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## Seasonal dynamics of mastitis in Romanian Brown cows

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### Introduction

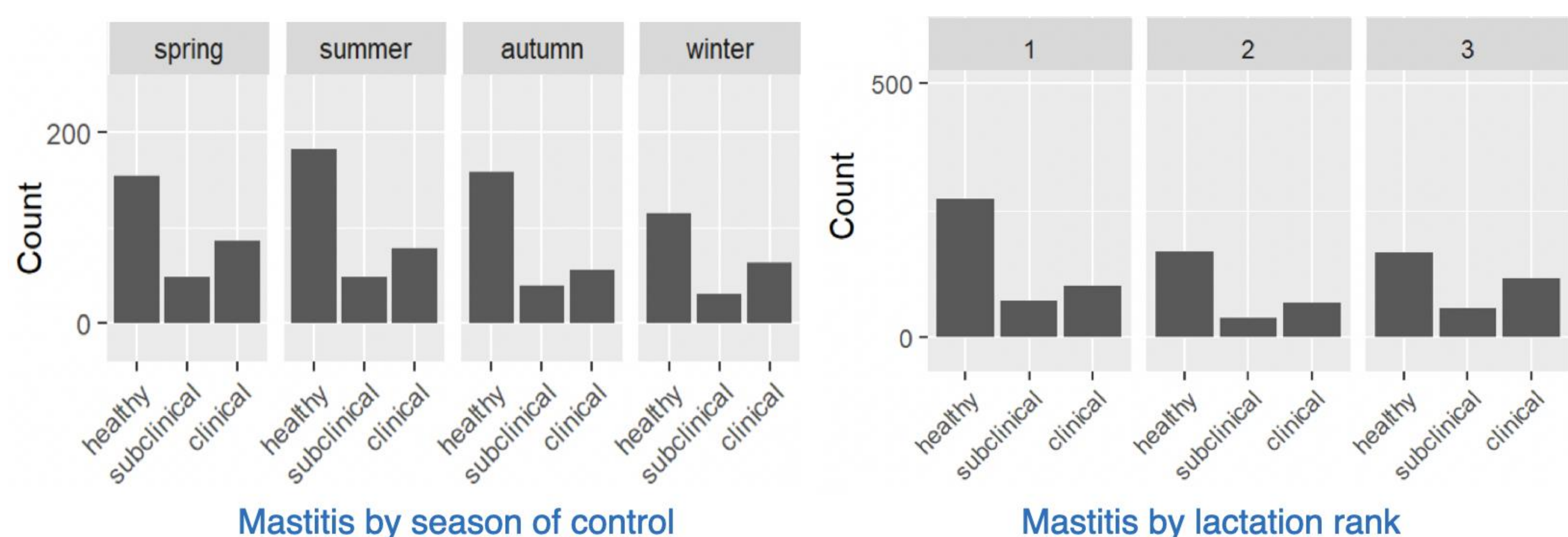
- Udder health is of high importance for both animal welfare and for economic considerations in regard to milk quality and quantity.

### Material and methods

Data were recorded at the Research and Development Station for Bovine Arad from 70 Romanian Brown cows.

- 1064 test-day milk records for the first three lactations (L1-L3).
- Thresholds for defining healthy, subclinical and clinical mastitis animals: <200,000; 200,001-400,000 and >400,000 somatic cells/ml milk, respectively.
- The values of somatic cell count (SCC) recorded every 28 days were transformed to SCS.
- To determine the season pattern on SCS, a linear mixed effects model was built incorporating pedigree data, using the "lme4qtl" R package. Parity, days in milk, year and season of test day were included as fixed effects, while the animal was used as random effect.

### Results



- Season had a significant effect on the mastitis frequency and SCS ( $p < 0.05$ ).
- The frequency of healthy cows was higher in the summer and autumn compared to spring (58.90% and 62.21% vs. 53.27%). Also, spring was associated to a higher ( $p < 0.01$ ) SCS compared to summer and autumn.
- There was no significant effect of winter on either mastitis frequency and SCS.

### Conclusions

- The results demonstrate the impact of season on SCS. Additionally, primiparous cows (L1) had a significantly lower SCC ( $p < 0.01$ ) compared to those in the third lactation (L3), resulting in an increase of 0.53 units in SCS between L1 and L3, suggesting that higher lactation ranks are associated with higher risks of mastitis.

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