

# Welfare assessment of finishing pigs from farm to slaughter

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# Introduction



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

# Aim



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- 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



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Pick-up facility

Loading

Transport

Unloading

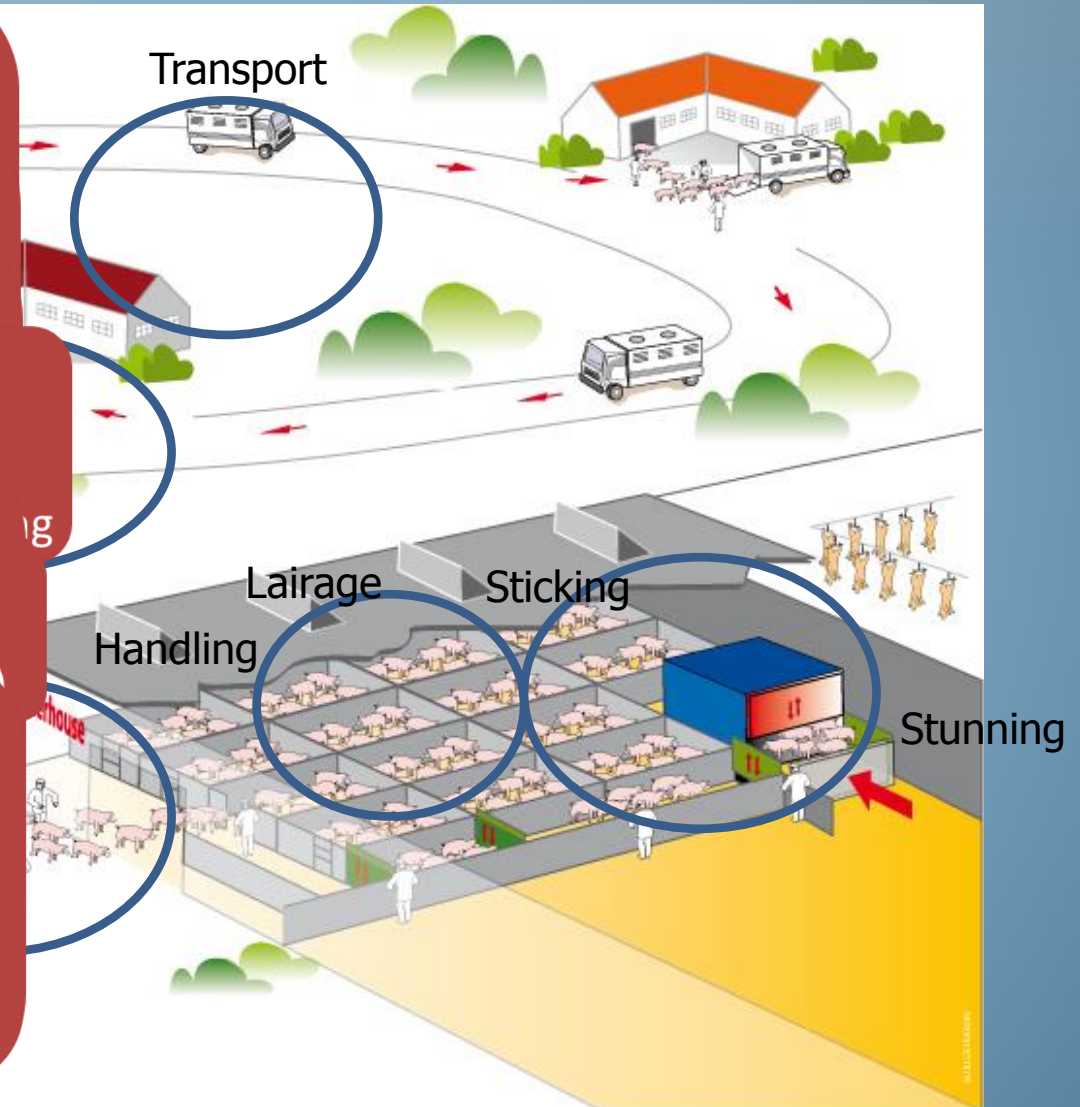
Lairage

Race to stunning

Stunning and sticking

- Single vs. Group
- Restraining
- Aversion to gas

• Inadequate sticking



# Study 1



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- 80 pigs from 4 four herds
- Commercial 3-deck lorries
- Danish commercial abattoir
- 1 hour lairage, 15 pigs/pen
- Automatic race to stunning
- CO<sub>2</sub> stunning in groups
- Sticking 820 pigs/hour

Unloading → Lairage → Race to stunning → Sticking

# Study 1



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- 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

# Study 2

- 45 pigs from 5 herds
- Heart rate

# Study 3

- 480 pigs from 12 herds
- Blood samples
- Blood temperature
- pH



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# Outline - Study 2 and 3



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Heart rate

0. Home pen	1. Pick-up facility	2. Loading	3. Transport	4. Unloading	5. Lairage	6. Race
Skin damage	Skin damage Duration Stocking density Mixing Fast	Duration Driving Reluctance to move Turning back Slipping Falling Lifting	Driving style Duration of transport Duration of breaks Temperature	Duration Driving Reluctance to move Turning back Slipping Falling	Skin damage Mixing Duration Aggression Posture Mounting Being mounted Time to lie down % of time lying	Slipping Falling Overlapping Moved by gate

**7. Sticking**  
Blood sample  
Blood temperature

**8. Slaughter line**  
Skin damage  
pH45

Pick-up    Loading    Transport    Unlaoding    Lairage    Race    Sticking



# Study 2



Ask an expert!



