Effect of a simulated udder on survival and weight gain of neonatal piglets in a practical farm setting

C. Jensen[1], E. Rønving[1], M. Hinge[2], F. Hakansson[1], I. Czycholl[1], *V. A. Moustsen[3]*

1

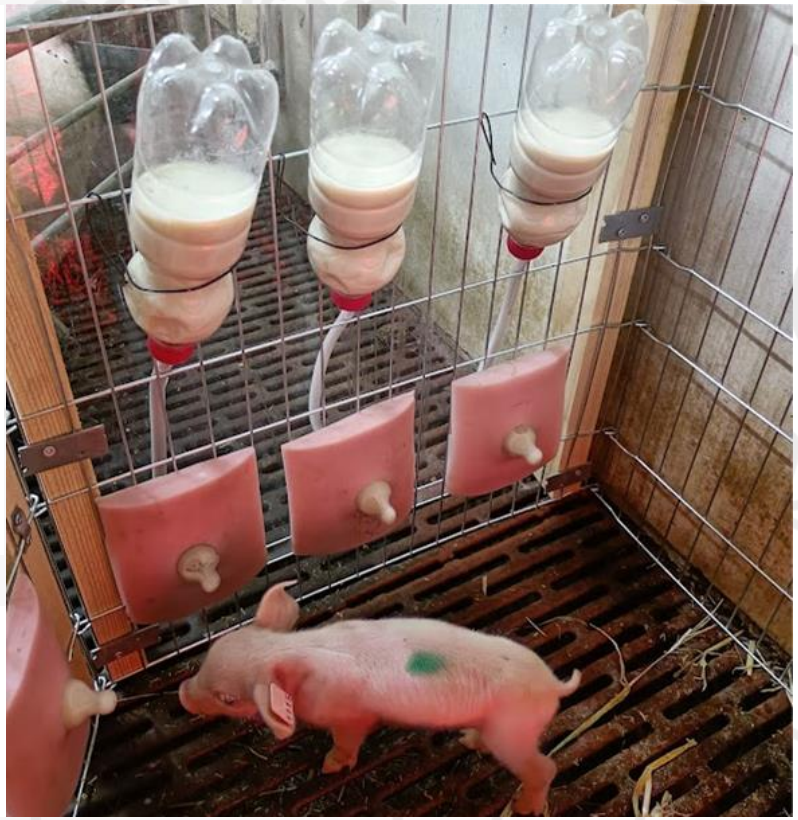
UNIVERSITY OF COPENHAGEN

2

AARHUS UNIVERSITET

3

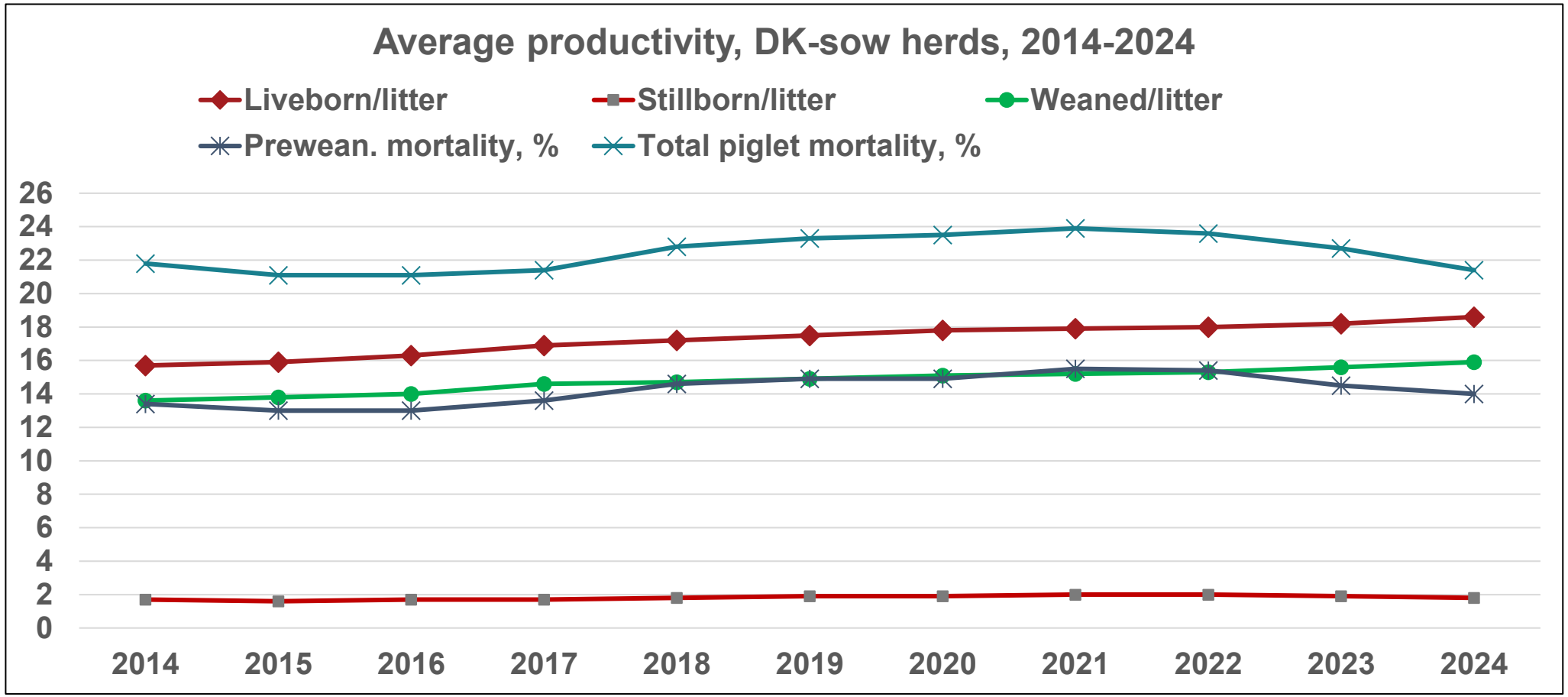
SEGES INNOVATION



Svineafgiftsfonden

Why this research topic?

- Hyperprolific sows
- Piglet mortality
- Limited nursing capacity
- 14 teats versus 18 piglets



Simulated udders in contrast to other management strategies

- Milk in bottles
  - Unlimited milk supply
- Milk supply placed close to creep/nest
  - Controlled and accessible for piglets
- Accommodates piglet preferences
  - Soft with milk in teats
- Increasing available teats for the first days
  - Enables the sow to nurse its own piglets
- Avoids:
  - Stress and complications
  - Welfare consequences of nurse sows
  - Early weaning

Research aim and hypotheses

Aim

Evaluate simulated udder as alternative to nurse sows for piglet survival and weight gain within first four days postpartum.

Parameters:

Survival rate

Weight change

Rectal temperature

Hypotheses:

1) With the simulated udder, it is possible to ensure the survival of 1 more piglet in the T-group than in the C-group

2) 90% of sows have 17 piglets, and piglets weigh at least the same as at birth or +10%, on day four

Two groups:

