Willingness to walk for a feed reward in lame and non-lame sows

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Introduction

- Group housing
  - Compulsory by law in Europian Union since 1st January 2013

- Positive and negative (Kroneman *et al.*, 2012)
  - Increased activity
  - Increased social interactions

- Higher welfare standards vs. impaired welfare

Introduction

- Lameness in sows

- Prevalence of 8.8-16.9% (Heinonen et al., 2006; KilBride et al., 2009)

- Impaired welfare (Bourne, 2011)

- Higher costs (Anil et al., 2005; Anil et al., 2009)

- Early culling (Anil et al., 2005; Kirk et al., 2005; Engblom et al., 2008)
  - Reproduction parameters

- Early detection of lameness

Aim

- **Objective**: To investigate the impact of lameness on the ability to cover distances for feed rewards as a method to detect lameness

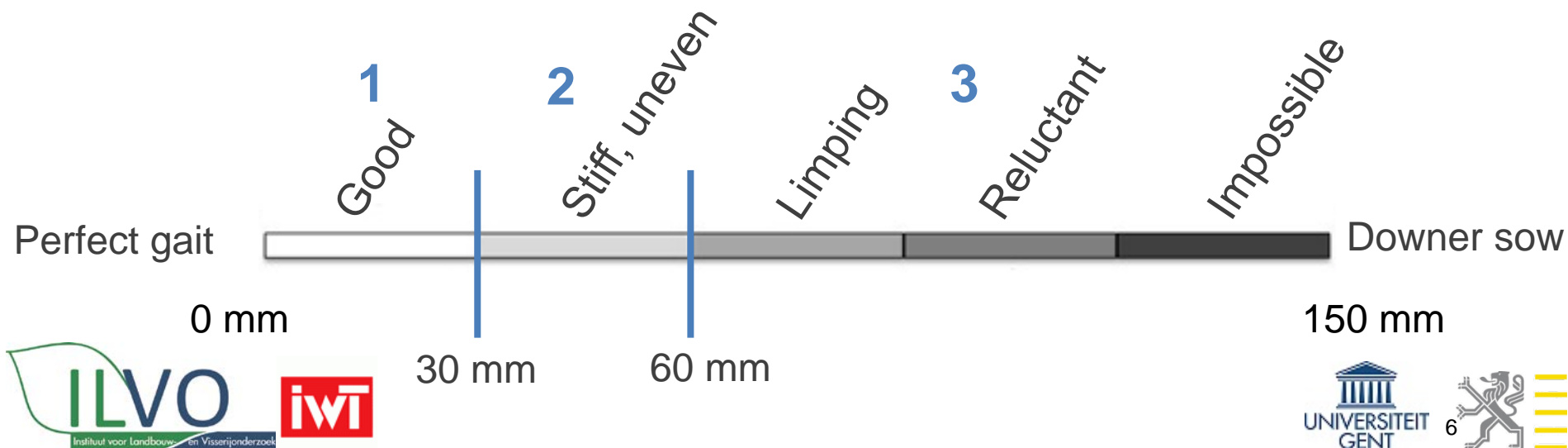- **Hypothesis**: Lame sows cover less distance and thus obtain fewer feed rewards compared to non-lame sows

