

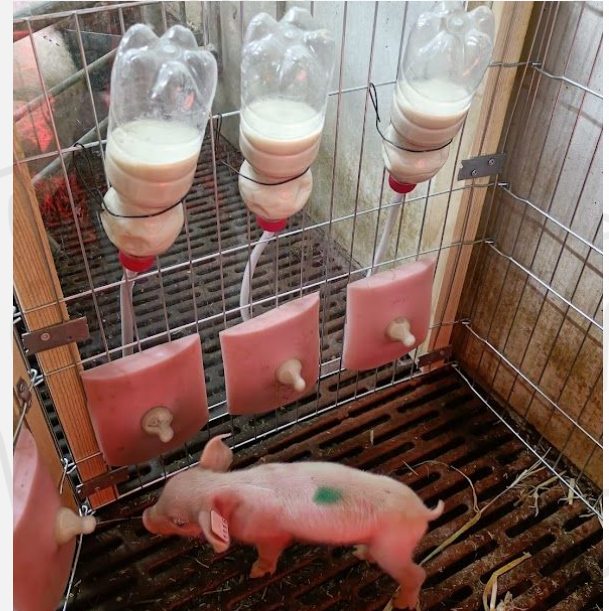
# Testing a simulated udder for enhancing survival of neonatal piglets as an alternative to nurse sows

Master thesis in Animal Science

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&  
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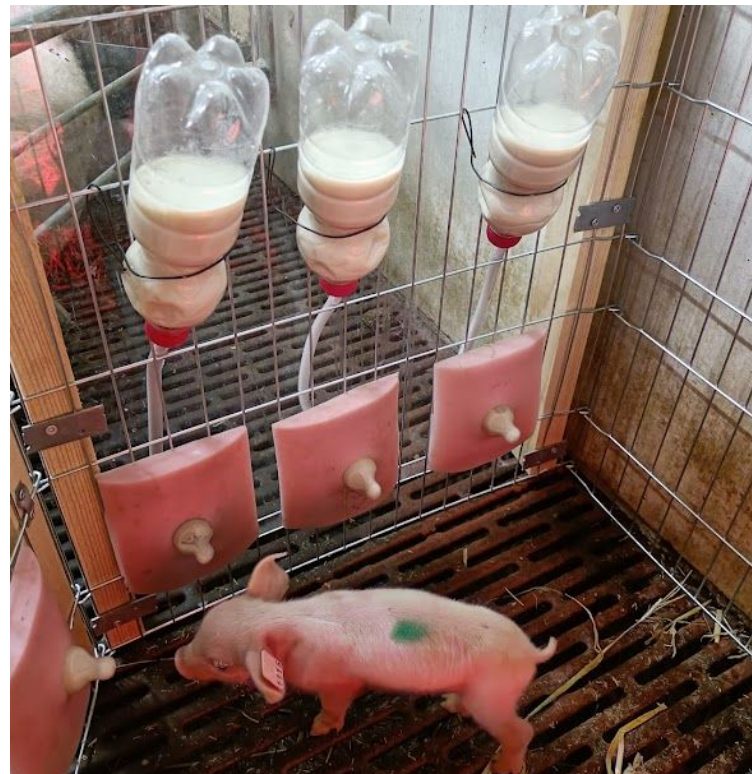
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UNIVERSITY OF COPENHAGEN



# Hypotese

Det forventes, at det kunstige yver vil øge overlevelsesraten med 1 gris pr. kuld og sikre vægtøgning i testgruppen sammenlignet med kontrolgruppen.



# Materialer og metode

- C = Kontrol-gruppe, T = Test-gruppe
- 18 pattegrise pr. kuld
- Kun 2. til 9. lægs søer
- Søer m. blinde patter eller tegn på mastitis blev udelukket
- Ingen pattegrise >750g
- Målte:
  - Overlevelse
  - Vægt
  - Diarre
  - Rektal temperatur

Tabel: viser inkluderede antal søer og pattegrise i forsøget

	<b>C</b>	<b>T</b>	<b>Total</b>
<b>Antal pattegrise</b>	468	484	954
<b>Antal søer</b>	26	27	53

