

How does weaning age affect sow and piglet behaviour and weight?

A pilot study within the Swedish production system

Hello!

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1. Background

Background

- International routines and regulations
- Swedish legislation – then and now

In order to decrease weaning age:

- Health programme
- Biohazard programme
- Batches kept in separate units
- Litter levelling ≤ 48 hours
- Additional heating & local power plant on site
- Normal weight
- Behavioural disorders after weaning

- Research on sows
- Research on piglets

- Why the change of weaning age?
 - more piglets per sow and year
 - Decreased load on sow?

Aim is to answer the following:

- What are the effects of weaning age on weight, body condition, and behaviour in sows housed in Swedish commercial piglet production?
- What are the effects of weaning age on weight gain and behaviour in piglets housed in Swedish commercial piglet production?
- Are there possible conflicts between the needs of the sow and the piglets that link to the weaning age?

Methods

Animals

- 16 sows in behavioural studies
- 19 sows in physiological studies

Treatment 3
Weaned week 3
5(+2) litters

Treatment 4
Weaned week 4
5(+1) litters

Treatment 5
Weaned week 5
6 litters

Housing

● Lövsta loose-housed farrowing unit

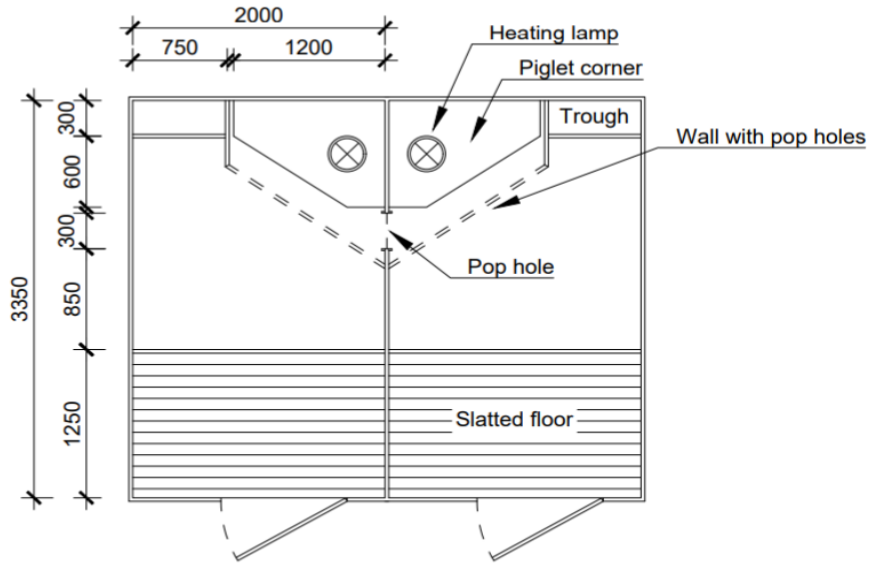


Figure: Andersson, 2019

Photo: Jenny Sverrnäs-Gillner



Behavioural observations

- Cameras above the pens
- Day 1 and 3 in weeks 2 and 6

- Continuous recording
- Scan sampling

Continuous recording

- Sows
 - Body position *i.e standing, moving, lying, sitting*
 - Activity *i.e eating, drinking, nosing piglet*
- Piglets
 - Activity *i.e play, fights, mounting, belly nosing*
- Nursing

Scan sampling

- Sows
 - Body position *i.e standing, lying, sitting*
 - Location in pen
 - Activity *i.e eating, drinking, manipulating with snout, interactions*
- Piglets
 - Body position
 - Location in pen
 - Activity *i.e eating, drinking*

Physiological parameters

- Sows
 - Weight & backfat thickness
 - farrowing → weaning
- Piglets
 - Weights
 - Farrowing → 21 → 28 → 35 → nine weeks

Statistical analysis

- SAS 9.4
- Normal distribution
 - If yes → Generalized linear model (GLM)
 - If no → Generalized linear mixed model (GLIMMIX)

