

TpE - STUDY OF ANAPLASMA MARGINALE INFECTION IN DAIRY CATTLE FROM BRAZILIAN AMAZONIA.

BRITO¹ LG, OLIVEIRA² MCS, SILVA NETTO¹ FG, SOUZA³ FA, MARIM AD, SOUZA⁴ GCR, MOURA⁴ MMF.

1 Embrapa Rondônia, Caixa Postal 406, 78900-970, Porto Velho-RO, Brasil, e-mail: luciana@cpafr.embrapa.br

2 Embrapa Pecuária Sudeste,

3 Embrapa Acre

4 Universidade Federal de Rondônia

Anaplasma marginale is a rickettsia that infects bovine erythrocytes, causing severe anemia and great economic losses in Brazil, where it occurs endemically. *Rhipicephalus (Boophilus) microplus* ticks are the biologic vector of this agent. Since no data are available about anaplasmosis in Brazilian Amazonia, in the present experiment we used PCR-based techniques (PCR and nested PCR) in order to estimate the *A. marginale*-infection rate in blood from animals reared in this area. The study was conducted on crossbreds dairy cattle $\frac{1}{2}$ *Bos taurus* + $\frac{1}{2}$ *Bos indicus* with age of 4-12 months, created in eight micro regions of Rondônia state (1,388 animals) and four micro regions of the Acre state (225 animals). Collected blood samples were performed from November 2005 to January 2006 and DNA was extracted using the GFXTM Genomic Blood DNA Purification Kit (GE Healthcare). Cattle infection was investigated by DNA amplification, using specific primers for the 458 pb fragment of *msp5* gene of *A. marginale*. Purified samples of this parasite were used for positive control of reactions. For the control of contamination, a tube containing no DNA sample was included in each reaction batch and the usual anti-contamination procedures were followed to avoid false positives results. Only the PCR negative samples were submitted to a second round of amplification by nested PCR. The infection rate was 98.6% (1,627/ 1,650) in the samples from Rondônia state and 92,4% (208/225) from the Acre state. This is the first study in which molecular diagnostic techniques were used to investigate the epidemiology of bovine anaplasmosis in Brazilian Amazonia. The high frequency of *A. marginale* infections in animals with age of 4-12 months indicate a situation of stable endemicity and are comparable to those detected by immunodiagnosis in different endemic regions in the country. These results suggest that there are no risk of anaplasmosis outbreaks in the studied region.

Key words: *Anaplasma marginale*, Brazilian Amazonia, PCR, *msp5* gene, epidemiology.