# Test-grupper (T-grupper)

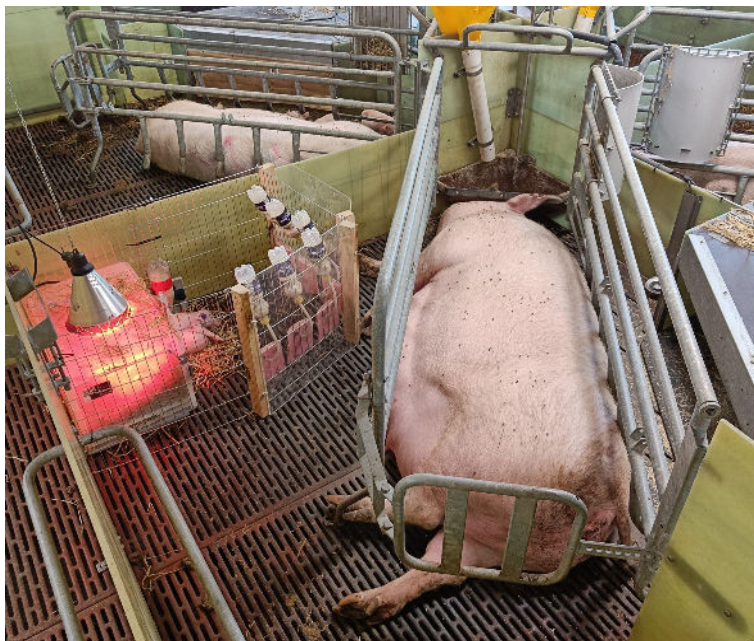
## Kuvøser



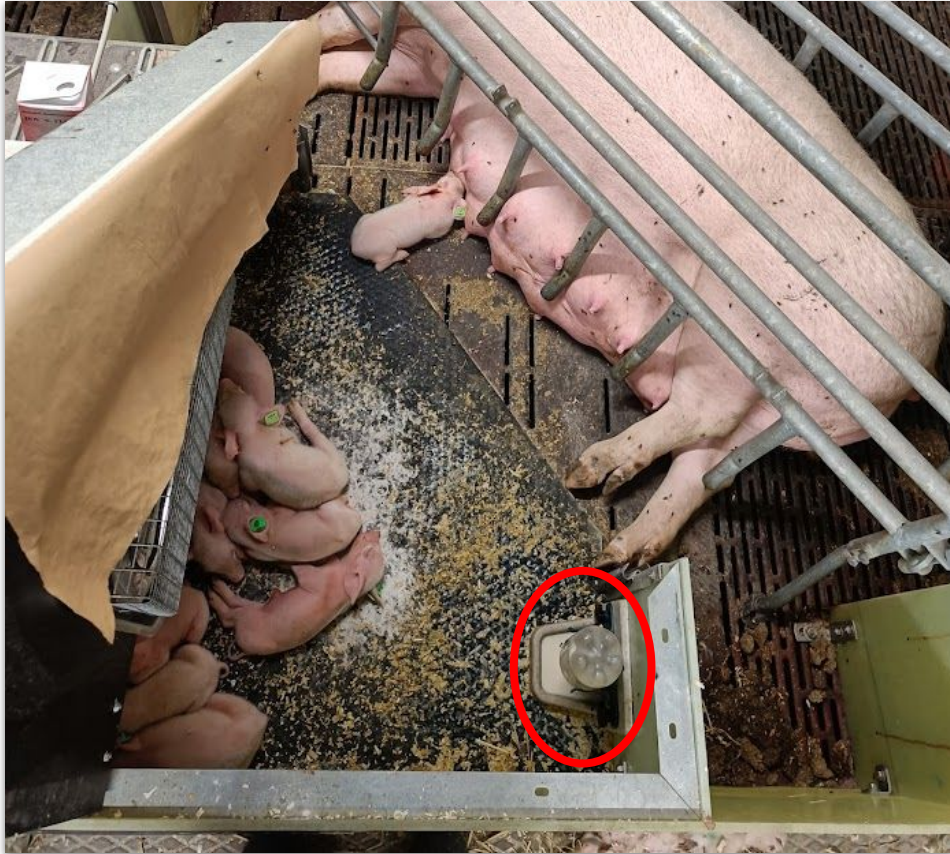


# T-gruppen

## Kravlegård



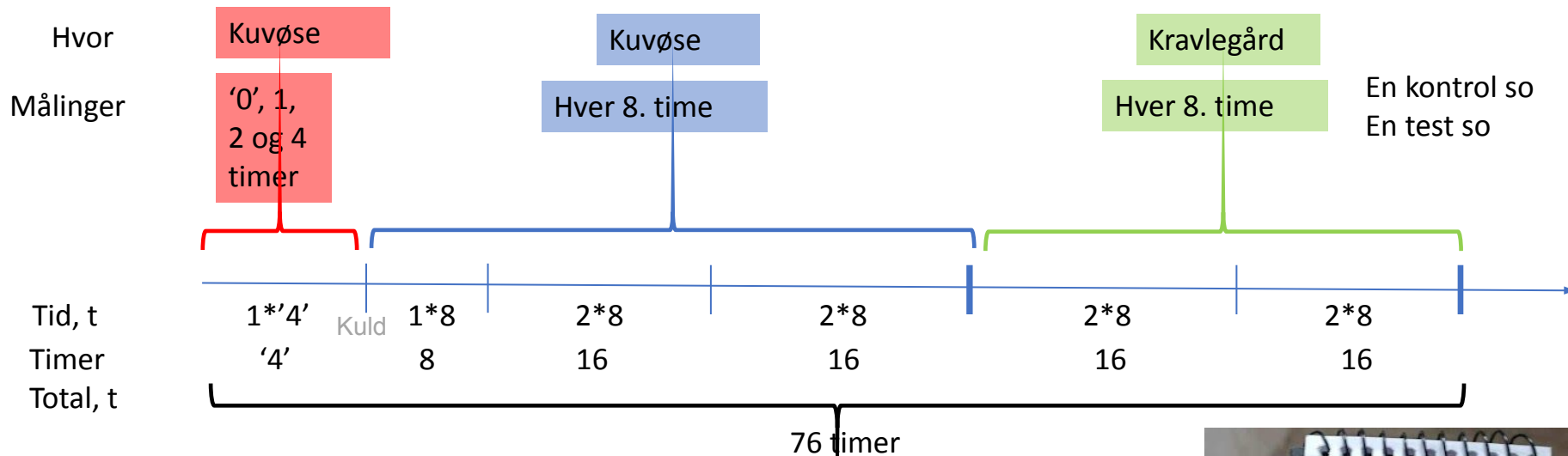
# Kontrol-grupper (C-grupper)



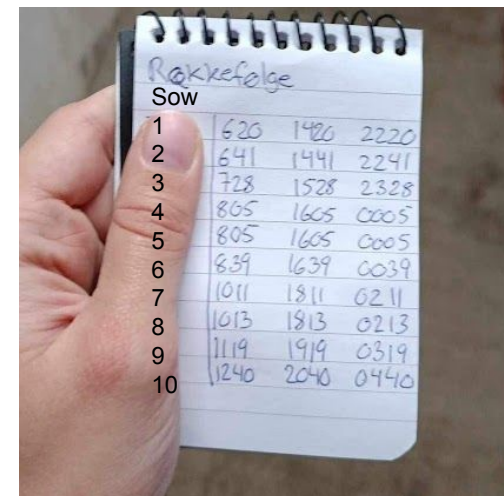
PigLET starter®



© Lars Brunse - Best Farm A/S



- 18 grise i et kuld
- Fødselsrækkefølge → 1-6 (altid hos so), 7-12 (so/yver), 13-18 (so/yver)
- Størstedelen af pattedrisedødeligheden sker i løbet af de første 72 timer



# Overlevelse

- 93.9% pattegrise overlevede i alt
- 69.8% søer passede 17 pattegrise til og m. 76 timer postpartum
  - 74.1% i T-gruppen
- Numerisk 0.6 pattegrise reddet i T-gruppen vs. C-gruppen

Tabel: Viser den gennemsnitlige antal og procentdel af overlevende pattegrise præsenteret som gennemsnit, og 5./95. fraktil i kursiv, pr. kuld i de to grupper:

	<b>C</b>	<b>T</b>	<b>Total</b>
<b>Overlevende pattegrise, gennemsnit pr. kuld</b>	16.6 <i>14/18</i>	17.2 <i>15.3/18</i>	16.9 <i>14/18</i>
<b>Overlevende pattegrise, %</b>	92.3 <i>77.8/100</i>	95.5 <i>85/100</i>	93.9 <i>77.8/100</i>



