The need for and effect of incorporating bacteriological results in dry cow treatment decision-making

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Summary

The study described in this research paper aimed to determine the need of dairy farmers for additional diagnostics at drying off, their interest in quarter or cow level dry cow treatment (DCT) decision-making, and the effect of having bacteriological culture (labBC) results available on their DCT decisions. The study included two components: a survey among 292 dairy farmers to assess the need for additional diagnostic tests to substantiate DCT decisions, and a field study with nine farmers, where milk samples were collected of 73 cows prior to drying off to be cultured with labBC. The latter farmers made two quarter level DCT decisions: the first decision was made based on the information farmers usually use for DCT decisions, the second decision was made three days later when labBC results were obtained by the farmers. Both decisions were compared to labBC results, where growth ought to be treated, to determine their Se and Sp.

The farmers participating in the survey questioned their DCT decisions most often when cow somatic cell count (CSCC) was in close proximity to indicated cut-off values for antimicrobial treatment. Most farmers indicated to need an additional cheap and reliable test to use for DCT decision-making that indicates whether to apply antimicrobials. In the field study, farmers indicated to be interested to dry off at the quarter level, but hesitated to do so in this study. If labBC results were incorporated in DCT decision-making Se as well as the antimicrobial usage increased compared to the first decision. To use labBC selectively to decide on DCT for cows with CSCC ≥ 200,000 cells/mL, and leaving all cows with CSCC < 200,000 cells/mL untreated, would optimise DCT decisions and decrease antimicrobial usage as compared to the current strategy.