

0	Evaluation not possible
1	Curled
2	Lifted
3	Wagging
4	Hanging
5	Jammed

Data collection

- **Indicator water consumption**

  - Recording interval: Liter/15-min. per pen

  - Analysis interval: Liter/ hour per pen

 - By Watercheck System (Big Dutchman)

Data collection

- **Indicator climatic conditions**

  - Temperature (°C) and humidity (%)

  - Recording interval: 15-min. interval

  - Analysis interval: hourly

  - By 6 data loggers (Tinytag Plus2)

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Data analysis (SAS 9.4®)

- **Descriptive statistics**

  - Indicators: water consumption, temperature and tail posture

- **Univariate procedure**

  - Distribution of temperature and water consumption

- **Glimmix procedure**

  - Tail lesions

- **Logistic procedure (Odds Ratio Statement)**

  - Correlation tail biting and tail posture
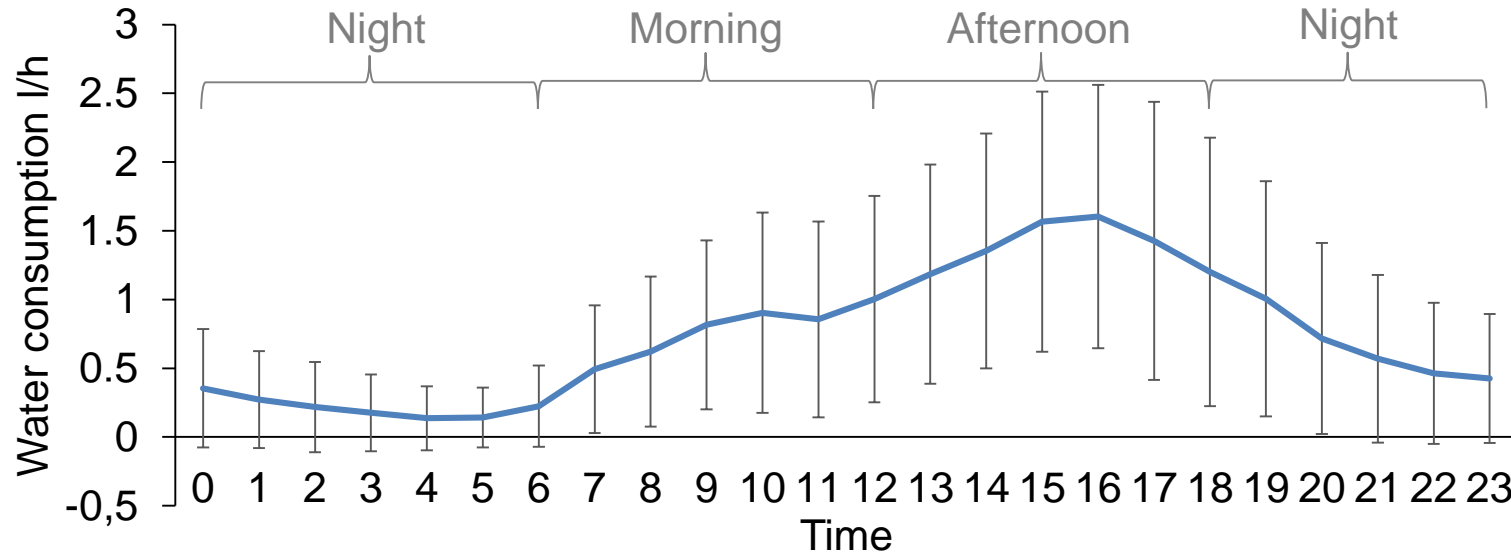
Tail lesions in the course of rearing
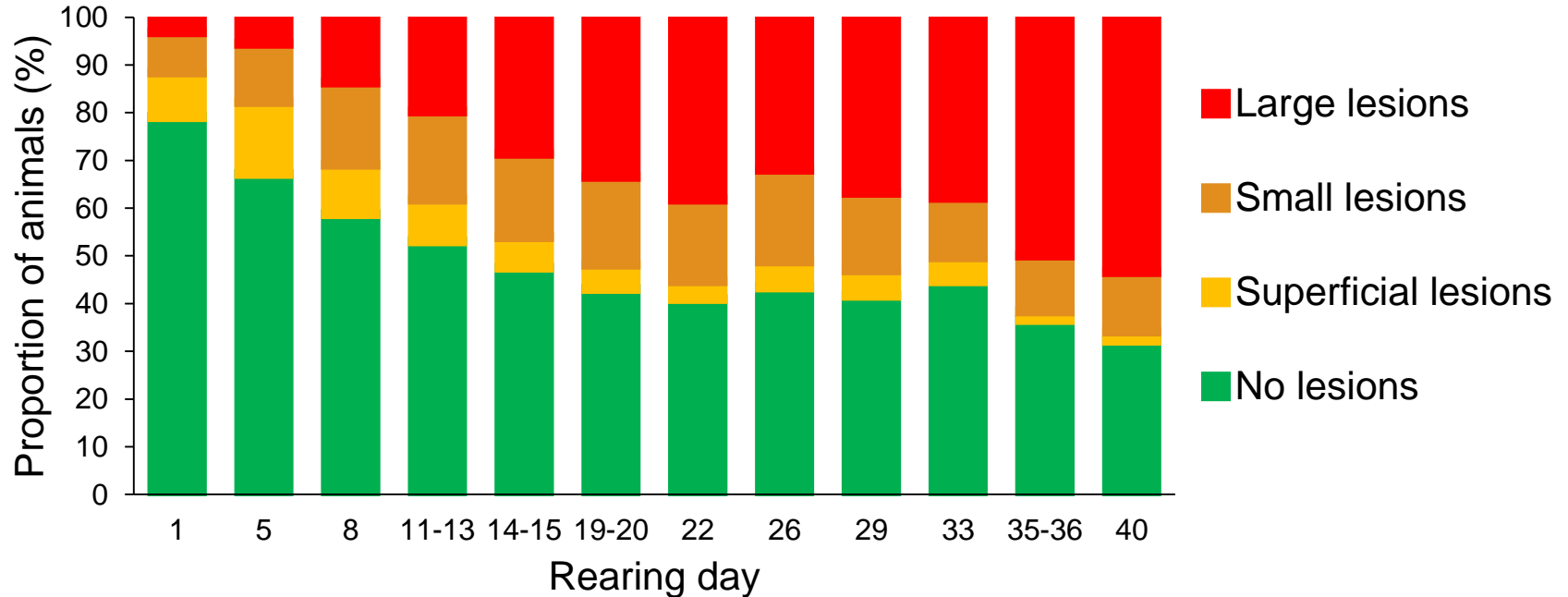
Odds ratios for tail lesions depending on tail posture
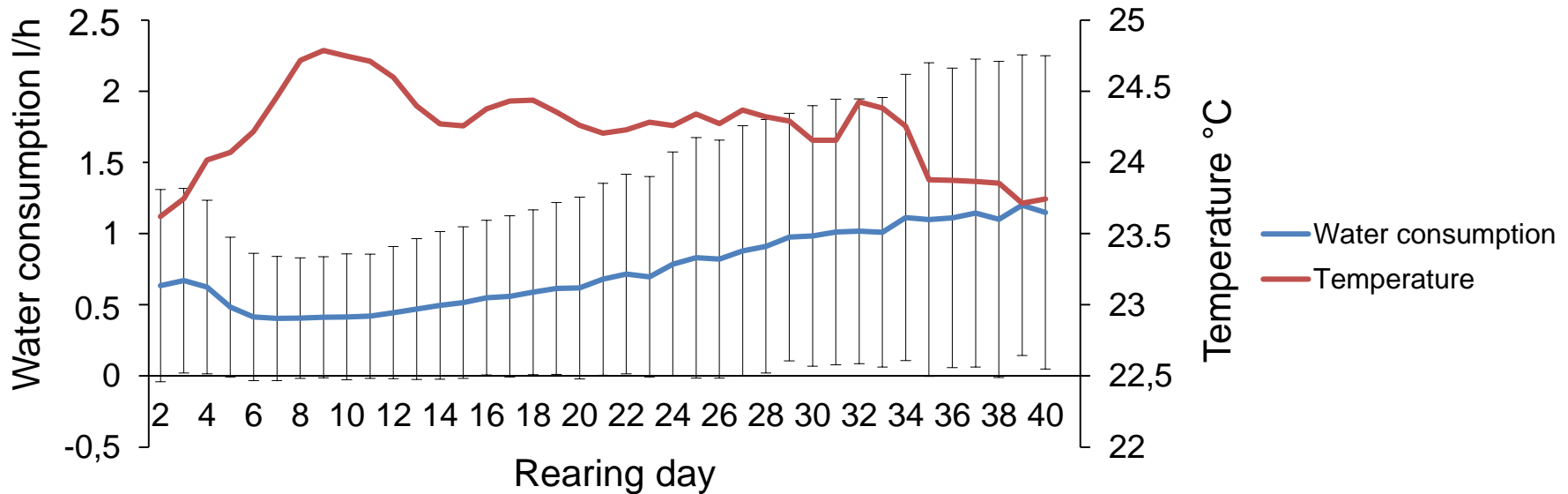

