# Influence of farrowing and rearing systems on tail lesions and losses of docked and undocked pigs

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# Background

Climatic and light conditions
(e.g. Parker *et al.*, 2010)

Sex
(e.g. Zonderland *et al.*, 2010)

Feeding
(e.g. Statham *et al.*, 2011)

Group size
(e.g. Meyer-Hamme *et al.*, 2016)

Husbandry environment
(e.g. Cox and Cooper, 2001)

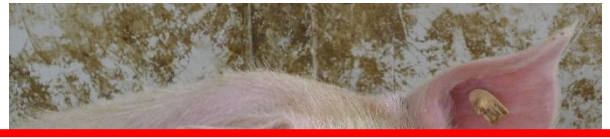
**Farrowing system**

**Rearing system**

**Docking status**

# Background

Climatic and light conditions
(e.g. Parker *et al.*, 2010)



**Farrowing system**

Sex

**Do farrowing and rearing systems affect the tail lesions and losses of docked and undocked pigs?**

(e.g. Meyer-Hamme *et al.*, 2016)

**Docking status**

Husbandry environment
(e.g. Cox and Cooper, 2001)

# Material & Methods

- 8 batches at the research farm Futterkamp of the Chamber of Agriculture of Schleswig-Holstein (Germany)
- 2,951 rearing pigs thereof 1,252 fattening pigs
- 50% of the pigs were undocked

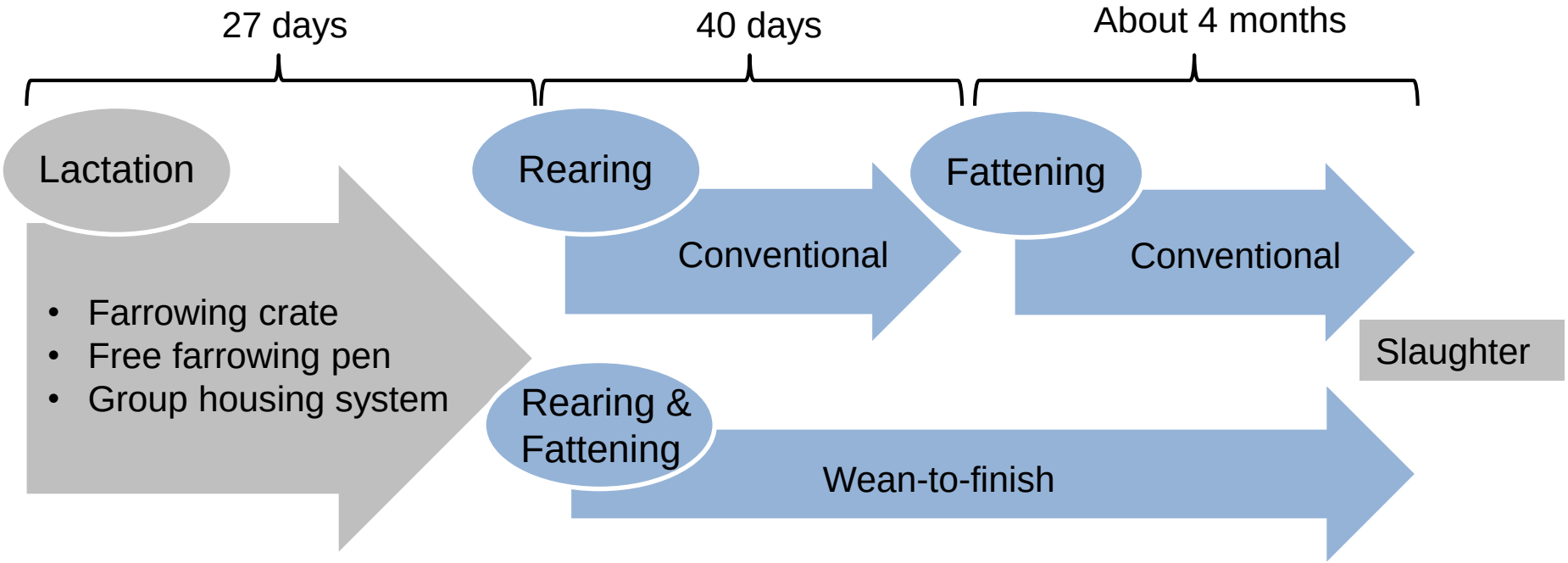
**3 farrowing systems**:

- Conventional farrowing crate (FC)
- Free farrowing pen (FF)
- Group housing of lactating sows (GH)

