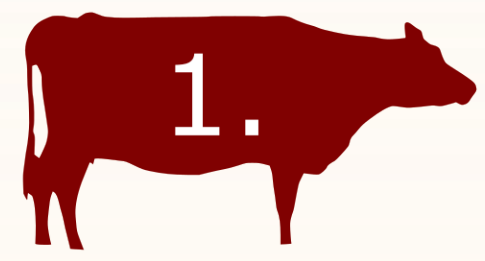


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# The Effect of Dry Cow Therapy on the Probability of Low Milk Somatic Cell Count after Calving

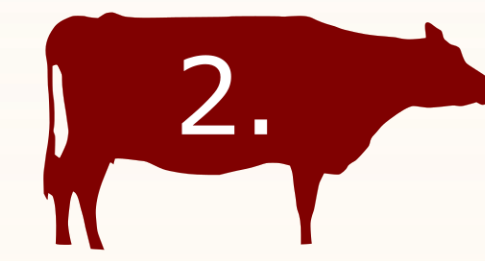
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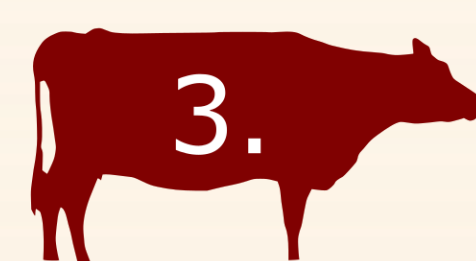
## Introduction

- Mastitis causes economic losses to the dairy industry.
- Antibiotic dry cow therapy (DCT) is an essential part of most mastitis control programs.
- AIM OF THE STUDY: To evaluate associations between DCT and udder health parameters using Dairy Herd Improvement (DHI) data.



## Materials and Methods

- 6815 multiparous cows from 239 Finnish dairy herds. DHI data from years 2015–2017.
- OUTCOME variable: The probability of low (< 200 000 cell/ml) milk somatic cell count (SCC) at the first test-day 5-45 days after calving.
- MAIN EXPLANATORY variable: DCT approach (no DCT, blanket DCT, selective DCT). Herd-level variable based on farmers' questionnaire answers in 2017.
- Generalized linear mixed model: Logistic regression with random herd effect.



## Results

THE EFFECT OF HERD-LEVEL DCT APPROACH ON THE PROBABILITY OF LOW MILK SCC:

No DCT  
OR 0.82, 95% CI 0.56-1.18

Blanket DCT  
OR 1.44, 95% CI 1.14-1.82

Selective DCT  
Reference



THE EFFECT OF OTHER EXPLANATORY VARIABLES ON THE PROBABILITY OF LOW MILK SCC:

Mean lnSCC x 1000 cell/ml in previous lactation (min. 5 meas.)  
OR 0.64, 95% CI 0.60-0.67

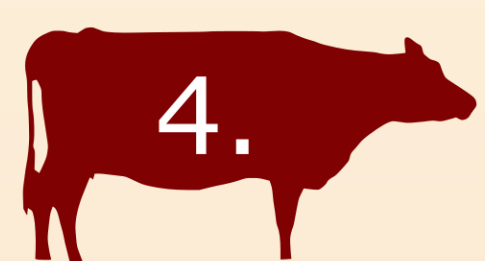
Approx. milk production x 5 kg/d 79 d before calving  
OR 0.90, 95% CI 0.86-0.94

Parity ≥ 4  
OR 0.67, 95% CI 0.58-0.78

Parity 3  
OR 0.73, 95% CI 0.63-0.85

Parity 2  
Reference

Months in milk at last test-day before dry-off  
OR 0.95, 95% CI 0.92-0.99



## Discussion and Conclusions

- Higher proportion of DCT-treated cows in a herd seemed to be associated with lower SCC after calving. Due to the global problem of antimicrobial resistance, the use of blanket DCT, nonetheless, is not a sustainable mastitis control approach.
- Cows more likely to have high SCC after calving: older cows, cows with persistently high SCC, cows with high milk production near dry-off, cows with long previous lactation. Focus on these cows to prevent intramammary infection during lactation and across the dry period.

## Acknowledgements

Participating farmers  
Finnish Ministry of Agriculture and Forestry  
Finnish Veterinary Foundation  
DSHealth, University of Helsinki  
Artwork: Kummakko-Design

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