DETECTION OF SERUM ANTIBODIES AGAINST PARAINFLUENZA TYPE 3 VIRUS, RESPIRATORY SYNCYTIAL VIRUS, BOVINE VIRAL DIARRHEA VIRUS AND HERPESVIRUS TYPE 1 IN SHEEP HERDS IN THE REGION OF BOTUCATU, SÃO PAULO STATE, BRAZIL

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Viral respiratory infections are common in sheep production and losses related to the introduction and spread of viral agents in the herds are inevitable. In spite of the expressive growth of sheep-raising as an agricultural practice in the state of Sao Paulo, little is known about the frequency and dissemination of these agents in this state.

Objectives: The objective of this study was to investigate the occurrence of antibodies against virus bovine parainfluenza type 3 (BPI3), bovine respiratory syncytial virus (BRSV), bovine viral diarrhea virus (BVDV) and bovine herpesvirus type 1 (BoHV-1) in sheep herds in the region of Botucatu, São Paulo, Brazil.

Material and methods: Blood samples were collected from 194 clinically healthy dams of one to three years of age and used in the detection of neutralizing antibodies against these viruses. The viral samples used were: BoHV-1 stump Los Angeles, BVDV stump NADL, supplied by the Institute of Virology of the Superior School of Veterinarian Medicine of Hannover - Germany, and the stumps BPI3 and BRSV coming from the American Type Culture Collection (ATCC; Manassas, EUA).

Results: At the moment blood was collected all animals were in good nutritional condition and without any sign of the disease. The frequency of antibodies was equal to 82% (159/194) for BPI3 (p< 0.001); 58.8% (114/194) for BRSV (p< 0.001) and 0.5% (1/194) for BVDV. None of the samples was positive for BoHV-1. Titters of reactor samples ranged from 2 to 2048 for the BPI-3, from 2 to 64 for BRSV, and was equal to 10 for one sample reactor for BVDV. From the 194 samples analyzed, only one showed antibodies against BPI3, BRSV and BVDV simultaneously (1/194 - 0.5%). Fifty-seven samples were positive for only one type of virus (57/194 - 29.4%): 6 for BPI3 (6/194 - 3.1%), and 51 for BRSV (51/194 - 26.3%) (p< 0.001).

Conclusions: BPI3, BRSV, and BVDV were found and infected sheep from herds in the region of Botucatu, São Paulo, Brazil. Due to its high frequency of occurrence, BPI3 is probably the main agent implicated in viral pneumonia cases in the region. However, a wider and more intense research effort is necessary to better understand the role of each of these agents in the occurrence of respiratory diseases in the region.