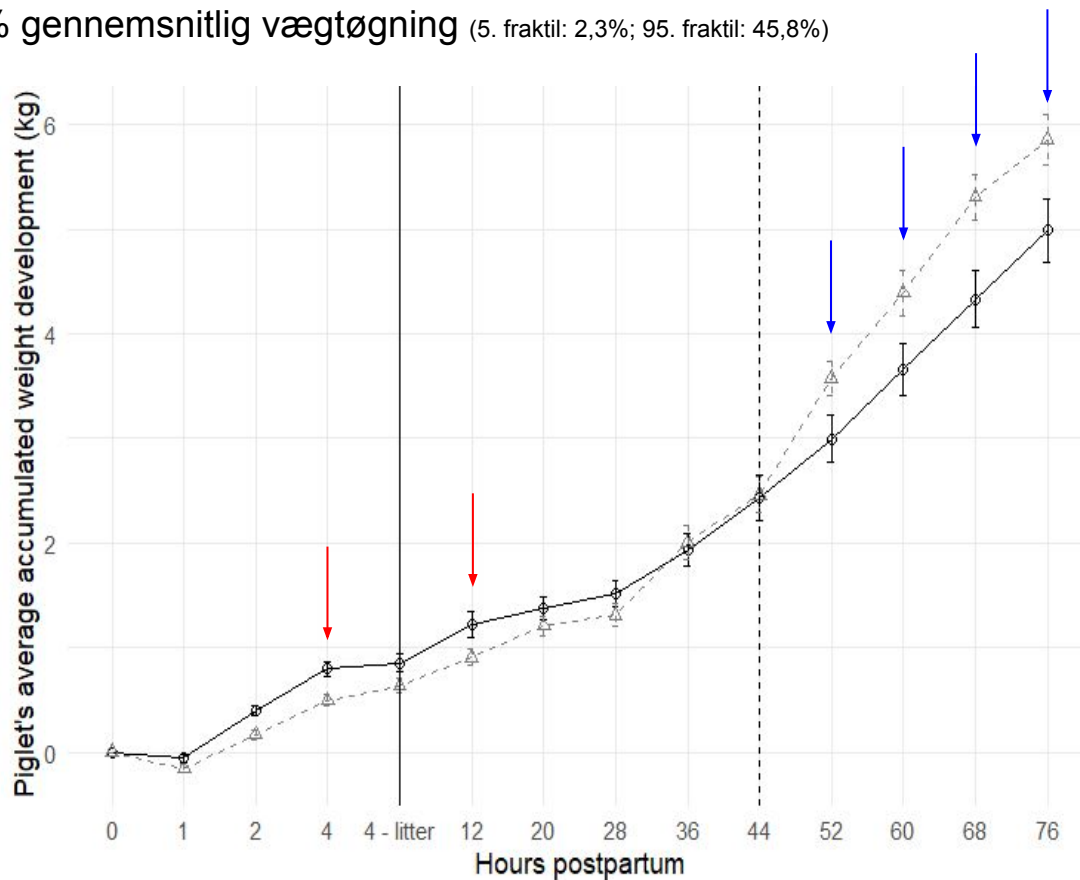
# Overlevelse

- Høj overlevelse
  - PigLET starter®
  - Søer kan med mælketildeling passe 18-20 grise [61]
  - Kuldudjævning foretaget efter forsøgsperioden ( $\approx$  100 hours)
- **Grisenes minimumsvægt 750g**
  - Mere udsatte [48,49,50,51]
  - Små  $\rightarrow$  dårlig termoregulering
  - Underudviklet epitelceller i tarmene  $\rightarrow$  reducerer næringsoptagelse



# Vægtudvikling

- 24,9% gennemsnitlig vægtøgning (5. fraktil: 2,3%; 95. fraktil: 45,8%)

