

# The Conture project



# Project group

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- The project was initiated by Harm Kiezebrink, Applied Veterinary Technologies Europe AB
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- The project was financed by Tönnies Forschung gGmbH

# Aim

The overall aim is to get nitrogen high expansion foam approved as a stunning method at slaughter.

The aim of the practical study was to evaluate the pigs' behavioural and physiological reaction to nitrogen high expansion foam as a stunning method as well as study the stunning process itself (time to loss of posture, stunning quality).

# The stunning box



# Pilot study – pigs' reaction to air filled foam

- 30 pigs (average weight 22,4 kg)
- Three treatments: control, sound+water, air filled foam
- Behavioural studies by video recordings from above and under the box
- The pigs in the air filled foam treatment was slipping more than pigs in the control group
- Pigs in the foam treatment was investigating the floor less frequently than the other two treatments, which may indicate that the pigs actively avoid the foam or that they may perceive the foam as difficult to breath in
- The frequency of flight attempts was on average higher for the sound+water and foam treatments compared to the control, although not statistically significant

# Main study - materials and methods

- 60 pigs
- Approx. 9 weeks of age
- Pigs within pen and gender were divided into groups of three, and within these groups pigs were randomly selected one for each treatment
- Three treatments: control, air filled foam and nitrogen filled foam (stunning & bleeding)
- Data collection: video recordings from above and below the box, HR, activity, breathing frequency

# Pig weight per treatment

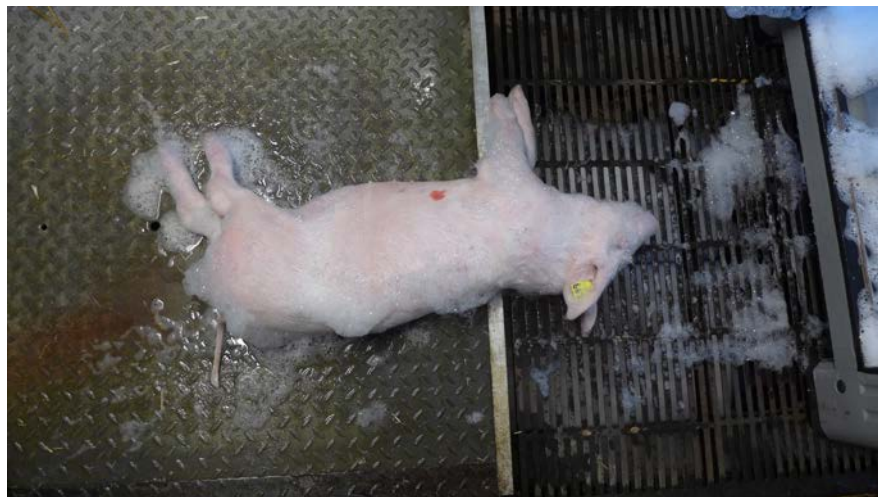
Treatment	No. of males/females	Weight (mean), kg	Weight (range), kg
Control	9/11	28.0	22.0-33.9
Air foam	9/11	27.4	22.2-35.9
Nitrogen foam	9/11	27.9	22.2-33.3

# Experimental process

- One pig at a time was separated from the group pen
- Measuring equipment was mounted on the pig
- Two minutes to acclimatise
- Transfer to the stunning box
- Two minutes to acclimatise in the box
- Start of treatment: control, air filled foam, nitrogen filled foam
- End of treatment after five minutes
- Stunned pigs: stunning quality and heart rate was controlled before bleeding







# Behavioural studies

- Observations from video recordings above and under the box
- Observations 30 seconds before treatment started and 90 seconds after treatment started
- Behaviours were registered within 10 second intervals, i.e. three intervals before treatment started and 9 intervals after

# Behavioural studies – registered behaviours

- Sit
- Lay down
- Stand
- Slip
- Startle
- Shake
- Explore roof, floor, wall
- Explore foam
- Escape attempt door, wall, roof
- Vocalisation
- Defecate
- Activity (movement in box)
- Placement in box (zone1, 2, 3 & 4)
- Convulsions – type and intensity