**2 rearing systems**:

- Conventional rearing system (CONV)
- Wean-to-finish system (WTF)

# Experimental design



# Material & Methods

## Conventional

### Rearing

- 13 pigs per pen
- Mixed-sex
- 0.44 $m^2$ per animal

### Fattening

- 14 pigs per pen
- Single-sex
- 0.89 $m^2$ per animal

## Wean-to-finish

### Rearing & Fattening

- 14 pigs per pen
- Single-sex
- 0.89 $m^2$ per animal

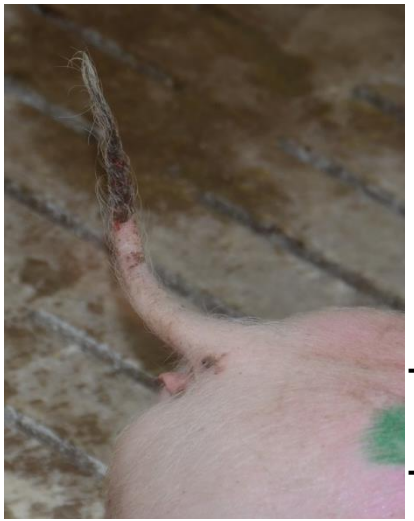
# Data collection

- Weekly scoring → modified Schwarzenauer key (Abriel and Jais, 2013)
- Tail scores: lesions (0-3) and losses (0-4) → summarised into lesions (0-1) losses (0-2) → because of low occurence

**0=** No lesions

**1=** Lesions

→ Analysis of docked and undocked pigs



**0=** Intact tail

**1=** Tip loss (<25%)

**2=** Loss (≥ 25%)

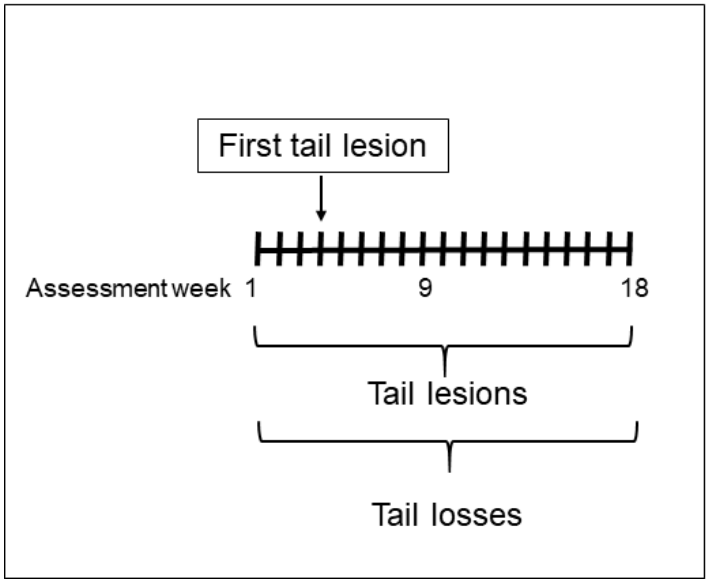
→ Exclusion of docked pigs for statistical analysis