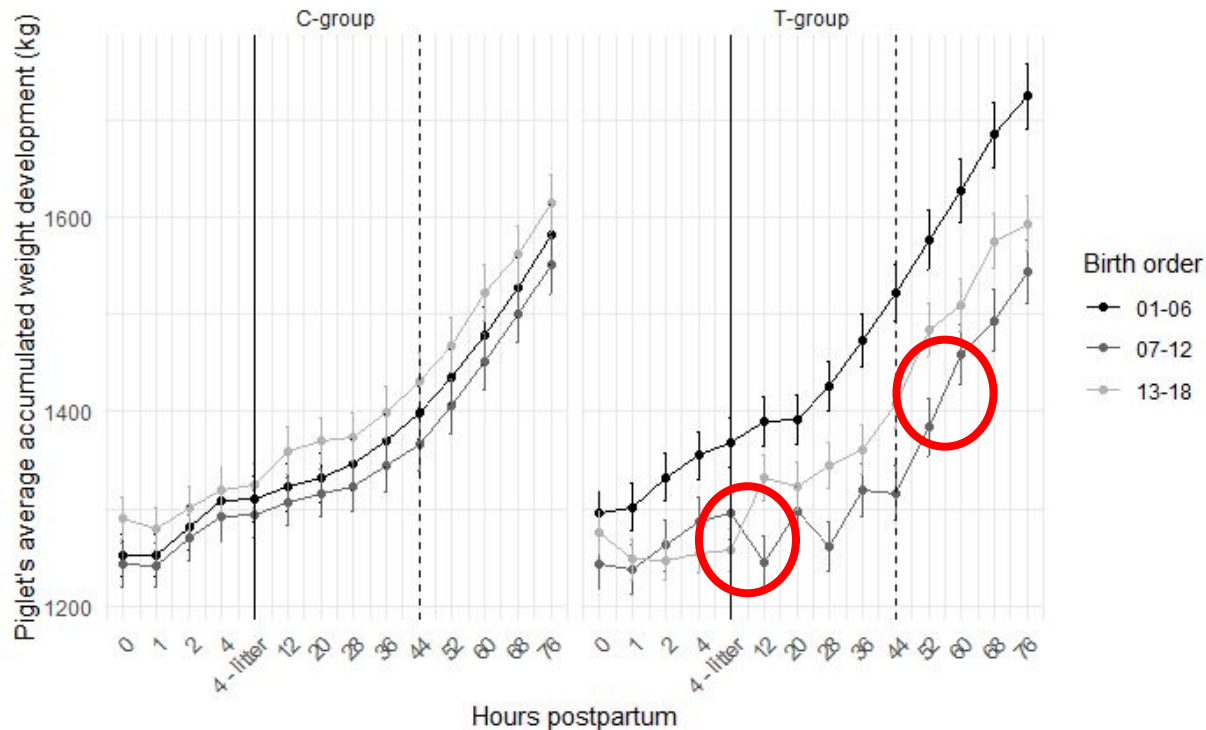


● ↓ = C-gruppen signifikant

● ↓ = T-gruppen signifikant

# Vægtudvikling - fødselsvægt

- Gris 7-12 i T-gruppen tabte sig når de kom i kuvøse



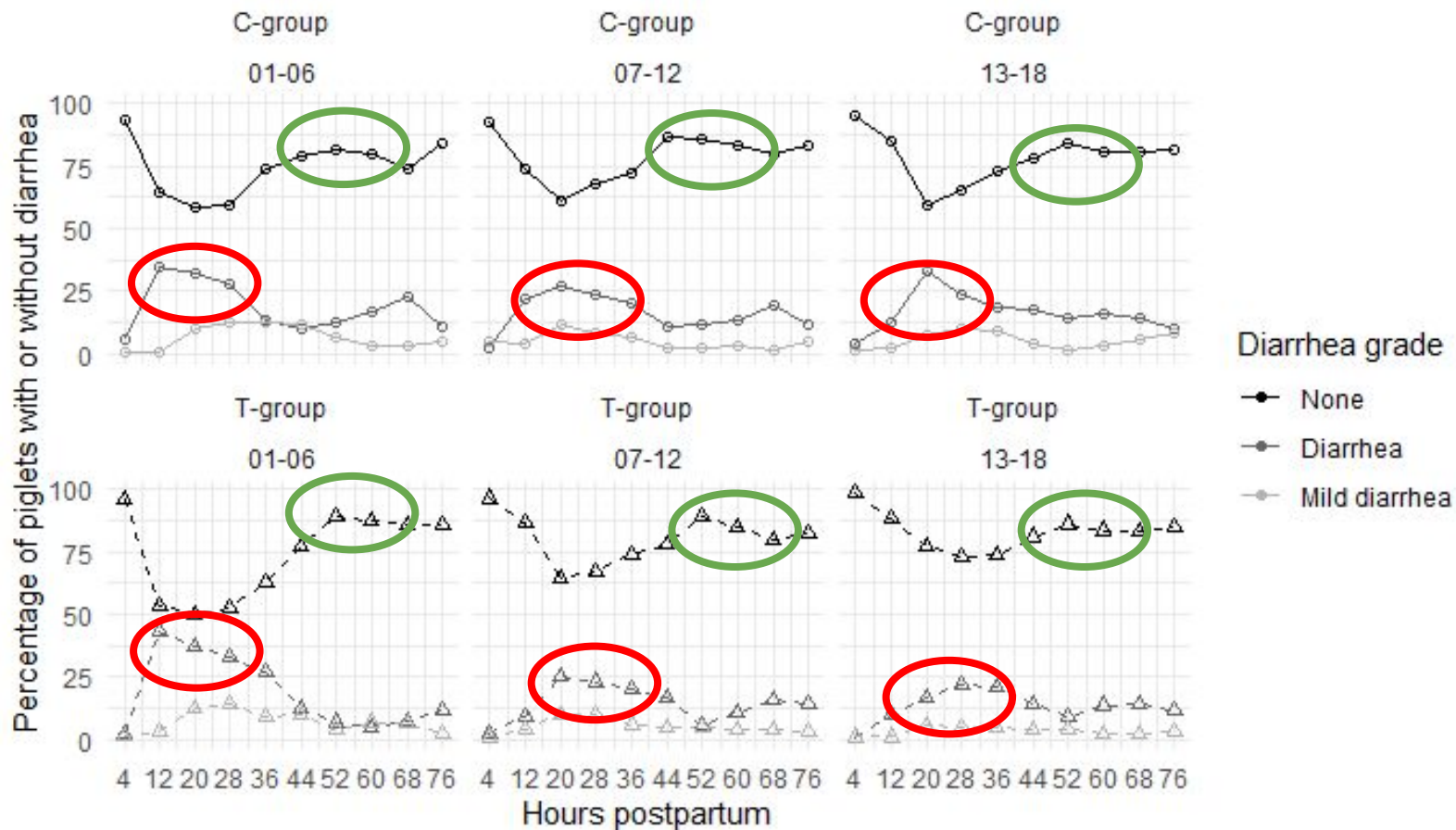
## Vægt

- Ad libitum mælk → minimerer kamp om yveret → øger kuld sundhed samt mindsker aggression og skader [58]
- Grise 7-12 svært ved tilpasning?
- Prøvede so yver først





