

MOLECULAR CONFIRMATION OF THE PRESENCE OF *Mycobacterium bovis* IN CATTLE AND BUFFALOES CARCASSES FROM RURAL PROPERTIES OF PARA STATE

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Abstract:

Bovine tuberculosis is a zoonotic disease caused by *Mycobacterium bovis*, bacillus which affects several species of animals, including humans. It can be transmitted through airways, consumption of contaminated food and also by direct contact with secretions from sick animals. The aim of this study was to confirm, through molecular techniques, presence of *M. bovis* in 33 lesions biopsies belonging to 23 cattle and seven buffaloes from Marajó region/PA, which received presumptive diagnosis of tuberculosis during post-mortem sanitary routine inspection carried out between September and October 2014. These clinical specimens were provided by the Laboratory of Microbiology and Immunology from the Institute of Health and Animal Production of the Rural Federal University of Amazonia (ISPA / UFRA), and used for molecular diagnosis through amplification of *RvD1-Rv2031c* target, located in *M. bovis* genome. From a total of 33 samples, target amplification occurred in 12 (36.4%), eight obtained from cattle and four from buffaloes. Lesions from the same animal showed same results: in cattle, into an animal two samples of different sites were positive and the second animal both samples (different sites) were negative. Among buffalo, both samples from the same animals, but in different sites, were positive. These results show the importance of confirming presence of *M. bovis* in lesions sample identified during sanitary animals inspection, in order to ratify the presumptive diagnosis and strengthen quality control measures in products and animal origin and may also act as additional tool in identification of positive animals and consequent active search of others infected animals from the same properties. Also, it is important to emphasize that the presence of bacillus in meat and other animal products is a health risk not only for those who consume them inappropriately, but also those who handle these products without observing safety standards (occupational risks), considering that cutaneous route, through skin continuity solution is another important contamination form.

Keywords: Bovine tuberculosis, Molecular confirmation, *Mycobacterium bovis*, Quality control.