Multi-litter vs. single-litter housing: post-weaning piglet performance

Sofie van Nieuwamerongen   **EAAP Warsaw 3-9-15**

PhD at the Adaptation Physiology Group, dept. of Animal Sciences.
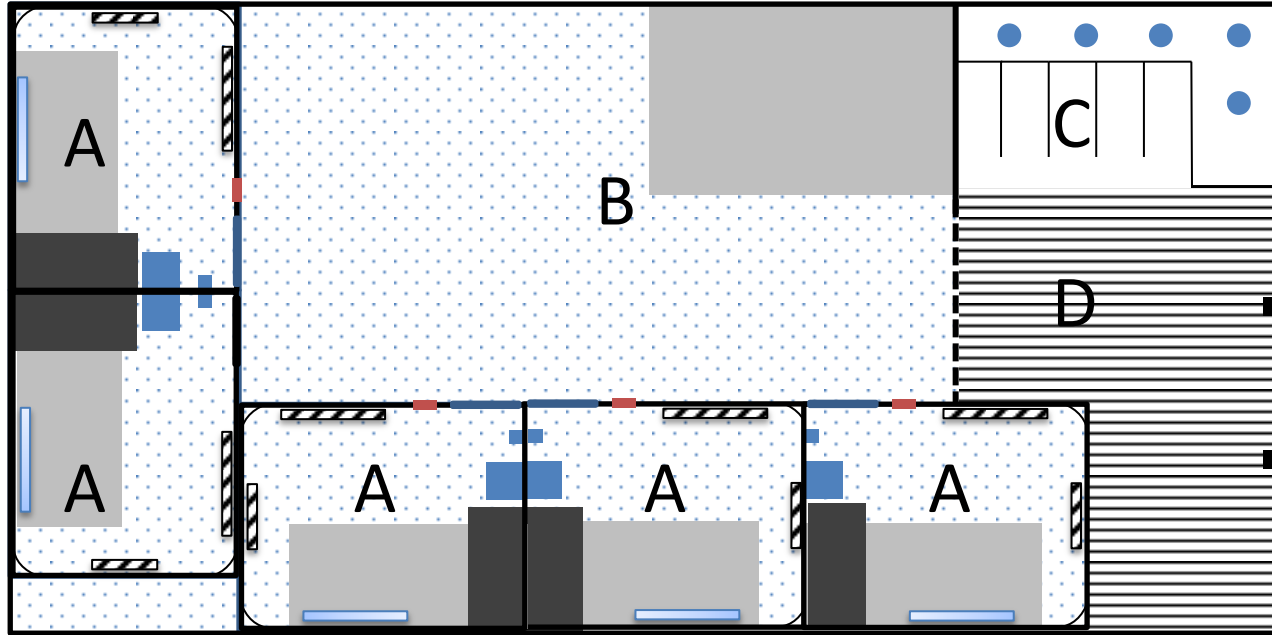

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Background

- Group housing during gestation mandatory in EU

- Welfare concerns for crated lactating sows

→Renewed interest in group housing for lactating sows?

Multi-suckling (MS) system

A=farrowing pen
C=communal feeding area

B=communal lying area
D=communal dunging area

Aim of experiment

- MS system not only benefits sows; also piglets
  - Diverse social group
  - Learning to eat
  - More complex environment
- Also risk factors
  - Cross-suckling
  - Crushing after grouping
- → Effects on piglet development?

Experimental setup

	Single-litter (SL)	Multi-litter (ML)
Pre-weaning Day 0-27		
Post-weaning Day 28-63		

Feed intake

FI/piglet, kg	ML	SL
Day 0-1	0.15±0.03	0.14±0.01
Day 1-2	**0.29±0.02**	**0.16±0.03****
Day 2-5	0.8±0.1	0.7±0.1
Day 5-13	3.5±0.3	2.5±0.3
Day 13-35	19.8±1.3	16.7±0.2
Day 0-35	*24.5±1.6*	*20.2±0.4*

**$p<0.01$

Weight gain

Gain/piglet, kg	ML	SL
Day -1-2	0.59 ± 0.06	0.35 ± 0.03**
Day 2-5	0.76 ± 0.17	0.39 ± 0.14*
Day 5-13	2.5 ± 0.2	1.8 ± 0.1
Day 13-35	13.2± 0.9	11.1 ± 0.3*
Day -1-35	*17.0 ± 1.2*	*13.7 ± 0.4**

*p<0.05
**p<0.01

Faecal consistency scores

Legend: %normal, %pasty, %watery

Y-axis: Percentage of piglets (0%, 20%, 40%, 60%, 80%, 100%)