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 udsat for følgende 5 faktorer. Sæt 1 x i hver linje hvor 1 er ikke vigtigt og 5 er afgørende.

1. Ikke vigtigt      2.      3.      4.      5. Afgørende

Grisen har skrammer og sår – bedømt på en skala fra 0-3, hvor: 0. ingen, 1. få skrammer, 2. mange skrammer, 3. sår

Varighed af opstaldning

Belægningsgrad

Sammenblanding

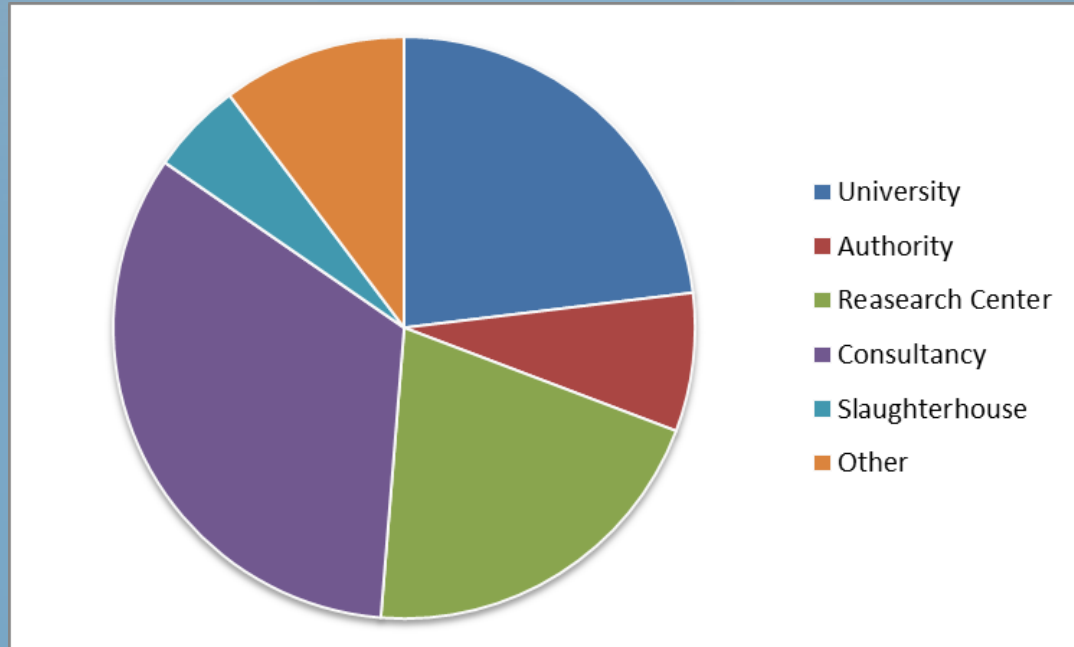
                      

Faste

# Study 2



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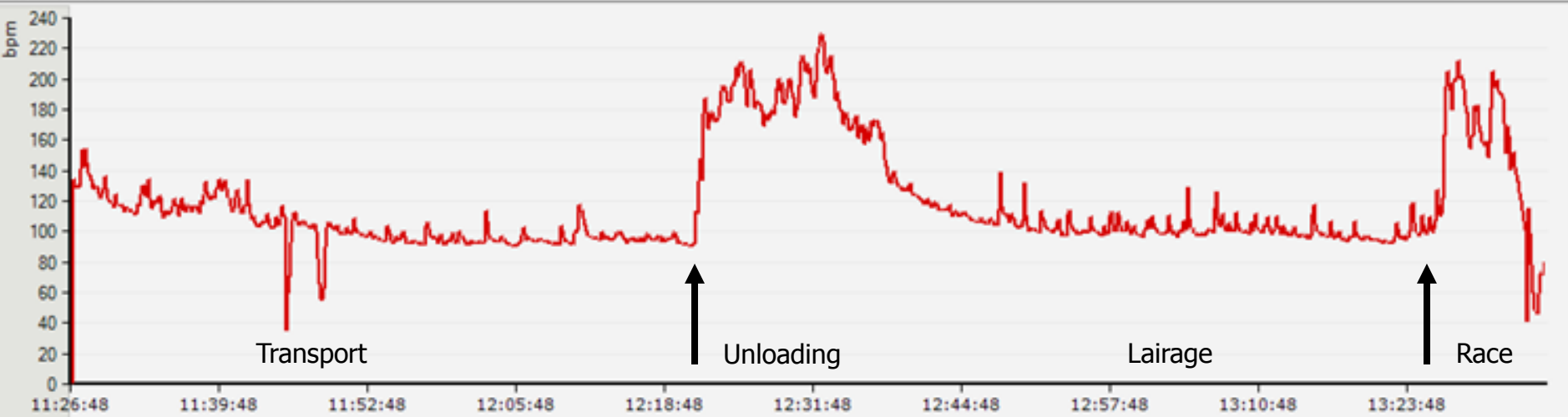


➔ Animal Welfare Index (AWI)

# Study 2



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# Let's Work Together



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www.dti.dk/35639

Danish Technological Institute > Projects > Danish Meat Research Institute > Let's Work Together



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## Let's Work Together - Project catalog for students



We need you to help us increase the yield of meat

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