OR= 1 for tail posture „Curled" as reference
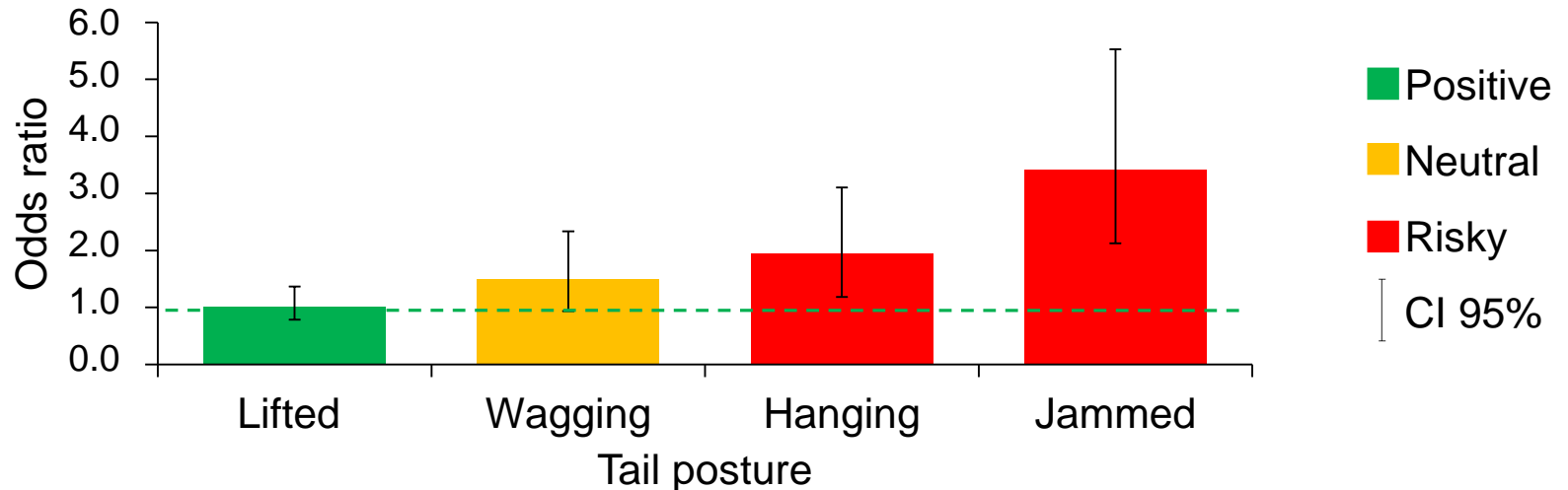
Average water consumption l/h (SD) over batches and pens

Average water consumption (SD) and temperature per day over batches and pens

Conclusion

Reliable objective indicators

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- **Tail posture** easily and rapidly to observe

  - Check reliability

  - Devolopment of an automatic recording system

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Reliable objective indicators

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  - Devolopment of an automatic recording system

- **Water consumption:** recording automatically and objecticly

  - No final conclusion

  - Indicator with high potential → short recording intervals

Thank you for listening!

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