Tail biting intervention programme for weaner and fattening pigs

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Tail biting in pigs - Risk factors

Tail biting = behavioural disorder
Tail biting ≠ cannibalism

- climate
- straw
- enrichment
- competition
- genetic
- social issues
- feeding
- water
- group
- pen design
- health

Tail biting = behavioural disorder
Tail biting ≠ cannibalism
Tail biting in pigs - consequences

bitten pigs

stress
decrease of welfare
injuries
inflammations
pain

![Images of bitten pigs showing injuries and stress symptoms.](image-url)
Measures to reduce tail biting

Tail docking

→ Significant reduction of tail lesions (e.g. Paoli et al., 2018)
  • Harder to grasp?
  • Stump more sensible?

→ But only reduction of the symptom and no reduction of the underlying causes!
Measures to reduce tail biting

Approach: Tail biting intervention programme SchwIP

I. Research of possible risk factors

II. Weighting of risk factors using an expert survey
   • Survey of 61 experts
   • Weighting on a scale from -100 (best prevention) to +100 (highest risk)

III. Development of a software for the usage of SchwIP

   Software based management tool for the farm individual analysis and reduction of tail biting risk
SchwIP - concept

farm individual weak point analysis (external person)

definition of aims and measures by farmer

support by adviser or veterinarian

implementation and recording

control of success
1. Interview with farmer

- Farm data
- Performance data
- Feeding
- Feed ration
- Prehistory of pigs

Analysis of drinking water within last 12 months:
- yes
- no
- partly
- N/A

Number of total born piglets per litter:

14.0 piglets (1...30)
2. Assessment in barn

- climate
- lesion assessment
- feeding
- feed supply
- water supply
- enrichment

behavioural observation

Tails are docked:
- no
- yes, same length
- yes, length varies > 1/3
- N/A

Enrichment in pen:
- inorganic and organic
- organic (e.g. straw, wood)
- inorganic (e.g. plastic objects, feeding chains)
- none
- N/A
3. Discussion of risk report

- Enrichment
  - Last visit
    - Enrichment: Prehistory
    - Hygienic
    - Transport/mixing
    - Climate
    - Water
    - Feed
    - Performance
    - Health
    - System
    - Farm
    - Lying comfort
  - Actual visit
    - Enrichment
    - Prehistory
    - Hygienic
    - Transport/mixing
    - Climate
    - Water
    - Feed
    - Performance
    - Health
    - System
    - Farm
    - Lying comfort

- Climate
  - Last visit
    - Climatic
    - Hygienic
    - Transport/mixing
    - Feeding
    - Performance
    - Health
    - System
    - Farm
    - Lying comfort
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- Risk report
  - Last visit
    - Risk factors
    - Hygienic
    - Transport/mixing
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    - Farm
    - Lying comfort
SchwIP effect

- assessment of 21 farms three times using SchwIP
- replacement of collected data by weightings made by experts in a survey

<table>
<thead>
<tr>
<th>Indications for diarrhoea?</th>
<th>collected value</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert weighting</td>
<td>58</td>
<td>58</td>
<td>-58</td>
</tr>
</tbody>
</table>

- risk sum = sum of expert weightings
SchwIP effect

*** p < 0.05
SchwIP effect

![Box plot showing the prevalence of tail lesions per visit (visit 1, visit 2, visit 3)]
Practical example

Farm data
- 936 weaning places
- closed barn, artificially ventilated
- closed system (farrowing - rearing - fattening)

<table>
<thead>
<tr>
<th>parameter</th>
<th>visit 1</th>
<th>visit 2</th>
<th>visit 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>number of assessed pens</td>
<td>4</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>number of assessed pigs per pen</td>
<td>16.5</td>
<td>13.5</td>
<td>18.0</td>
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<tr>
<td></td>
<td>(15</td>
<td>19)</td>
<td>(8</td>
</tr>
</tbody>
</table>
Practical example - visit 1

Measure 1:
check climate in barn
  • adjust air temperature
  • adjust ventilation

Measure 2:
reduce diarrhoea
  • add charcoal to feed
  • chopped straw as enrichment
  • crushed feed
Practical example - visit 2

Measure 1: reduce weaning stress
- mixing of piglets 2 to 4 days before weaning

Measure 2: functionality of drinkers
- check flow rate of drinkers
- check drinkers for splashing and dropping
- repair/change faulty drinkers
- adjust flow rate
Practical example - visit 3

![Diagram showing the 10 strongest risks on farm](image)

- Functionality of drinkers
- Air quality
- Ammonia content
- Straw
- Blending of rations
- CO2 content
- Desinfection
- Weight variation at weaning
- Flow rate too low
- Mixing of litters
Practical example - effects

- reduction of risk sum

![Bar chart showing risk sum reduction over visits](image)
Practical example - effects

- reduction of tail lesion prevalence
Current status of SchwIP

- SchwIP actually not available
  - revision of software
  - revision of expert weightings

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Thank you for your attention!

Questions?

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