# Diarre



# Diarre

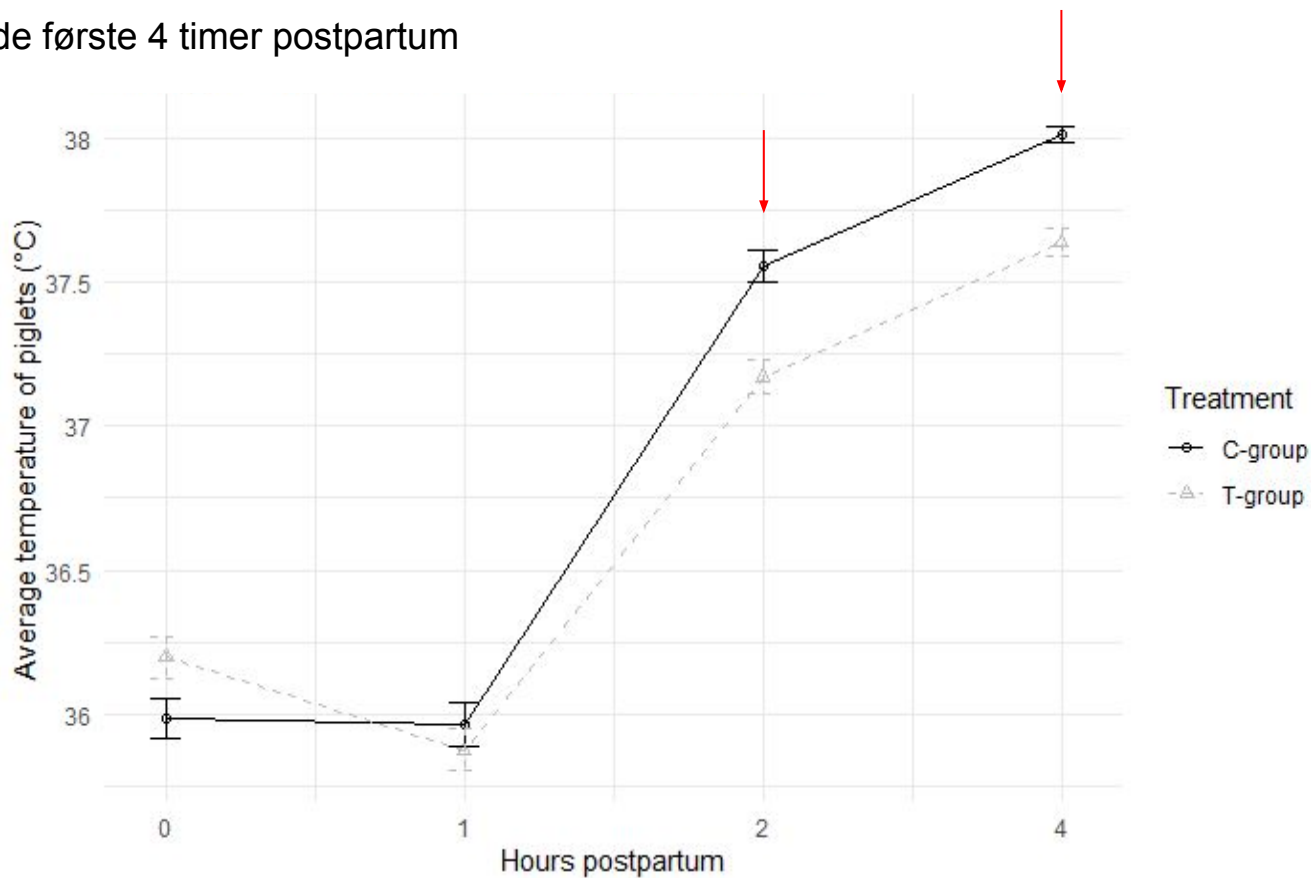
- Andre med kunstigt yver har set meget diarre [41,42]



# Rektal temperatur

- ↓ = C-gruppen signifikant højere temperatur  
○ (P < 0.001)

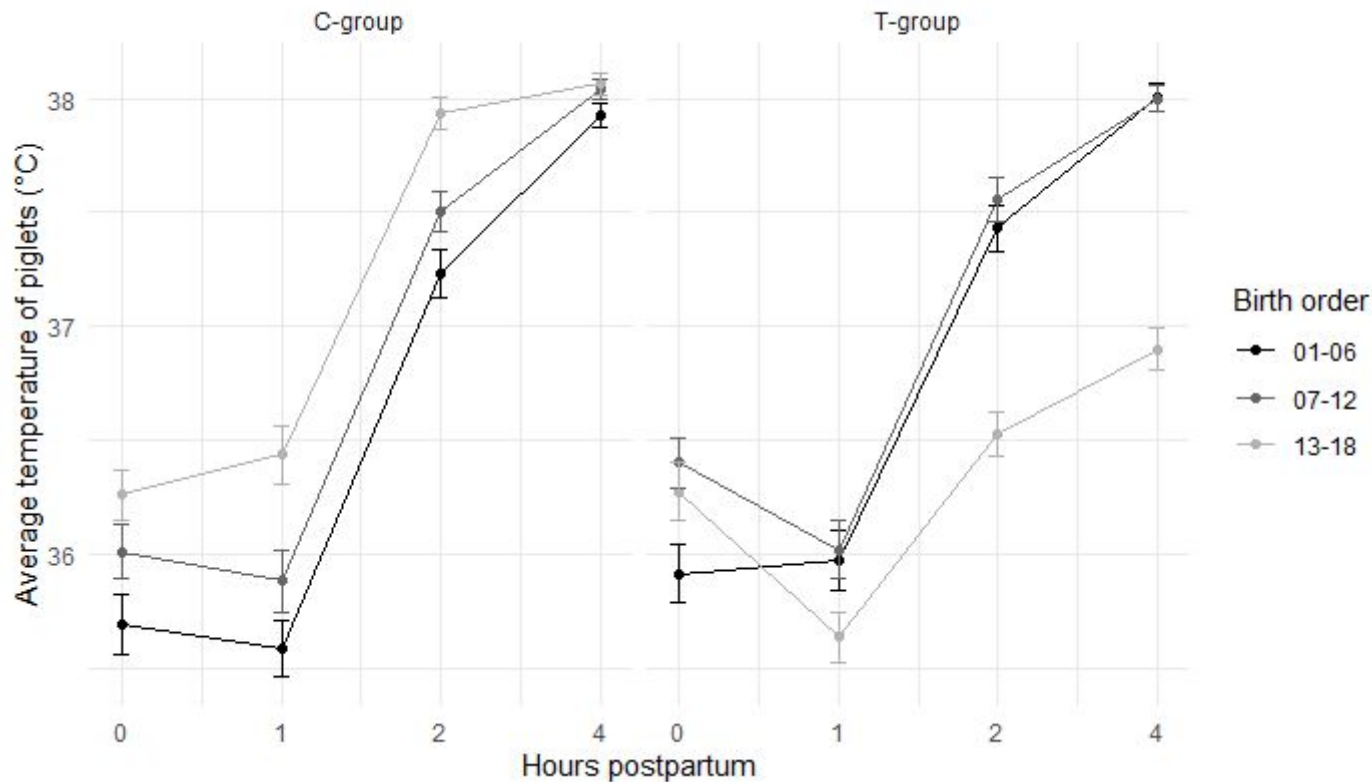
Målt indenfor de første 4 timer postpartum



