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The use of DCC to identify intra-mammary infections in Sarda dairy sheep

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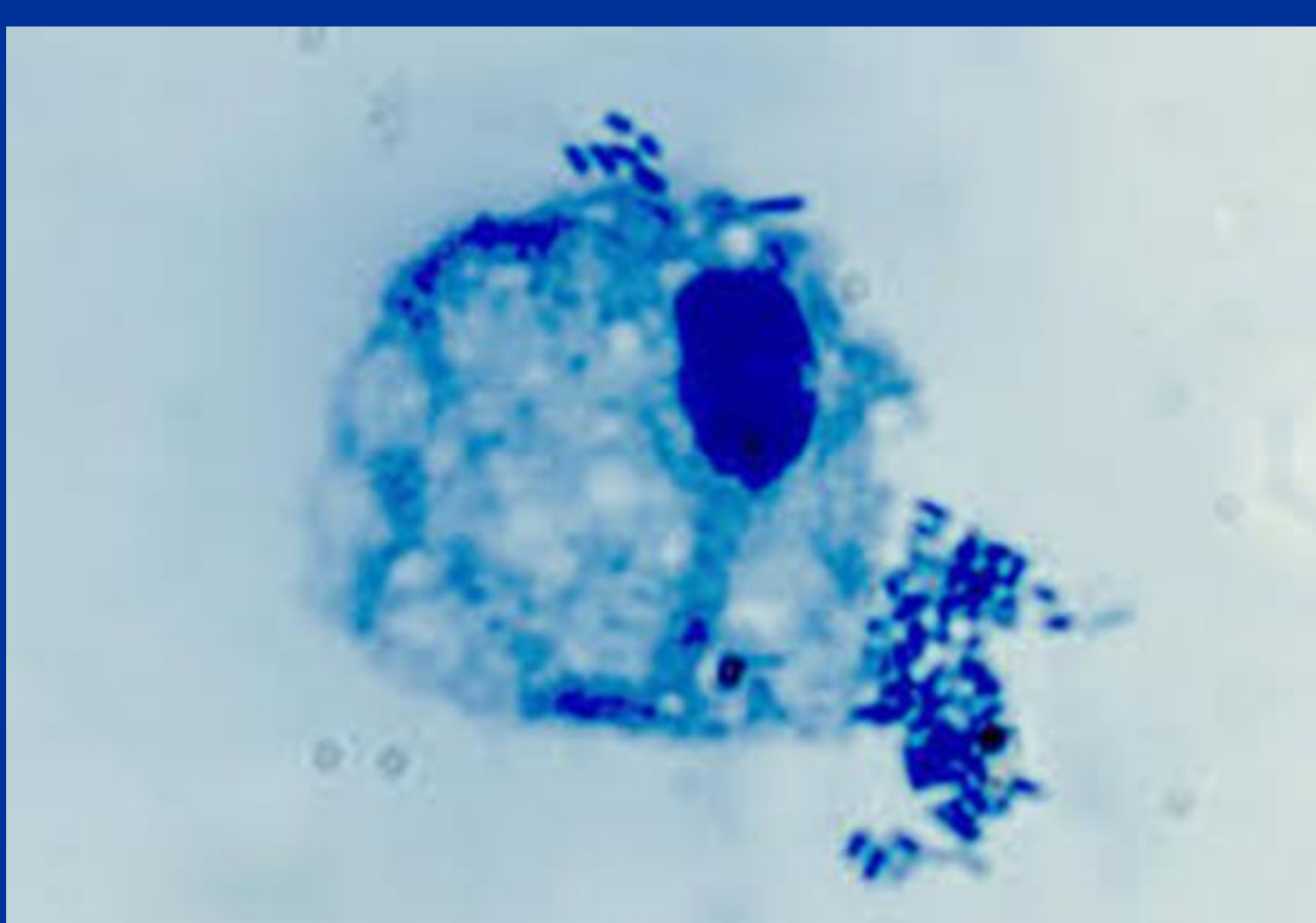
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DeLaval Cell Counter (DCC) is a portable fluoro-opto-electric somatic cell count (SCC) reader already validated for cow and sheep milk. The study, part of the activity of H2020 TECHCARE project “Integrating innovative TECHNOlogies along the value Chain to improve small ruminant welfARE management”, aimed at evaluating the functionality of DCC in Sarda dairy sheep for early detection of subclinical mastitis.

In particular, the goal was to compare the accuracy of DCC and Fossomatic in Sarda ewes’ milk SCC determination, and assess the prevalence of microbial intra-mammary infections in milk with high SCC.



Two tests (May and June) were run at the AGRIS experimental farm using 48 adult Sarda ewes, with SCC (> 500,000 cells/ml), lactose level (<mean - 1 x S.D.) and milk yield (< mean - 1 x S.D.), selected from the experimental flock on the basis of the individual milk functional controls (milk composition measured by MIR spectroscopy, and SCC measured by Fossomatic). In each test, before mechanical milking, duplicate milk samples were collected from each half udder, according to National Mastitis Council procedure, one for microbiological analysis and the other for somatic cell determination.



DCC and Fossomatic SCC data (log transformed) were analysed with concordance correlation coefficient (CCC) to account for precision ($r=0.97$) and accuracy ($C_b=0.86$). The prevalence of intra-mammary infections over the sampled population was 44% in May and 41% in June, mainly due to coagulase negative Staphylococci followed by Corynebacterium.

DCC seems to be promising to identify subclinical mammary infections. Further investigations are needed to find a SCC threshold indicative of sub-clinical mastitis.

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