Diagnostic tools to monitor udder health in dairy goats
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Disease monitoring is important to diagnose problems in health status of individual animals or an entire herd. To assess the udder health status of dairy animals, somatic cell count (SCC) and bacteriological culture (BC) are important diagnostic tools. This paper presents an overview of the practical application of these two tools in dairy goats and goat herds. In multiple recently published papers, we studied diagnostic aspects of SCC and BC in dairy goats. Bulk milk SCC and BC of bulk milk were studied in a large number of Dutch dairy goat herds. Seasonal fluctuations in SCC were studied over a three years period, and associations with risk factors were identified. At goat level, SCC and BC were studied in a longitudinal study, comprising about 500 goats in 5 herds, and test characteristics of SCC and BC were estimated using latent class models. These studies showed that SCC as well as BC are valuable tools for assessment of the udder health status of an individual goat and of a herd. However, both tests should be interpreted with caution. We observed a strong effect of stage of lactation and an effect of extended lactations on SCC. Therefore, the most optimal timing of SCC measurement in goats appeared to be around peak lactation and the interpretation of the results should account for the number of extended lactations. At goat-level, an SCC of >1.5×10^6 cells/ml was indicative of Staphylococcus aureus infection. Bacterial culture of milk samples of individual goats was shown to be a specific, but insensitive test, which hampers its use as a confirmatory test of high SCC animals. BC of the bulk milk had low repeatability, but bulk milk SCC was positively related to the count of staphylococci. We will present practical guidelines to utilize and interpret these diagnostic tools at goat and herd level, taking into account the goat specific epidemiological background.