Control: 18 piglets

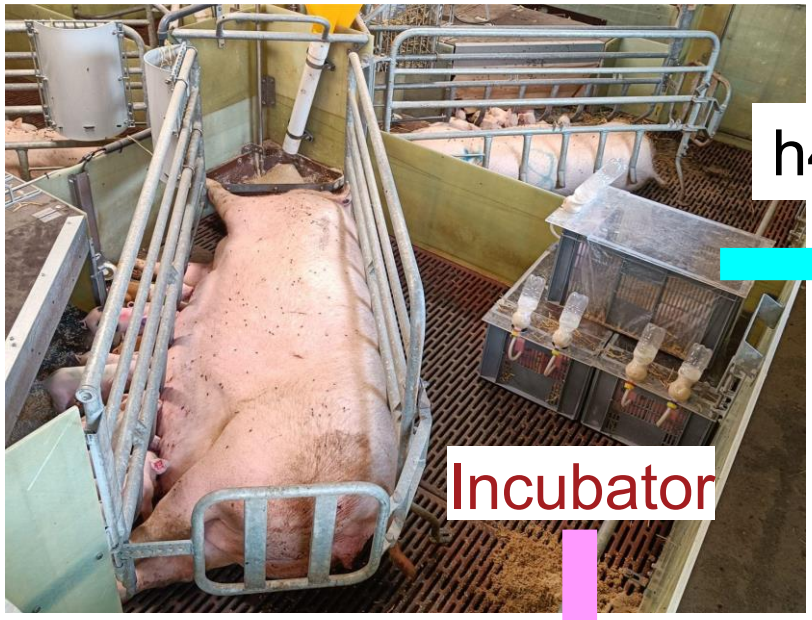
Test: 18 piglets split into 6+6+6

Control group (C-group)
468 piglets; 26 sows

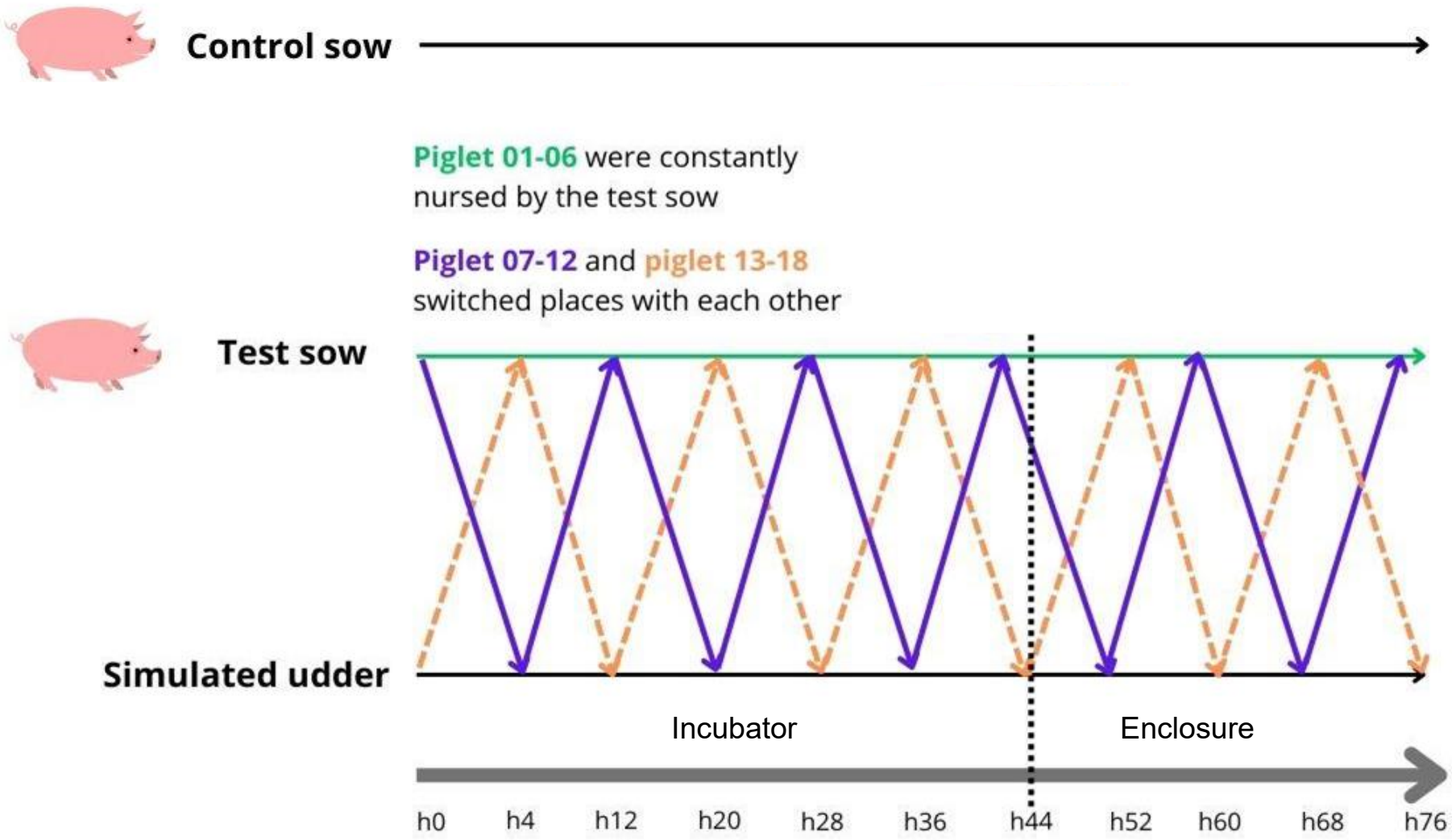
PigLET starter®

© Lars Brunse - Best Farm A/S

Test group (T-group)
486 piglets; 27 sows



