

## Detection of *Neospora caninum* in fetuses of dairy cows by PCR method

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Protozoan that infects several species of animals, *Neospora caninum* has a great importance in cattle yield, dairy or beef. The main clinical signs of infection are abortion, usually between the fourth and fifth month of gestation. The transmission may be vertical or horizontal, and vertical transmission is considered the main form of protozoan maintenance in properties. The objective of this study was to investigate the presence of DNA of *N. caninum* in different fetal tissues of abortions of dairy cows in the western region of Paraná, Brazil. Seventeen dairy cows fetuses were collected from nine properties in four cities in the region. DNA extraction was performed using the commercial *DNeasy Blood and Tissue (Qiagen)* kit from three tissues (heart, brain and placenta). For PCR, the Nc5 region was selected as the target sequence for DNA amplification. Having used the primer's Np21 / Np6 (5'-CCCAGTGCGTCCAATCCTGTA-3') / (5'-CTCGCCAGTCAACCTACGTCTTCT-3'). After amplification, the samples were visualized on 1.5% agarose gel. To confirm the PCR result, one sample from each property was sequenced. Out of the 17 fetuses, nine (52.94%) were positive by PCR in the brain, five in the heart and three in the placenta. All fetuses that showed positive results in the heart and placenta also had a positive result when analyzed in the brain. The sequencing result showed high similarity with *N. caninum*. The age with the highest number of abortions was eight months old (35.29%), however, when analyzed the age with the highest number of positive fetuses for *N. caninum* it was five months (75%), followed by four months (66.66%), seven months (50%) and eight months old (33.33%). These results demonstrate that many cases of abortion may have *N. caninum* as the cause.

Key words: abortion, bovine, neosporosis, molecular