# WP2 *Streptococcus agalactiae* – risk factors?

*Strep. agalactiae* workshop November 11th 2024

10 researchers

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Mælkeafgiftsfonden

# Characteristics of herds with *Strep. Agalactiae* – Risk factors?

- according to vets
- Large farms
- Hygiene (milking and barn)
- Milking system
- Buying animals
- Moving animals
- Large turnover in personnel (milking personnel)
- Close to positive neighbour
- The farmer Motivation to do something
- Not necessarily something special!





#### Data

- Register data from the Danish Cattle Database
- Retrospective: 12 months period (June 1<sup>st</sup> 2022 and May 31<sup>st</sup> 2023)
- Strep. agalactiae positive if status positive >150 days within the 12 months period
- Outcome: *Strep. agalactiae* status (positive/negative) "farm level"
- Explanatory variables tested: 23 KPIs from the 12 months period
- KPIs are on DE (herd?) level

### KPIs (and other characteristics)

- Year-cows, year-heifers
- Turnover in cows, calvings/year-cow
- Age of living cows, age and milking years at culling, age at calving, DIM
- Number of farms, milking type, organic or not
- Purchase, and from how many
- Taking animals home from shows etc.
- Dry period length, dry off treatment, teat sealant
- Salmonella status

### Characteristics of herds with Strep. agalactiae

···Compared to herds "free" from *Strep. agalatiae*···

216 of 1845 herds with *Strep. agalactiae* (proportion = 11,7%)

- Larger herds (344 vs 233 year cows)
  - Higher SCC, higher milk yield, several sites (farms), not organic)
- Lower milking years at culling (2,9 vs 3,1 years)
  - Lower DIM, lower age and higher culling rate
- No effect of purchase!?
- Farm type (lower proportion of organic farms vs conventional)
- Univariable; correlation between Salmonella and *Strep. agalactiae* status

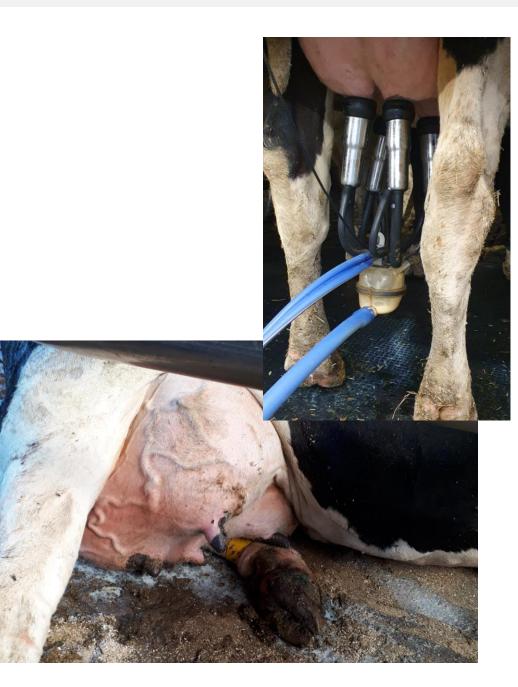
## Characteristics of herds with *Strep. agalactiae*

- Data subset with information on dry-off treatment:
  - 125 of 873 farms (14%) with *Strep. agalactiae*
- Higher frequency of antibiotic treatment at dry-off
  - Samples -> chance of test positive
  - Used as control measurement..
  - As well as culling?



# Discussion

- No causality in this study!
  - Risk factor or hard to eradicate?
- Antibiotic treatment at dry-off, and culling:
  - Used as control measurement..





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#### Retrospective cohort study of management procedures associated with dairy herd-level eradication of *Streptococc agalactiae* in the Danish surveillance program

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#### CONCLUSIONS

A higher proportion of culling due to mastitis within 100 d from calving was associated with a higher probability of herd-level recovery from *Strep. agalactiae* in herds with conventional milking systems. Additionally, a higher proportion of mastitis treatments within 250 d postcalving was associated with a higher probability of herd-level recovery from *Strep. agalactiae* in herds with a high bulk milk SCC. The extent of diagnoses relative to the extent of mastitis treatments, the proportion of cows treated for mastitis early in lactation, the proportion of cows treated at dry-off, and the median length of the dry period for cows receiving dry cow treatment was not associated with herd-level recovery from *Strep*. *agalactiae.* The results suggest that early culling or lactational treatment of infectious cows may facilitate herd-level eradication of *Strep. agalactiae* in herds with conventional milking systems and a relatively high infection level.

#### Herd level eradication?

- Motivation to be status "negative"?
- What consequences does it have to be "positive"?

Hvilke konsekvenser oplever I at smitte med B-strep har for landmanden? 21 responses



akonomisk yverbetændelse nogen forsvinder bare spredning tit få yverbetændelser salg svært at sælge dyr dyrskue få faglige stolthed celletal højt celletal ingen dyreskue svært at styre scc højere celletal vedvarende problem mælkekvalitet yversundhed svært at slippe af med økonomisk tungt at sanere celletal upåvirket

## Plans for farmer-interviews

Oktober 2024

To learn from farmers that eradicated within the last year

