Welfare assessment of finishing pigs from farm to slaughter

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Introduction

- Increasing demands for documentation from the market and the EU (EU regulation 1099/2009)
- On-site tools for continuous monitoring
Aim

• To develop a method for documentation of animal welfare on the day of slaughter of pigs; including:

• to investigate the relationship between selected *ante-mortem* observations and *post-mortem* measurements with the aim of identifying potential welfare indicators for future documentation of welfare of finishing pigs at commercial abattoirs. (Study 1)

• to develop an aggregated animal welfare assessment using expert opinion – an animal welfare index (AWI) – for finishing pigs on the entire day of slaughter, including an index within single stages as well as an overall index for the day of slaughter. (Study 2)

• to investigate the relationship between an animal welfare index covering the entire day of slaughter with selected *post mortem* measurements under commercial conditions. (Study 3)
The day of slaughter

- Pick-up facility
- Loading
- Transport
- Unloading
  - Lairage
- Race to stunning
- Stunning and sticking
  - Single vs. Group
  - Restraining
  - Aversion to gas
- Inadequate sticking

Brandt and Aaslyng, Meat Science 103, pp. 13-23, 2015
Study 1

- 80 pigs from 4 herds
- Commercial 3-deck lorries
- Danish commercial abattoir
- 1 hour lairage, 15 pigs/pen
- Automatic race to stunning
- CO₂ stunning in groups
- Sticking 820 pigs/hour

Unloading ➔ Lairage ➔ Race to stunning ➔ Sticking
Study 1

- Glucose and lactate was significantly positively correlated to behaviors observed in the race to the stunning chamber.
- Relationship between creatine kinase activity and post mortem skin damage assessment on the shoulder

-> relevant indicators for assessing welfare on the day of slaughter

Brandt et al., Livestock Science 157, pp 535-544, 2013
Study 2
- 45 pigs from 5 herds
- Heart rate

Study 3
- 480 pigs from 12 herds
- Blood samples
- Blood temperature
- pH
How important is it for me - when I need to assess pig welfare in the pick-up facility - to know whether and to what extent the pig has been / is exposed to the following five factors. Set 1 x in each line where 1 is not important and 5 is crucial.

### 3. Udleveringsrum
Hvilken betydning har det for mig – når jeg skal vurdere grisens velfærd i udleveringsrum – at vide om og i hvilken grad grisen har været/er udsatt for følgende 5 faktorer. Sæt 1 x i hver linje hvor 1 er ikke vigtigt og 5 er afgørende.

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<thead>
<tr>
<th></th>
<th>1. Ikke vigtigt</th>
<th>2.</th>
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<th>5. Afgørende</th>
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<td>Grisen har skrammer og sår –</td>
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<td>bedømt på en skala fra 0-3, hvor:</td>
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Study 2

Animal Welfare Index (AWI)
Study 2

- Transport
- Unloading
- Lairage
- Race

(Data shown as a graph with heart rate in bpm over time)

[Graph showing heart rate changes with labeled time intervals for transport, unloading, lairage, and race]
Let’s Work Together

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