

Risk factors associated with intramammary infections caused by the more pathogenic CNS species

A. De Visscher¹, F. Haesebrouck², K. Supré¹, S. Piepers¹, S. De Vlieghe¹

¹ M-team and M²QRU, Department of Reproduction, Obstetrics, and Herd Health, Ghent University, Belgium

² Department of Pathology, Bacteriology and Avian Diseases, Ghent University, Belgium

We recently reported that intramammary infections (IMI) caused by *Staphylococcus chromogenes*, *S. xylosus* and *S. simulans* increase the quarter milk SCC to a level that is not different from the level due to *Staphylococcus aureus*. These CNS species are therefore considered to be more pathogenic than the other species causing mastitis. The main objective of this study is to identify risk factors for both existing and new IMI specifically caused by the three more pathogenic CNS.

Monthly quarter milk samples were taken from 86 cows and heifers on three commercial dairy farms in Flanders between September 2007 and January 2009. Potential cow-, quarter- and observation-level risk factors were recorded. Logistic mixed regression models were fit with cow and quarter as random effects to identify risk factors associated with IMI due to *S. chromogenes*, *S. xylosus* and *S. simulans*.

Distribution of the three CNS is herd-dependent. Preliminary analyses indicate that the occurrence of IMI with the pathogenic CNS is associated with parity, stage of lactation, average daily milk production, and teat skin condition. Other risk factors such as quarter position, breed, body condition score and teat end condition were not associated with the outcome variable.

The results of our study will allow predicting whether an animal is infected with either the more pathogenic or non-pathogenic species when CNS were isolated from the milk. The identification of risk factors for new IMI (in progress) will contribute to our knowledge on how to reduce the risk of IMI with those more pathogenic CNS.