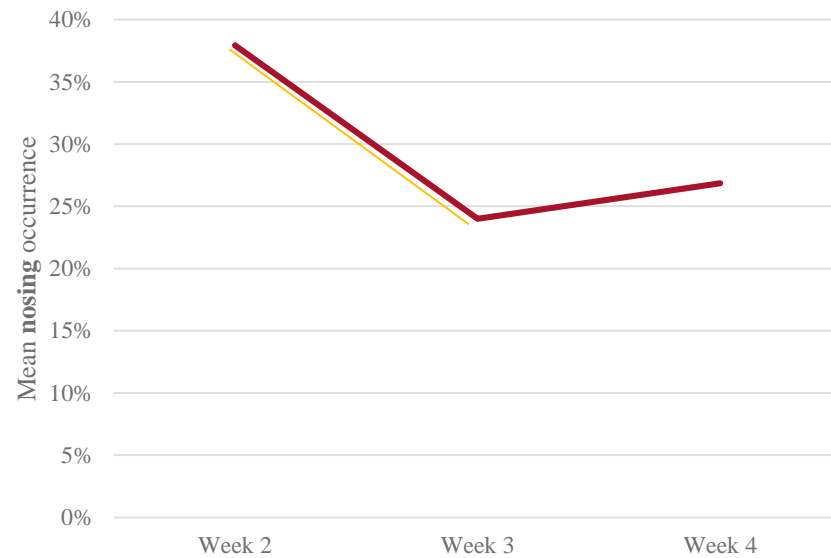
Summary of sow results

- Longer time with piglets → less:
 - Lying down
 - Nosing the piglets
 - Backfat thickness

No
Significant
results



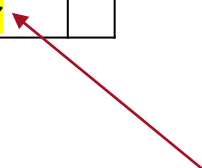
Results continuous - sow



Results sow weight & backfat thickness

| Treatment | Farrowing weight, kg | Weaning weight, kg | Difference, kg |
|-----------|----------------------|--------------------|----------------|
| 3 | 274.7 | 253.7 | -21.00 |
| 4 | 267.3 | 247.2 | -20.2 |
| 5 | 271.5 | 250.7 | -20.8 |

| Treatment | Farrowing backfat thickness, mm | Weaning backfat thickness, mm | Difference, mm |
|-----------|---------------------------------|-------------------------------|----------------|
| 3 | 14.4 | 11.1 | -3.3 |
| 4 | 16.2 | 11.7 | -4.5 |
| 5 | 17.8 | 12.2 | -5.7 |



Summary of piglet results

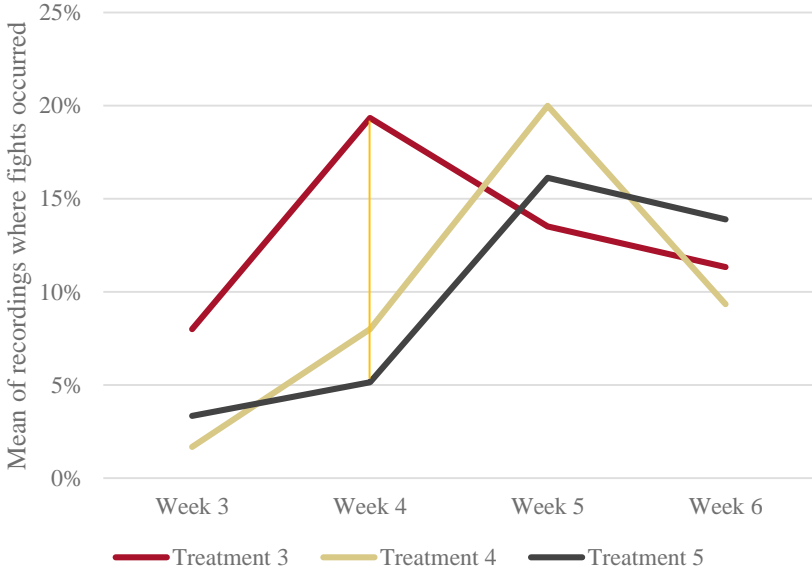
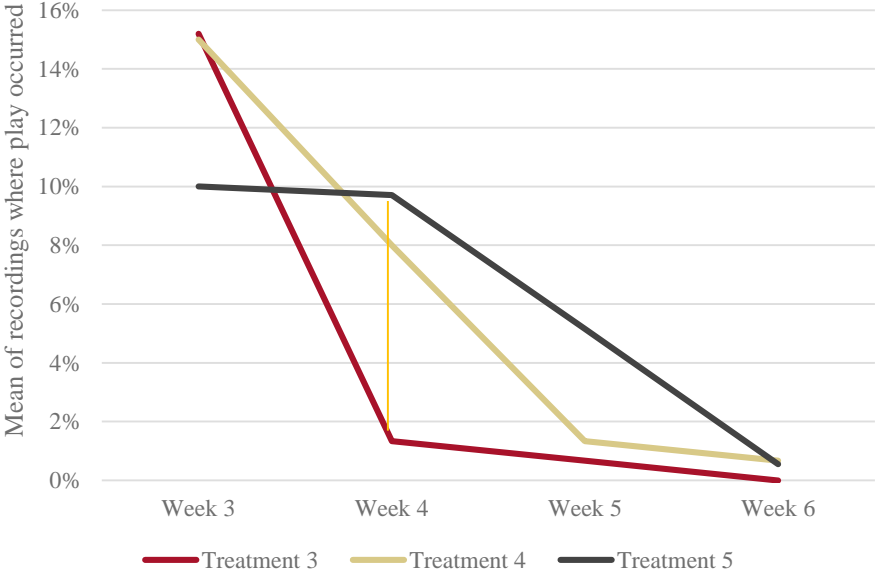
- Earlier weaned piglets spent more time:
 - Standing
 - Eating
 - Fighting
 - Belly nosing
 - Mounting
 - In piglet corner
- Increased growth rate

Less nursing?

