

**Title: SHEDDING EVALUATION OF THE *BOVINE HERPESVIRUS 1 AND 5* IN NATURALLY INFECTED COWS.**

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**Abstract:**

*Bovine herpesvirus 1* (BoHV-1) and *bovine herpesvirus 5* (BoHV-5) cause damage to livestock and both promote respiratory, neurological and reproductive disorders, which affects the animal productivity in a significant way. In this context, it is justified the assessment of infection kinetics by these viral agents in natural conditions with the aim of controlling the infection more efficiently. To evaluate the infection in productive and latent phases, 310 Holstein cows distributed in five herds were studied in the Zona da Mata Mineira region. Blood and milk samples were collected to serological evaluation, PCR and genetic sequencing. The serological test demonstrated broad positive results, indicating the presence of antibodies. The PCR analysis showed BoHV-1 and BoHV-5 DNA shedding in milk. The productive infection is based on the occurrence of the activity and subsequent viral excretion, having gene expression and production of proteins involved in the lytic cycle. In this context, the herd 4 was in productive phase of infection because the animals showed a higher frequency of virus excretion compared to humoral response. In herd 5, there was a higher frequency of seropositivity and lower viral excretion in milk, suggesting that the majority of the animals were in latent infection. This work showed by the first time that BoHV-5 DNA founded in milk. The present study suggest that the milk secretion as an alternative of adequate sample to diagnosis of the virus studied in productive infection phase. Once milk could be used for both BoHV-1 and BoHV-5 diagnosis, that kind of sample would be preferred for its easier way to collect compared to blood. Although additional serological tests are not discarded, and may be associated with biomolecular analysis to obtain more clearly the infection behavior by bovine herpesvirus in naturally condition.

**Keywords:** *Bovine herpesvirus 1*, *Bovine herpesvirus 5*, milk, latency

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