

## Spatio-Temporal Analysis of Rabies Incidence in Herbivores of Economic Interest in Brazil

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**Abstract :** In Brazil, there is a high incidence of rabies in herbivores of economic interest (HEI) transmitted by the common vampire bat *Desmodus rotundus*, the presence of human rabies cases and the huge economic losses in the world's largest cattle industry, it is important to assist the National Program for Control of Rabies in herbivores in Brazil, that aims to reduce the incidence of rabies in HEI populations, mainly through epidemiological surveillance, vaccination of herbivores and control of vampire-bat roosts. **Material and Methods:** A spatiotemporal retrospective Kulldorff's spatial scan statistic based on a Poisson model and Monte Carlo simulation and an Anselin's Local Moran's I statistic were used to uncover spatial clustering of HEI rabies from 2000 - 2014. **Results:** Were identify three important clusters with significant year-to-year variation (Figure 1). In 2000, was identified one area of clustering in the North region, specifically in the State of Tocantins. Between the year 2000 and 2004, a cluster centered in the Midwest and Southeast region including the States of Goiás, Minas Gerais, Rio de Janeiro, Espirito Santo and São Paulo was prominent. And finally between 2000 and 2005 was found an important cluster in the North, Midwest and South region. **Conclusions:** The HEI rabies is endemic in the country, in addition, appears to be significant differences among the States according to their surveillance services, that may be difficulting the control of the disease, also other factors could be influencing in the maintenance of this problem like the lack of information of vampire-bat roosts identification, and limited human resources for realization of field monitoring. A review of the program control by the authorities it's necessary.

**Keywords :** Brazil, *Desmodus rotundus*, herbivores, rabies

**Conference Title :** ICVTE 2016 : International Conference on Veterinary Treatment and Epidemiology

**Conference Location :** Berlin, Germany

**Conference Dates :** May 19-20, 2016