Nursed 18 piglets and supplemented with a Pig-LET starter®



h44: Switched from using incubators to using the enclosure

Results - Survival

93.9% survived

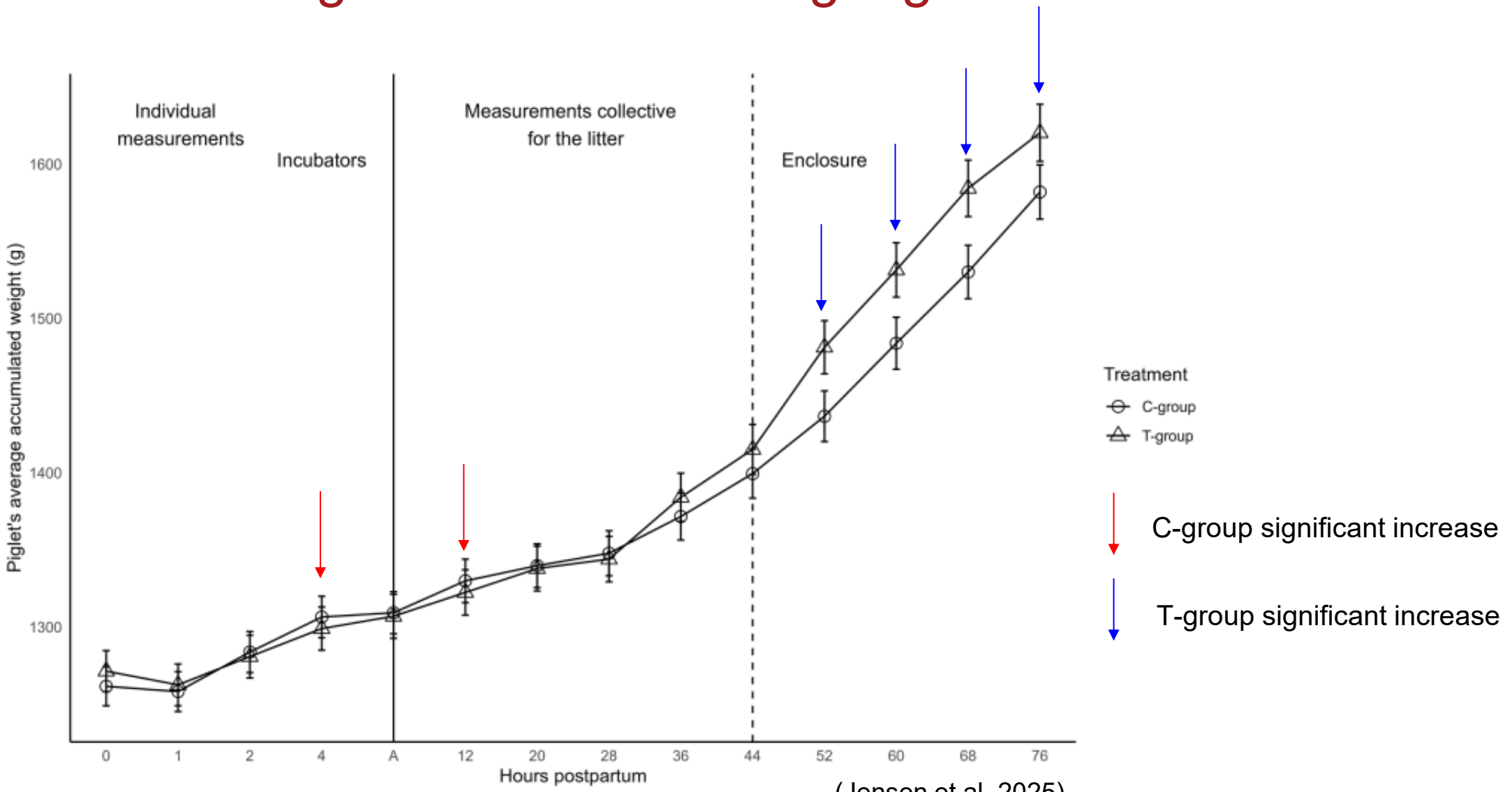
69.8% sows nursed 17 piglets

74.1% in T-group

9.0% reduction in piglet mortality in the T-group (P = 0.7)