# Rektal temperatur

## Fødselsrækkefølge

- **Kun gris 13-18**, C-gruppen signifikant højere temperaturer uafhængig af tid
  - (P < 0.001)





# Rektal temperatur

- Ingen varme tildeling
- Sammenlignet med Hvid et al. (2023)
  - De så højere rektal temperaturer
  - $\sim 35.7^{\circ}\text{C}$  og  $35.5^{\circ}\text{C}$  (dette forsøg) VS.  
 $36.0^{\circ}\text{C}$  og  $36.3^{\circ}\text{C}$  (Hvid et al. 2023)
  - (1 og 2 time post partum)



# Design

## Manuelt arbejde





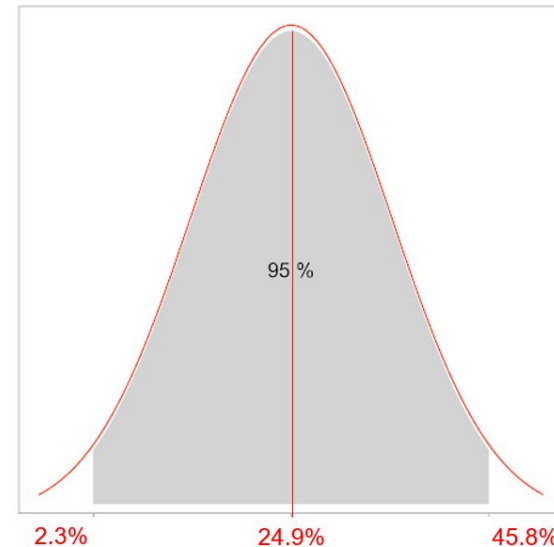
# Design



Når pattedrise er bedst

# Konklusion

- At evaluere det kunstige yver som et alternativ til ammesøer med hensyn til pattegrisenes overlevelse og vægtøgning i de første fire dage efter fødslen.
  - Vi er der ikke helt endnu, men et skridt tættere på
  - Overlevelse
    - Numerisk 0,6 pattegris, ikke statistisk signifikant ( $P = 0,7$ )
  - Vægt
    - Signifikant forskel, T-gruppen tog mest på
    - 24,9% gennemsnitlig vægtøgning (5. fraktil: 2,3%; 95. fraktil: 45,8%)
  - Diarre
    - Ingen signifikant forskel ( $P = 0.7$ )
  - Rektal temperatur
    - C-gruppen signifikant højere
    - Gris 13-18 → varme tildeling nødvendig







**Tak for  
opmærksomheden**

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