ELISA test as a strategy to detect infected dairy herds with Johne’s disease in Uruguay

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Mycobacterium avium subsp. paratuberculosis (Map) is the etiologic agent of Johne’s disease (JD), which occurs worldwide, affecting many domestic and wild animals including cattle, sheep, and many other ruminants. In 2002 Piaggio J. and Nuñez A (2006) studied the prevalence and risk factors associated to it in Uruguay. In 2008 Nuñez found a seroprevalence lower than 7% at the animal’s level. Many control programs recommended for detecting infected herds, testing animals with serological tests, especially ELISA test in serum and / or milk. However, the ELISA for Map has the disadvantage of low sensitivity in animals shedding low concentration of Map in their feces. Authors’ has reported the sensitivity of fecal culture test in the range of 23-29% in animals in early stages of infection and 70-74% in advanced stages of disease. The aim of this study was to evaluate the indirect ELISA as strategies to detect infected dairy herds in Uruguay. We select 9 herds with previews history of Johne’s disease. Forth hundred fifty one samples were process by fecal sample (Herrold with and without mycobactin) and ELISA IDEXX Lab (HerdChek Map). Statistical Software (Stata Corporation) was used to determine the sensitivity, specificity of ELISA tests and herd prevalence with a 95% IC. The fecal sample detects 4 of the nine infected herds. The ELISA test detect 7 of the nine infected herds. The sensitivity (Se) and specificity (Sp) of the ELISA was calculated respect fecal culture which was considered the ‘gold standard test’. The Se was 16, 6% and the Sp was 97.0%. The herd sensitivity for the ELISA test was 77.78%.