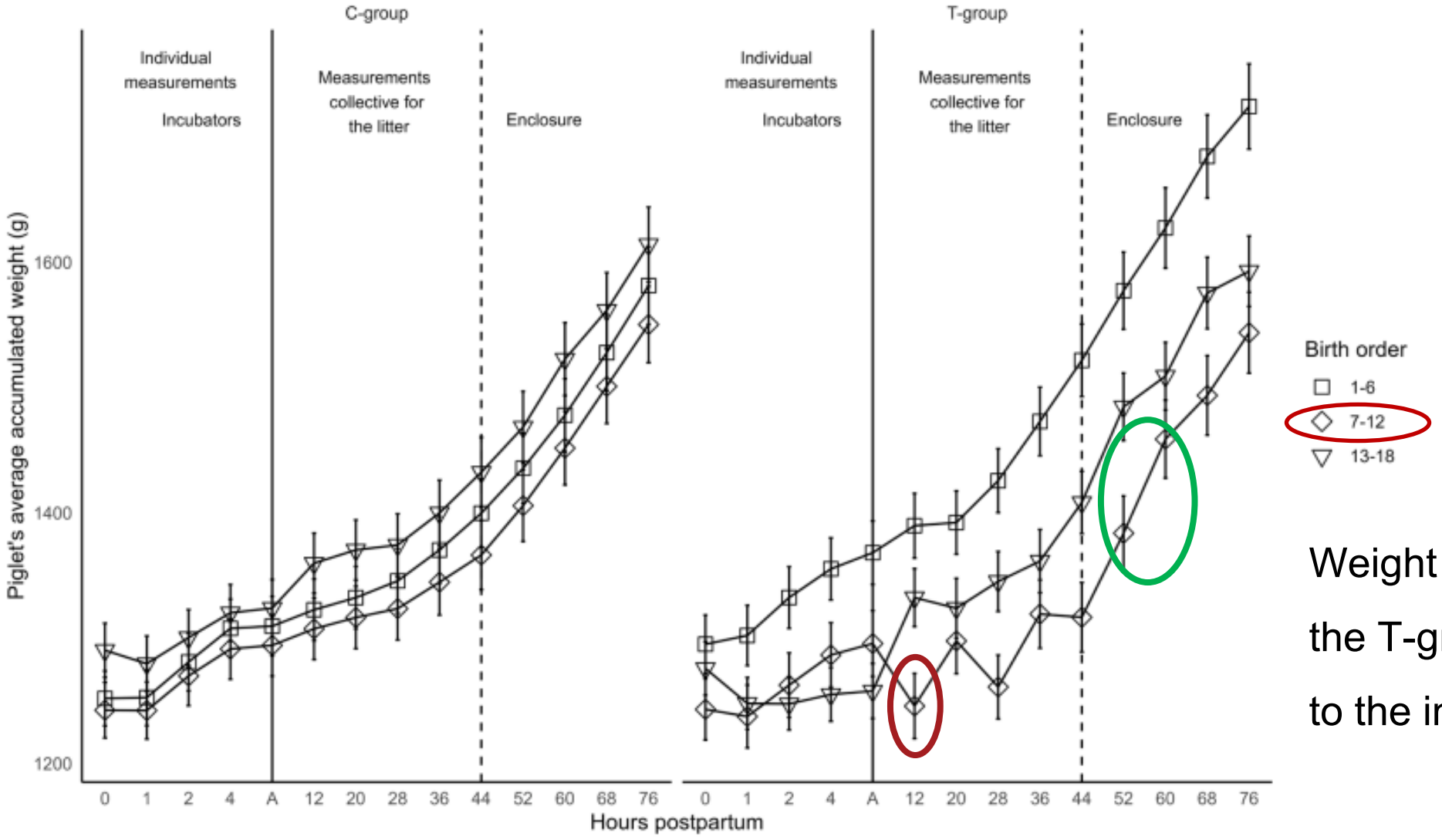
0.6 piglet saved in the T-group vs. C-group

Results - Average accumulated weight gain



(Jensen et al, 2025)