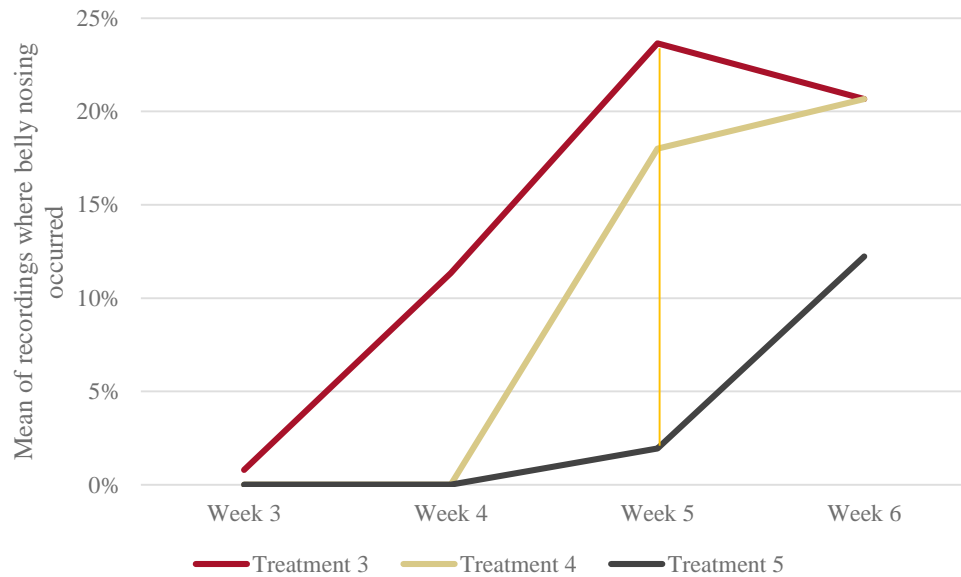
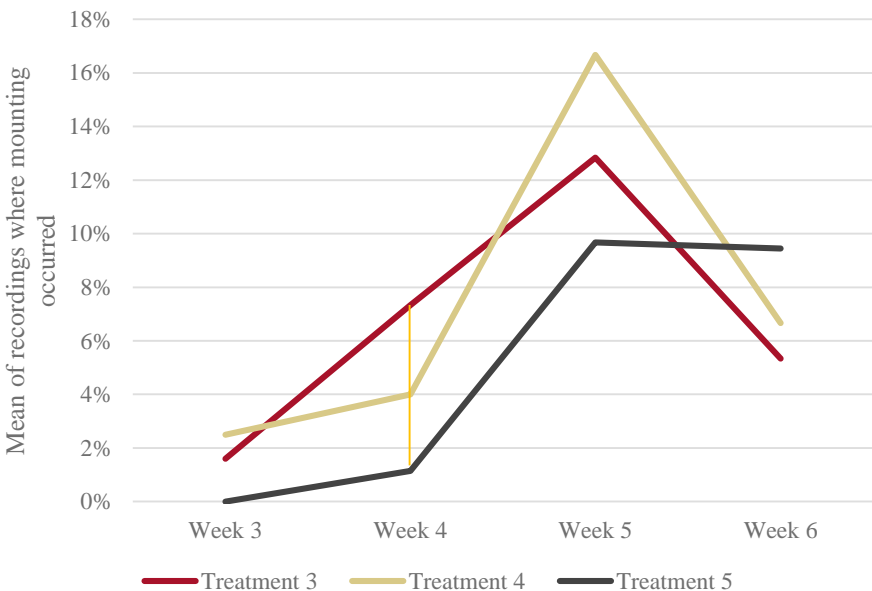


Photo: Jenny Svernås-Gillner

Results continuous - piglets



Results continuous - piglets



Discussion points

- Avoidance – induced weaning process or lack of space?
- Piglet corner – safe space or weakness in definition?
- Fights – social reconstruction?
- Fights and mounting – effects on pain levels

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Weaknesses & strengths with the study

- Sample size
- Low FPS-rate
 - Discrete behaviours
 - Chain of behaviours
 - Example: jumping
- Sow behaviour post weaning?
- Video recorded
 - Rewind, pause
- General picture of behaviours
- *Reduce*

Future studies – Swedish system

- How do sows react to different weaning ages after weaning?
- Do sows try to avoid piglets with increased weaning age?
- Detailed behaviours
- What's “worse”?

Thanks!

ANY QUESTIONS?



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PowerPoint template: SlidesCarnival.com