→ Occurence of tail loss <5%

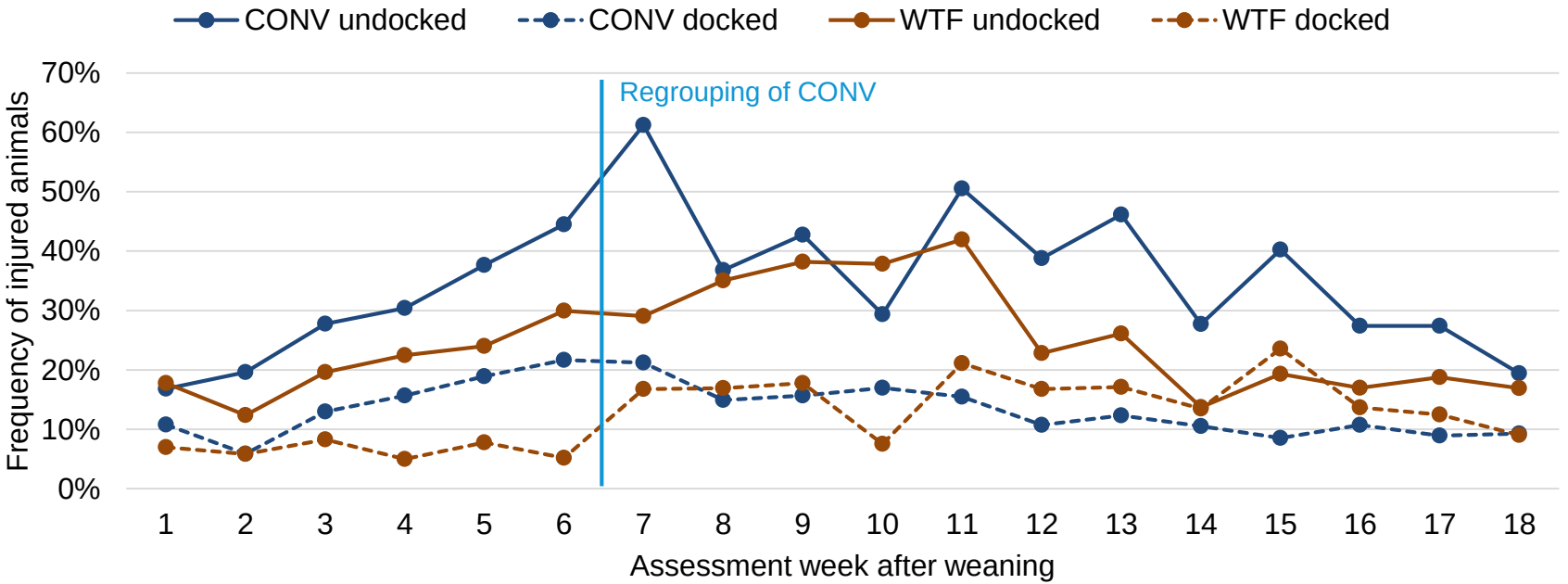
# Statistical analysis

- **Tail lesions – Linear mixed model**
  - binomial data: stats package (Dobson, 2002)
- **First tail lesions – Proportional hazard analysis**
  - binomial data: survival package (Therneau, 2015)
- **Tail losses – Linear mixed model**
  - multinomial data: vgam-package (Yee, 2015)

The software R (3.6.1) was used (R-Core Team, 2016)

