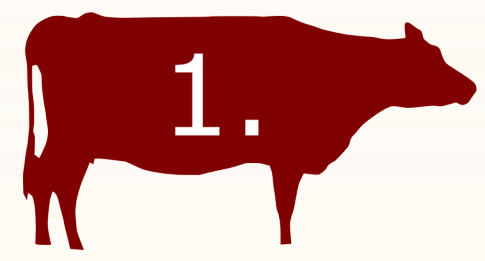


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The Effect of Dry Cow Therapy on the Odds of Having Low Milk Somatic Cell Count After Calving

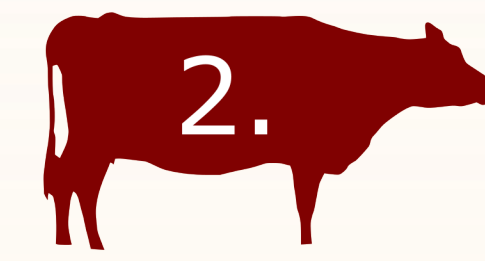
Riitta E. Niemi, M. Hovinen, M. J. Vilar, H. Simojoki, P. J. Rajala-Schultz

University of Helsinki, Faculty of Veterinary Medicine



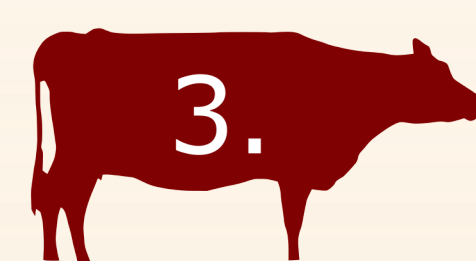
Introduction

- 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 odds of having low (< 200 000 cell/ml) milk somatic cell count (SCC) on a 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 ODDS OF HAVING 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 ODDS OF HAVING LOW MILK SCC:

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

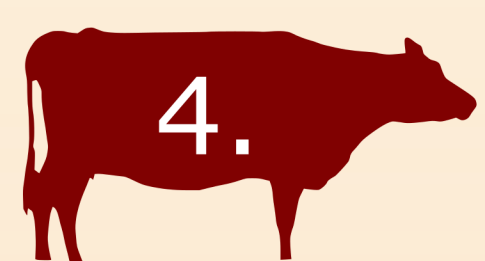
Approx. milk production x 5 kg/d 79 d before calving
OR 0.90, 95% CI 0.86-0.94

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 on 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.

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Contact info:
riitta.e.niemi@helsinki.fi

