Tail docking in pigs – Is there any possibility of renunciation?

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What is tail biting?

Tail biting can be classified into three categories (Taylor et al., 2010):

- **„Two stage“**
  - Low-stimulus environment
- **„Sudden-forceful“**
  - Lack of resources
- **„Obsessive“**
  - Individuals with health problems

Consequences:
- Reduced animal welfare
- Possible spread of infections
  - Economic losses
- Can a daily offer of raw material for occupation of piglets prevent or decrease tail biting?
- Do the piglets accept the raw material?
Experimental set up

- **Observation period**: September 2013 till January 2014
- **Renunciation of tail docking**
- 720 piglets divided into 3 groups:
  - Control
  - Dried corn silage
  - Alfalfa hay
  → 10 batches with 6 litters
- **Offering of raw material** two times per day in piglet bowl or nest
- **Weekly scoring** in farrowing section and rearing area, every third week in fattening unit
- **Video surveillance** of 40% of litters in farrow section and rearing area
  → Analysis by „Instantaneous scan sampling“, coding of behaviour patterns
Scoring

(1) Damage
• No visible damage
• Scratches, light bite marks
• Moderate damage
• Severe damage

(2) Additional observations
• Swelling
• Blood
• Necrosis

(3) Tail length / Loss of tail
• Original
• Loss of tail tip (max. ¼ )
• Partial loss (at least ¼ )
• Total loss
Scoring

<table>
<thead>
<tr>
<th>Original length</th>
<th>Loss of tail tip</th>
<th>Partial and total losses</th>
</tr>
</thead>
</table>

Introduction  •  Materials & Methods  •  Results  •  Discussion & Conclusion
Procedure Glimmix (SAS 9.2®): „Multinomial subject specific model“

• Fixed effects:
  - Group (control, dried corn, alfalfa hay)
  - Batch (1-10)
  - Test day (1-13)
  - Age in weeks (1-13)
  - Interaction of group and batch

• Random effect:
  - Group
Estimated frequencies over 6 weeks after weaning

<table>
<thead>
<tr>
<th>Week after weaning</th>
<th>No visible damage</th>
<th>Scratches, light bite marks</th>
<th>Moderate damage</th>
<th>Severe damage</th>
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<tbody>
<tr>
<td>1</td>
<td>100</td>
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<td>6</td>
<td>50</td>
<td>50</td>
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</tbody>
</table>

Number of animals (%)

- Green: No visible damage
- Yellow: Scratches, light bite marks
- Orange: Moderate damage
- Red: Severe damage
Estimated frequencies over 10 batches, control group

Batch

- Original length
- Loss of tail tip (max. ¼)
- Partial loss (min. ¼)
- Total loss

Number of animals (%)

1 2 3 4 5 6 7 8 9 10

100 80 60 40 20 0
Tail losses – Batch effect

Estimated frequencies over 10 batches, dried corn group

<table>
<thead>
<tr>
<th>Batch</th>
<th>Original length</th>
<th>Loss of tail tip (max. ¼)</th>
<th>Partial loss (min. ¼)</th>
<th>Total loss</th>
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<tbody>
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<td>1</td>
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<td>10%</td>
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## Tail losses – Batch effect

### Results

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<tr>
<th>Batch</th>
<th>Original length</th>
<th>Loss of tail tip (max. $\frac{1}{4}$)</th>
<th>Partial loss (min. $\frac{1}{4}$)</th>
<th>Total loss</th>
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Estimated frequencies over 10 batches, alfalfa hay group

![Graph showing estimated frequencies over 10 batches](image-url)
"Instantaneous scan sampling"

- Two-phase activity curve in farrow section and rearing area
- On average 31% of the piglets were occupied by offered material
  → Tendency to decrease during 10 min observation period
- From farrow section to rearing area the activity increased from 20 to 40%
Conclusion

• Concentration of tail biting in rearing phase
  → Biting occurrence 2-3 weeks after weaning
  → Tail losses 3-4 weeks after weaning

• Offering of raw material as occupation material
  → Tendencies to reduce tail biting
  → Tendencies to delay an outbreak after weaning

• Need of precise animal observation and direct intervention in case of tail biting occurrence
  → More important then the kind of material

• Outlook: Analysis of video recording
  → Activity behaviour in regard of tail biting outbreak
Thank you for your attention!

Any questions?

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