TIME SERIES ANALYSIS OF BOVINE RABIES CASES FROM 2006 TO 2013, MINAS GERAIS, BRAZIL

(ANÁLISE DA SÉRIE TEMPORAL DE CASOS DE RAIVA BOVINA DE 2006 A 2013, MINAS GERAIS, BRASIL)

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In rural areas, vampire bats are considered potential carriers of rabies and responsible for the disease behavior pattern. Minas Gerais (MG) is an area where the disease is highly relevant due to its favorable geographical features to accommodate the vampire bats and its growing cattle herd. This study aims to evaluate the occurrence of rabies in cattle herds in Minas Gerais through the time series from 2006 to 2012, describing the species and some aspects of the affected regions; and to predict the cases between January and December 2013. We used monthly data of cases, in MG, reported by the Sistema Continental de Vigilância Epidemiológica (SivCont) of the Agriculture Defense Department, Ministry of Agriculture, Livestock and Supply (Ministério da Agricultura, Pecuária e Abastecimento, MAPA), from January 2006 to March 2013. In addition, additional data were collected in other municipalities about other species of animals affected, for description of the disease. The database was created in MS Excel 2013 and the information was analyzed by the Gretl 1.9.12 software. The resulting time series data was fitted to the best model, the fitting was checked using the Box-Pierce Test. We also predicted the cases until the end of 2013. This study indicated that bovine rabies is endemic in the state of Minas Gerais, with varying intensities in different regions. However, there was no definite trend or seasonality between the years 2006 and 2012. We observed that the greatest number of notifications was for cattle, with 1,007 cases (88.88%), followed by equine with 112 (9.89%). The information provided by this study may help understand the occurrence of the disease and establish effective measures for controlling it in endemic regions.

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