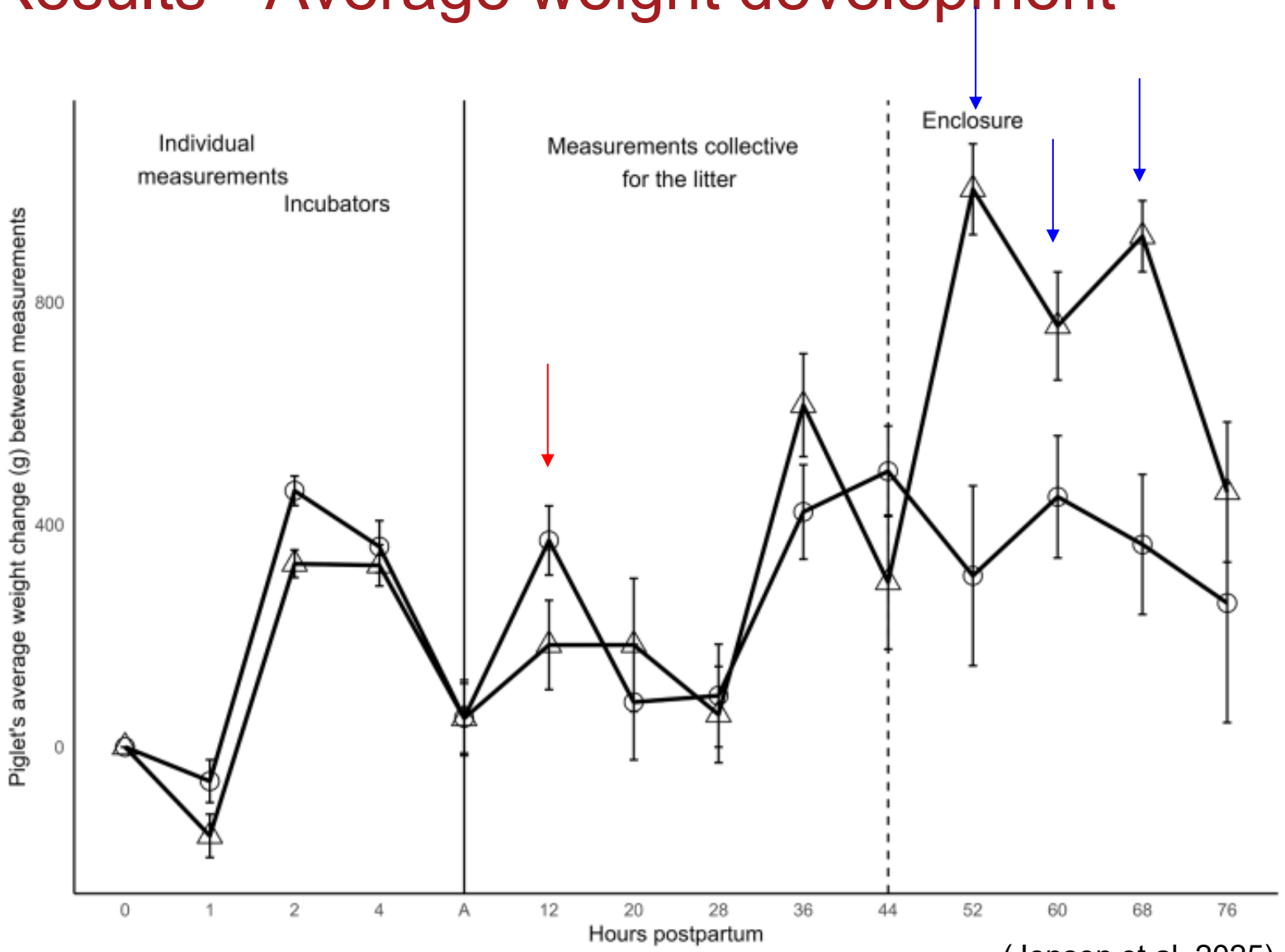
Results - Average accumulated weight gain by birth order



Weight loss piglets 7-12 in the T-group when transferred to the incubators

(Jensen et al, 2025)

Results - Average weight development



Treatment
C-group
T-group

C-group significant increase

T-group significant increase

(Jensen et al, 2025)

Conclusion

69.8% sows nursed 17 piglets

→ 74.1% in the T-group

96.5% maintained or exceeded their birth weight

→ 86.8% experienced a weight gain of at least 10%

→ 24.9% on average

→ 5^{th}–95^{th} quantiles: 2.3% to 45.8%

Livestock Science 299 (2025) 105757

Contents lists available at ScienceDirect

Livestock Science

journal homepage: www.elsevier.com/locate/livsci

Effect of a simulated udder on survival and weight gain of neonatal piglets in a practical farm setting

C. Jensen [a,1], E. Rønving [a,1], V.A. Moustsen [b], M. Hinge [c], F. Hakansson [a], I. Czycholl [a,*]

[a] Department of Veterinary and Animal Sciences, University of Copenhagen, Copenhagen, Denmark
[b] SEGES Innovation P/S, Aarhus, Denmark
[c] Department of Biological and Chemical Engineering, Aarhus University, Aarhus, Denmark

Thank you for your attention

Acknowledgments:
Overgaard Gods A/S
Danish Pig Levy Foundation