X-axis (Days post-weaning): ML0 SL0, ML1 SL1, ML2 SL2, ML3 SL3, ML4 SL4, ML5 SL5, ML6 SL6, ML7 SL7, ML8 SL8, ML9 SL9, ML10 SL10, ML11 SL11, ML12 SL12, ML13 SL13, ML14 SL14
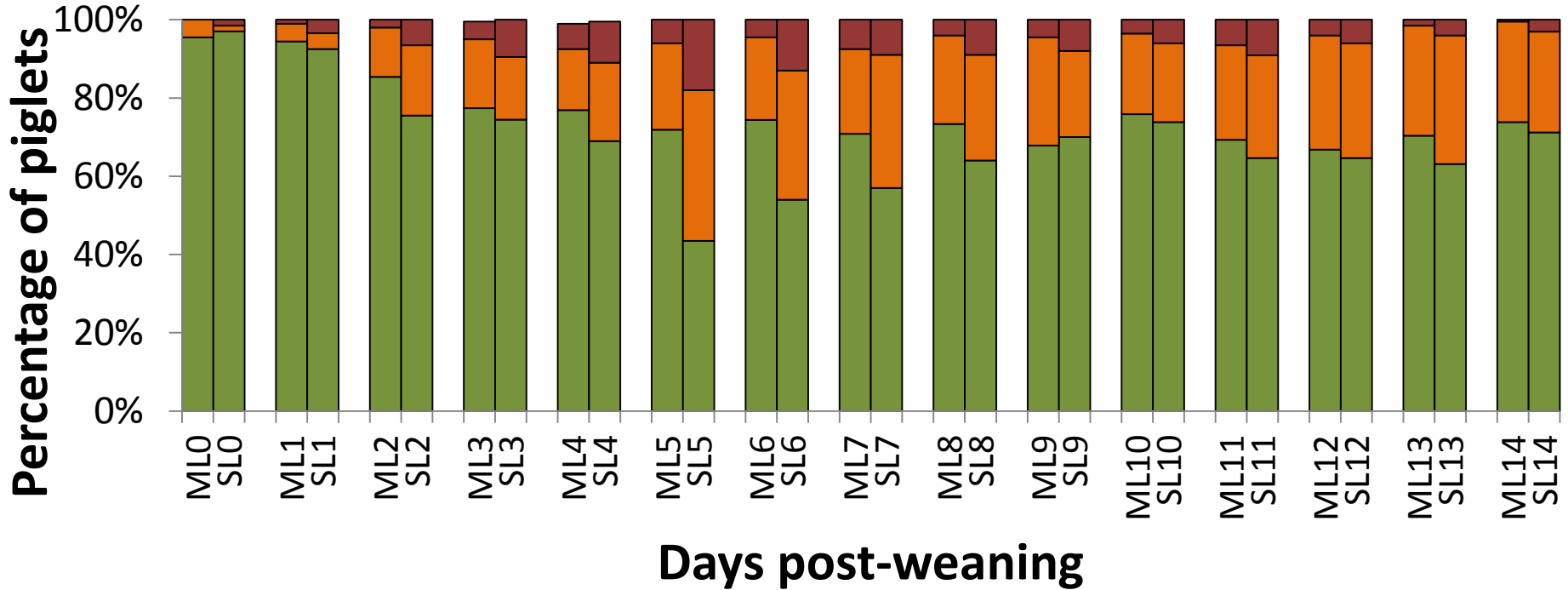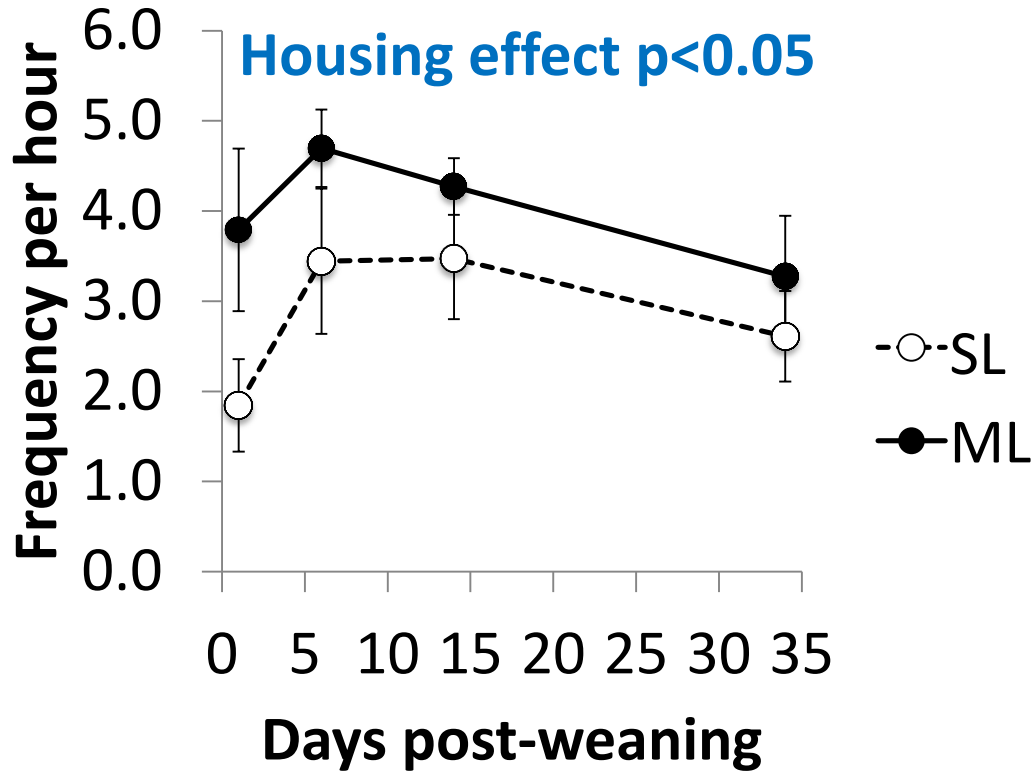
Damaging manipulative behaviour
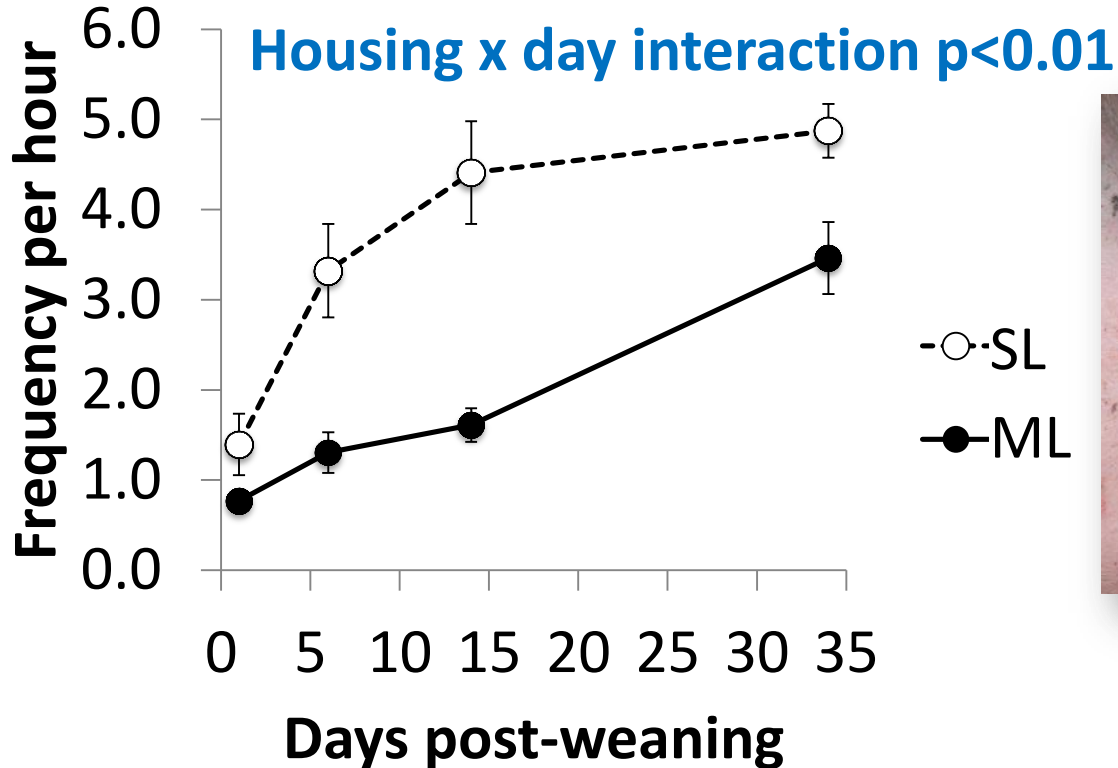
Play behaviour

Discussion (1)

ML better (early) post-weaning performance

↑ feed intake (81%)

↓ diarrhea

↑ weight gain (24%)

Why?

- Pre-weaning: learn to eat from sows+piglets, start eating earlier, chewing materials

- Post-weaning: social facilitation, more experienced eaters

Discussion (2)

ML behaviour reflects better welfare

↓ tail/ear biting

↑ play behaviour

Why?

■ Better transition to post-weaning phase

■ More enriched social and physical environment

Challenges

- Pre-weaning:
  - Crushing (farrowing pen design, climate)
  - Lameness (abrasive flooring)
- Post-weaning: Frustration? (crowding)

To sum up

ML system promising for raising robust piglets

Improved
- Transition around weaning
- Post-weaning performance
- Behavioural development

Thank you for your attention

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Project team:

Carola van der Peet-Schwering, Anita Hoofs, Nicoline Soede, Liesbeth Bolhuis, Bas Kemp, Geert van der Peet.

For more information: Sofie.vannieuwamerongen@wur.nl

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