ANIMALS

- Animals:
  - Group housed sows (n=29)
  - Same pregnancy stage & parity (multiparous)
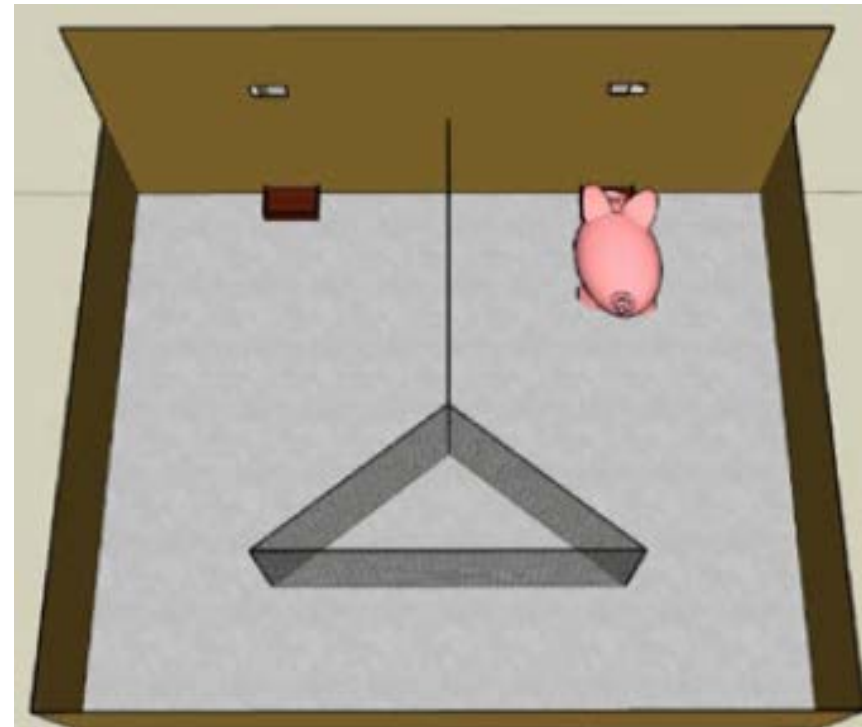 - Daily fed 2.6 kg commercial gestation diet

LOCOMOTION SCORE

- Tagged visual analogue scale (t-VAS)
- Locomotion measured in mm
  - 0-150 mm
- Three levels of lameness
  - Non-lame / mildly lame / lame