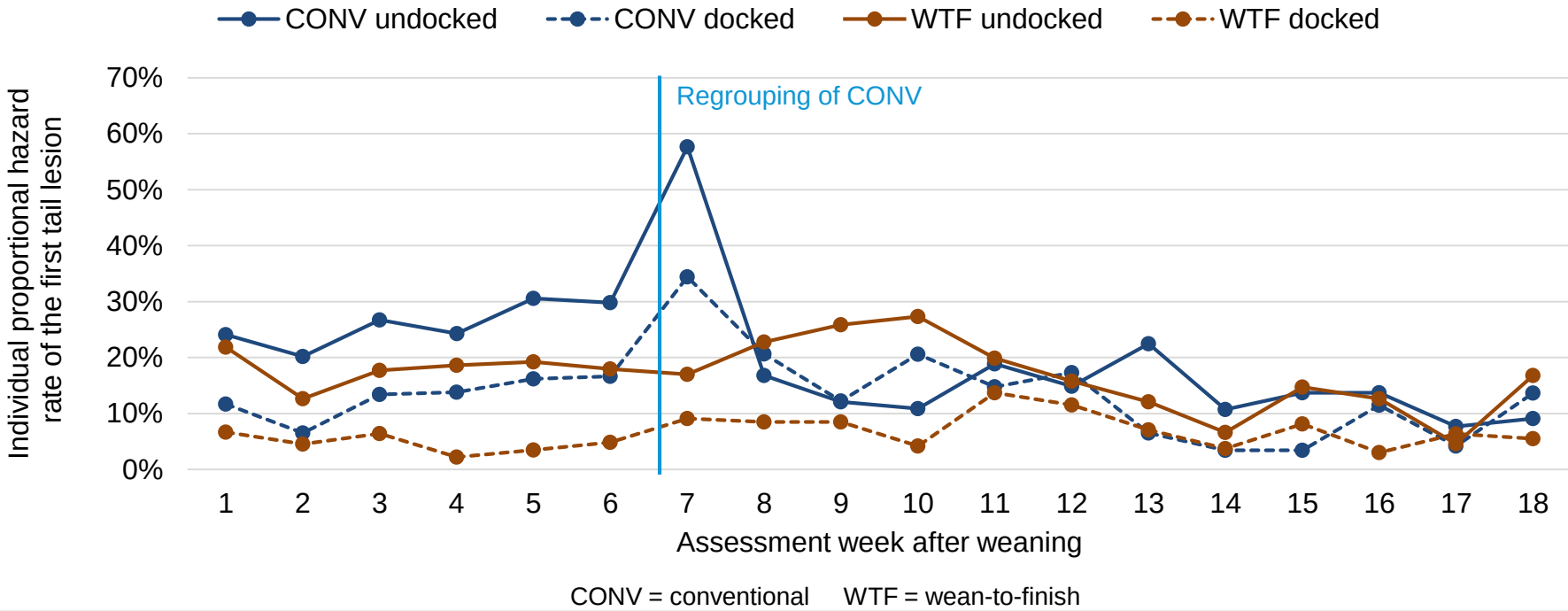


# **Tail lesions:** LS-Means for docked and undocked pigs per rearing system



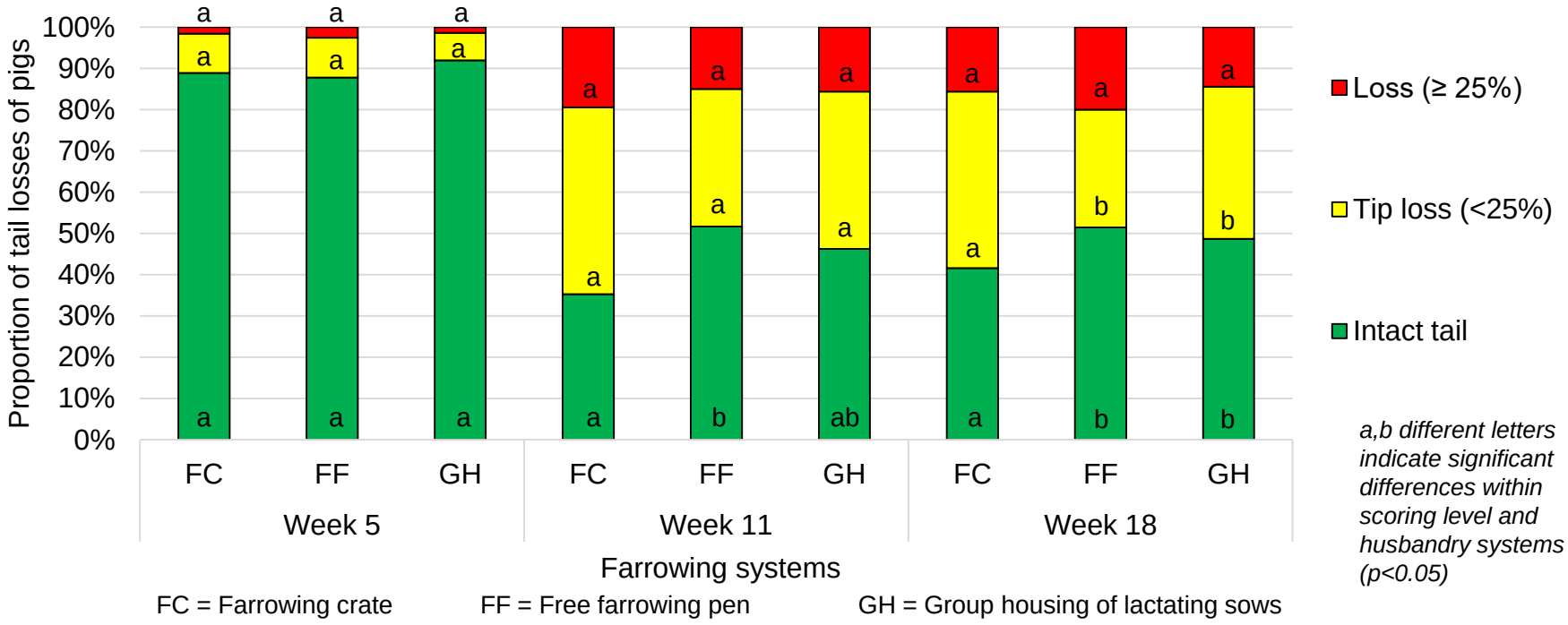

CONV = conventional WTF = wean-to-finish

# **Tail lesions**: Incidence plot of **first** tail lesion




CONV = conventional WTF = wean-to-finish

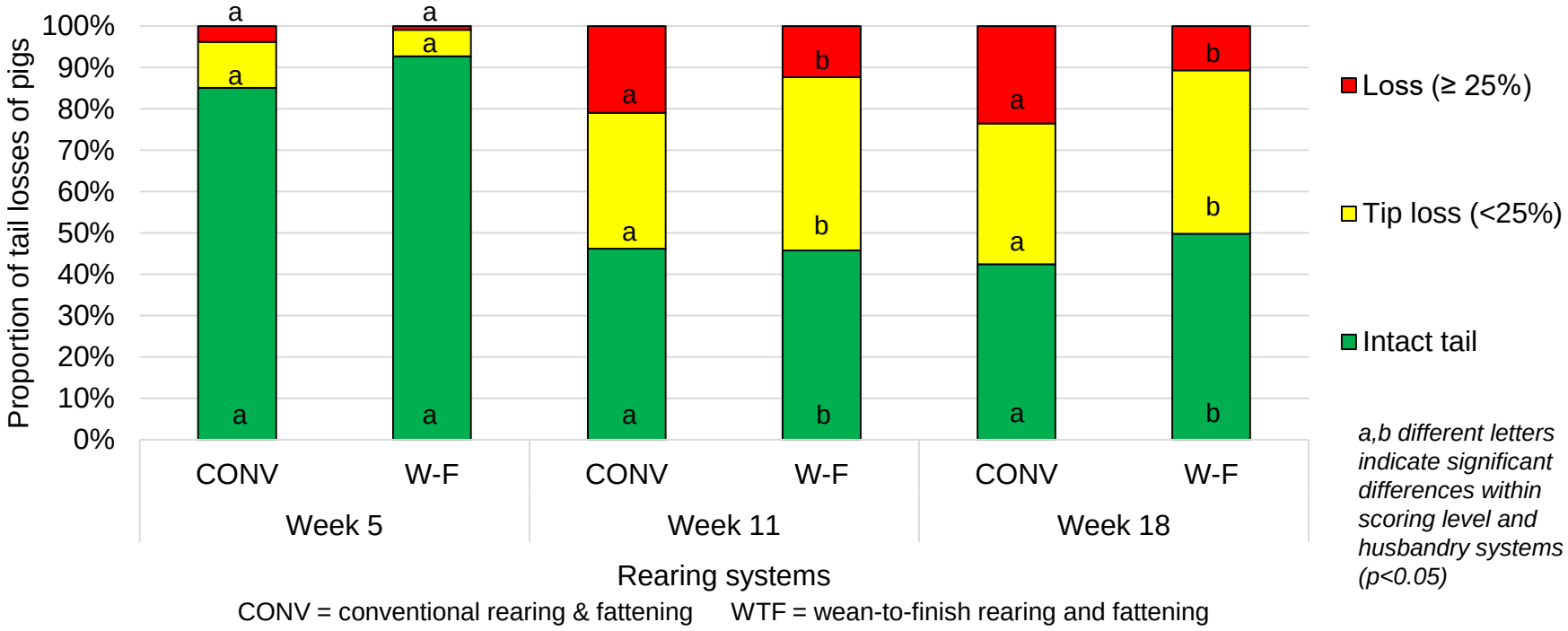
# **Tail losses** of undocked pigs: LS-Means for **farrowing systems**




*a,b different letters indicate significant differences within scoring level and husbandry systems (p<0.05)*

FC = Farrowing crate FF = Free farrowing pen GH = Group housing of lactating sows

# **Tail losses** of undocked pigs: LS-Means for **rearing systems**




*a,b different letters indicate significant differences within scoring level and husbandry systems (p<0.05)*

CONV = conventional rearing & fattening  WTF = wean-to-finish rearing and fattening

# Discussion

## Tail lesions

- Increase from second week on → pigs getting courageous (Naya et al., 2016)
- Maximum at week 7 → stress of regrouping & rehousing (Veit et al., 2016; Weary, 2008)
- Feed changes → stress (Taylor et al., 2012)
- Double space allowence during rearing period

## Tail losses

- Early socialisation of FF and GH pigs (Oostindjer et al., 2011)
- Healing without loss is possible (D´Eath, 2005)
- Poor wound healing → mounting of males (Berry and Signoret, 1984)

# Conclusion

## Do farrowing and rearing systems affect the tail lesions and losses of docked and undocked pigs?

- Rearing systems affect tail lesions

  → Wean-to-finish: positive effect of double space allowance and reduced regrouping

- Farrowing systems affect tail losses

  → Positive effect of early socialisation

- Large differences between docked and undocked pigs

# Thank you very much for your attention!

# Are there any questions?

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