

**TITLE:** SHEDDING BEHAVIOR OF *Mycobacterium avium* subsp. *paratuberculosis* IN BRAZILIAN DAIRY GOATS

**AUTHORS:** SCHWARZ, D.G.G.; BARROS, M.; LIMA, M.C.; VALENTE, F.L.; MOREIRA, T.S.; ROSADO, N.C.L.; OLIVEIRA, C.T.S.A.M.; OLIVEIRA, L.L.; MOREIRA, M.A.S.

**INSTITUTION:** UNIVERSIDADE FEDERAL DE VIÇOSA, VIÇOSA, MG (AV. PH ROLFS, S/N, CAMPUS UNIVERSITÁRIO, CEP 36570-900, VIÇOSA – MG, BRAZIL)

### **ABSTRACT**

An important disease that affects small ruminant herds is paratuberculosis caused by *Mycobacterium avium* subspecies *paratuberculosis* (MAP). In goats, the infection results in a chronic granulomatous enteritis, progressive weight loss and consequently decrease in milk productivity. Young animals are the most susceptible to infection and may be important in MAP dissemination for many years without clinical signs. Infected animals may release MAP by faeces or milk intermittently, being difficult to detect it. This study aimed to evaluate the detection of MAP in dairy goats without clinical signs after one year of the first detection of the agent. In a previous published study of our research group, 10 dairy goat farms (467 animals) were analyzed for MAP detection; two fecal culture and 11 milk conventional PCR tested positive for MAP and confirmed by sequencing. After a year without the observation of clinical signs of the disease in these animals, four positive goats (4/13) were reanalyzed, and feces and milk samples were collected for evaluation by culture of MAP and/or IS900 PCR, twice, with an interval of three months between them. All analysis were negative for MAP detection. At the last time point, blood samples were collected for ELISA analysis, the animals were sacrificed and fragments of mesenteric lymph nodes, ileocecal valve, ileo and colon were collected for tissue culture and histopathology. In both macroscopic and microscopic (Hematoxylin-Eosin stain) analyzes, no lesions were observed and MAP in samples stained by Ziehl-Neelsen was not detected. These data suggest that dairy goats previously positive for MAP released the agent passively or the immune system cleaned the infection. This study indicates the importance in the identification of these animals for future programs for the control of goat paratuberculosis. This is the first report in Brazil.

**Keywords:** goats; paratuberculosis; passive-shedding

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