Perfect gait — **1** Good — **2** Stiff, uneven — Limping — **3** Reluctant — Impossible — Downer sow

0 mm   30 mm   60 mm   150 mm

6

- Motivation test
  - Y-shaped barrier in experimental area
  - Feed reward: apple, raisin, feed pellets
  - Indicator for reward: light, sound
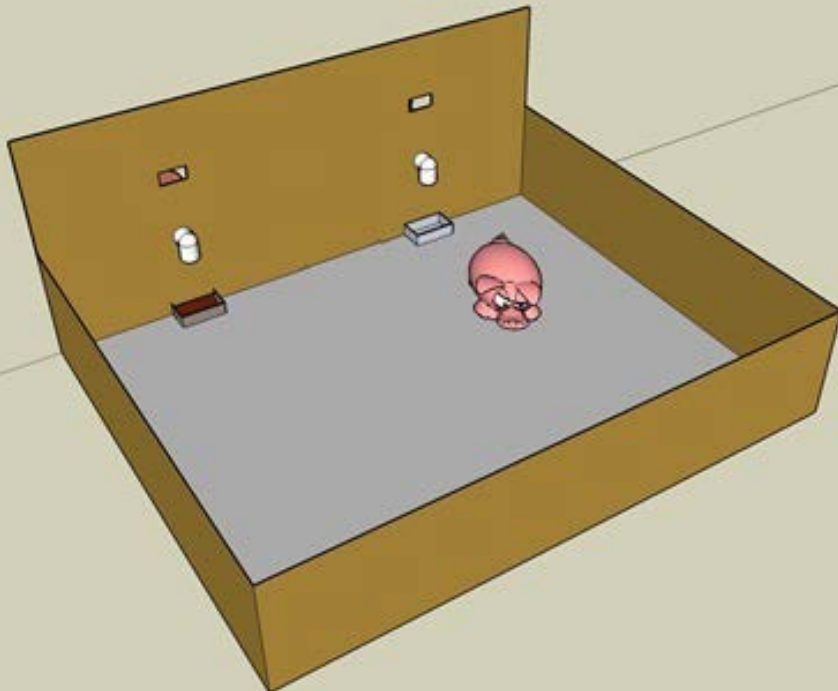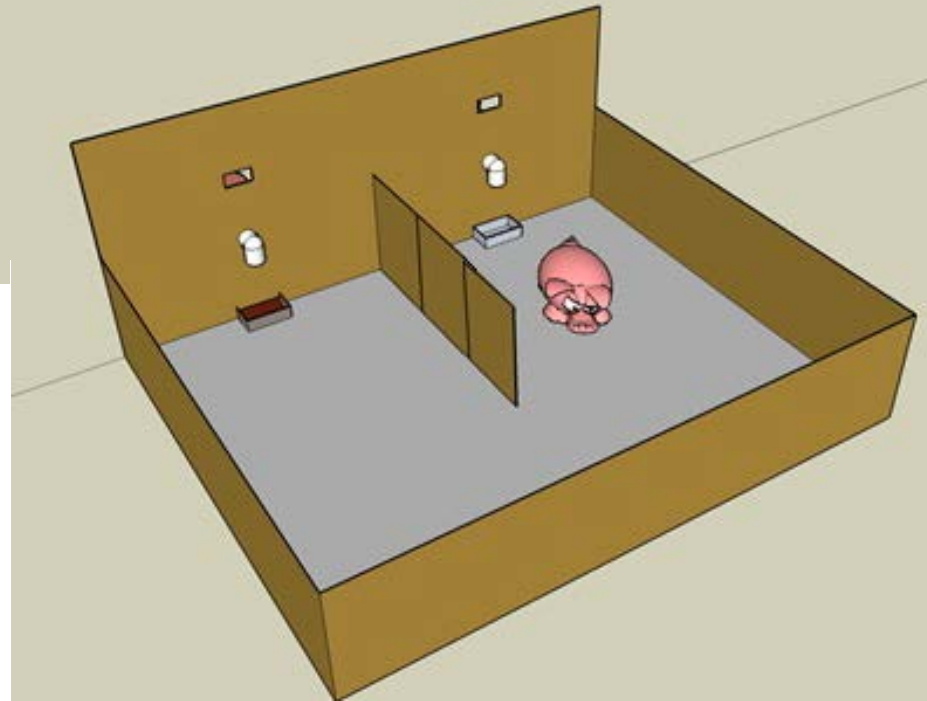 - Training days
  - Test days

