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VALIDATION OF A SERUM AND MILK ELISA FOR ANTIBODIES AGAINST MYCOBACTERIUM AVIUM SUBSP. PARATUBERCULOSIS ACROSS LACTATIONIN GREEK DAIRY GOATS.

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Abstract text:

In this study we validated a commercial (IDEXX Pourquier, Montpellier, France) serum- and milk-ELISA for the detection of Mycobacterium avium subsp. Paratuberculosis(MAP) antibodies, across lactation, in Greek dairy goats. A total of 1268 paired milk/colostrum and blood samples were collected from lactating goat that were sampled at four consecutive times starting from kidding and covering the early, mid and late lactation stage. Bayesian mixture models for continuous correlated responses were used to derive the distribution of the serum- and milk-ELISA response for the healthy and the MAP-infected individuals at each lactation stage. In all lactation stages, serum and milk-ELISA were of average and similar overall discriminatory ability as measured by the area under the curve. For each test, the lowest overlap between the distribution of the healthy and the MAP infected does was at late lactation. Both tests had comparable sensitivities and specificities at the recommended cut-offs, across lactation. Lowering the cut-offs led to an increase in the sensitivities without serious loss in the specificities. Milk-ELISA can be as accurate as the serum-ELISA especially at the late lactation stage and could be preferred to the latter, during the implementation of MAP control programs because milk sampling is a non-invasive, rapid and easy process.

Keywords:

milk ELISA, dairy goat , validation