EXPERIMENTAL AREA

Material & Methods

1. No barrier
2. 25%
3. 50%
4. Full length barrier
5. Full length barrier

- e 4 rewards
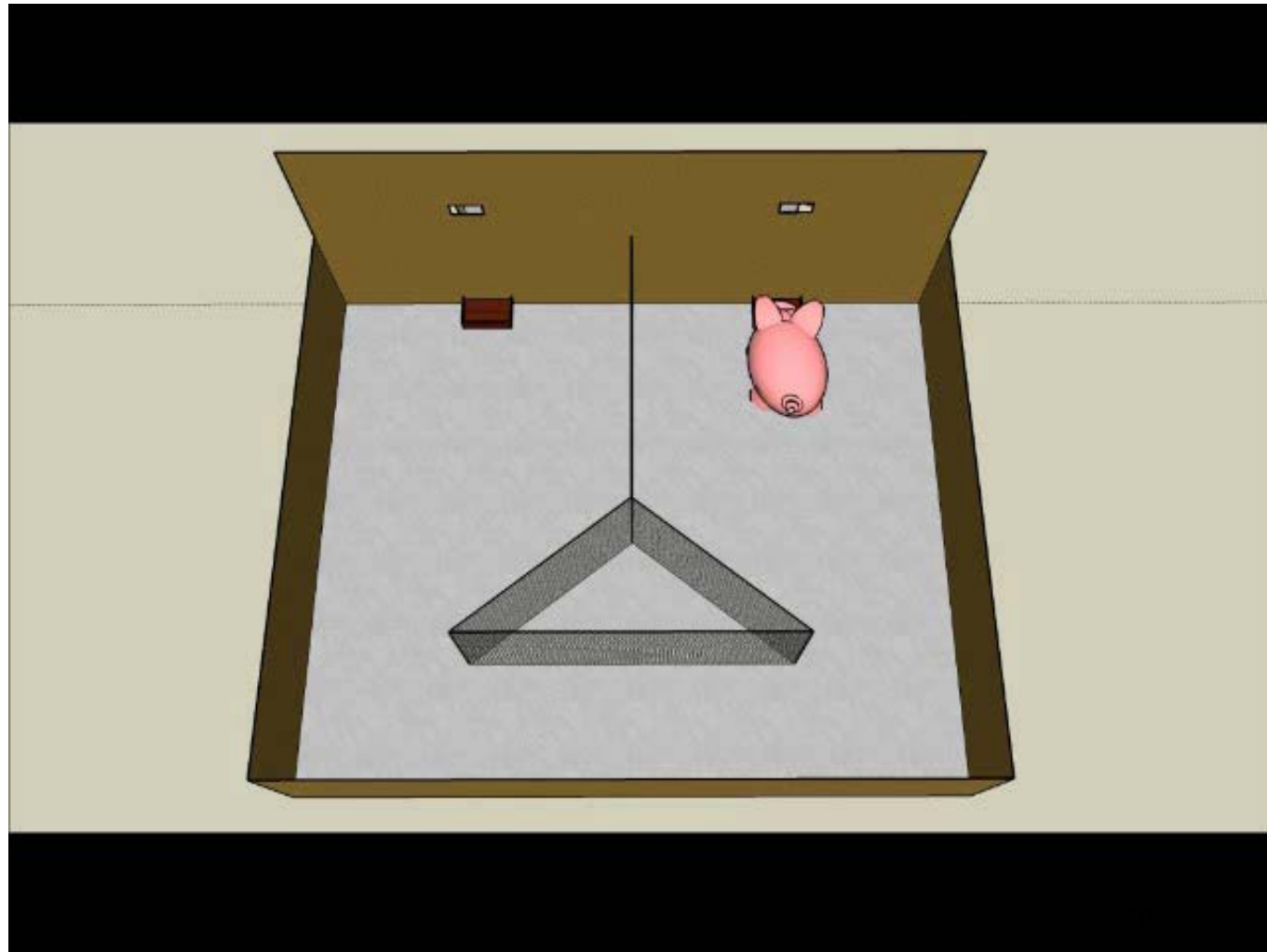- 5 days, increasing difficulty
- 10 minutes

ILVO
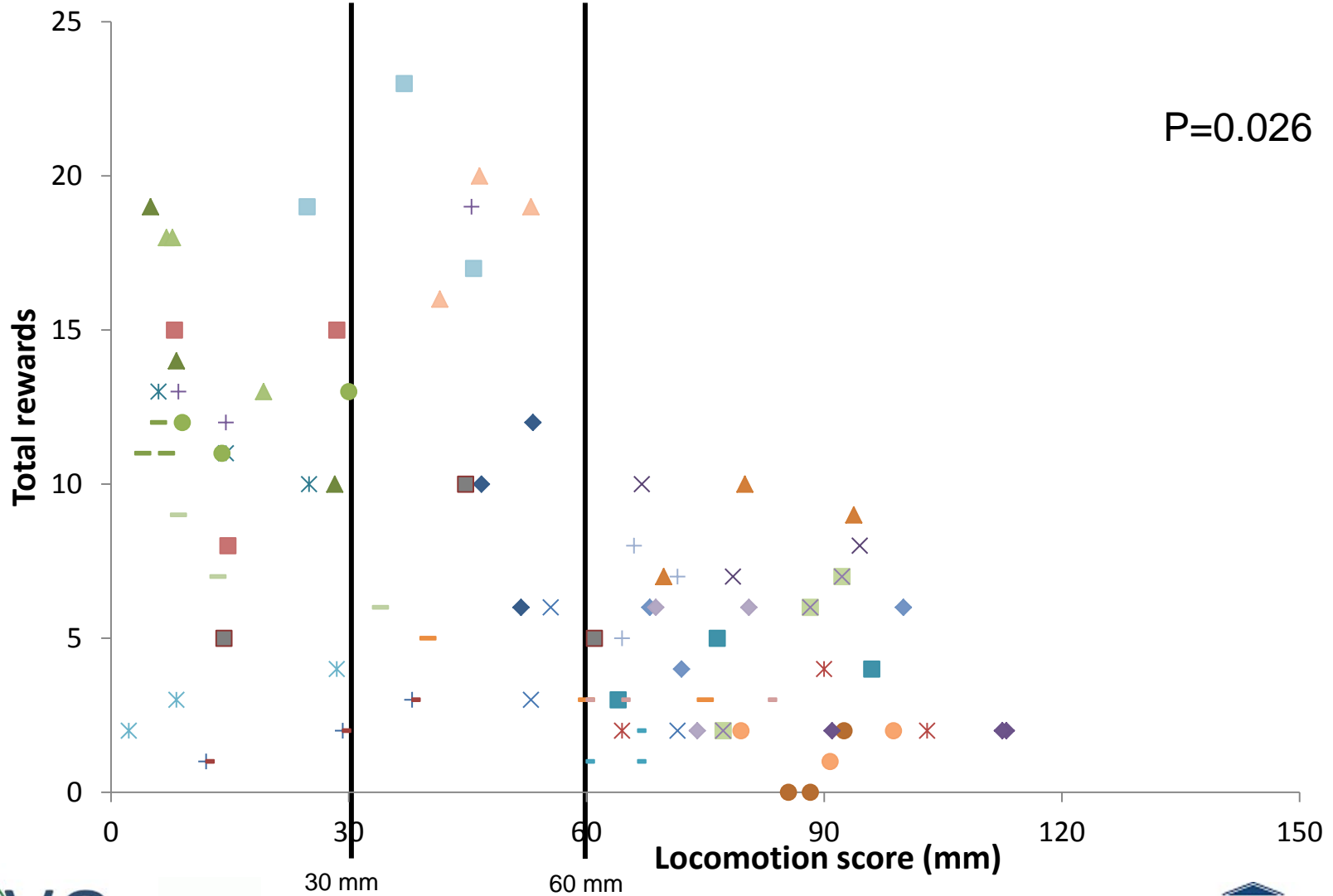Instituut voor Landbouw- en Visserijonderzoek

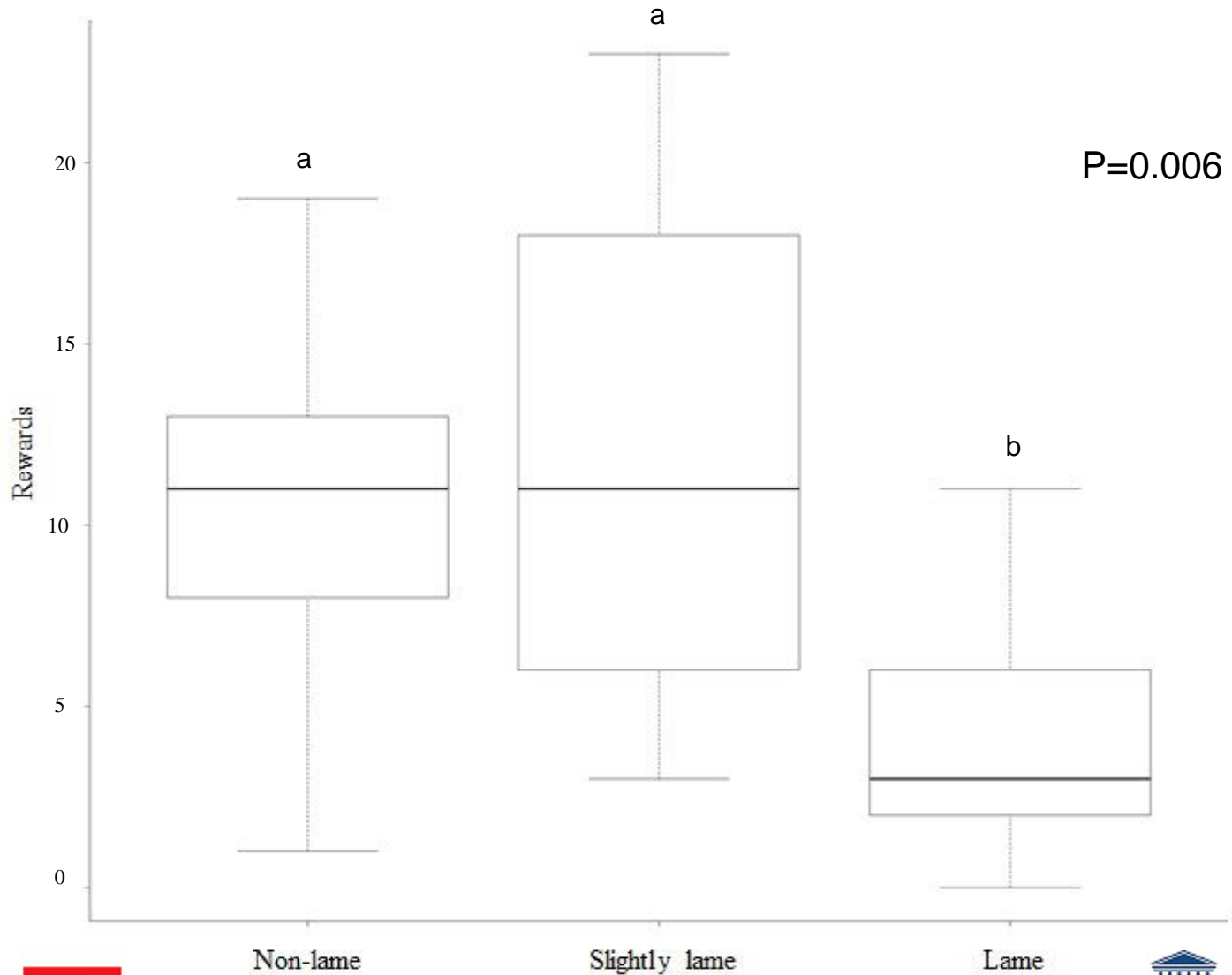## MOTIVATION TEST

- 3 non-consecutive days
- 15 minutes

Results

Total rewards in relation with locomotion score

Results

P=0.006

- Lowered willingness to obtain feed rewards in lame sows, however not in mildly lame sows
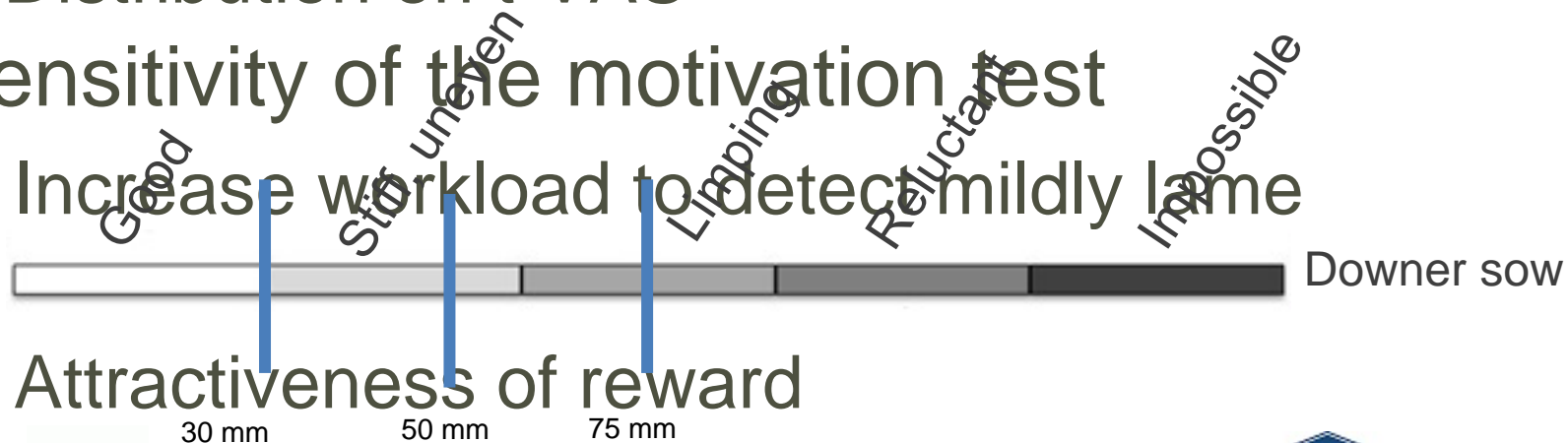
- Detection of lameness

  – Distribution on t-VAS

- Sensitivity of the motivation test

  – Increase workload to detect mildly lame

  – Attractiveness of reward

Perfect gait — Good | Stil uneven | Limping | Reluctant | Impossible — Downer sow

30 mm   50 mm   75 mm

Conclusion

- Lame sows cover less distance and obtain fewer feed rewards than non-lame and mildly lame sows

- No differences between non-lame and mildly lame sows

- Motivation test not sensitive enough to detect mildly lame sows

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