

gênero *Leptospira*, a sua maior ocorrência é descrita em países tropicais e subtropicais. Investigações sobre a ocorrência da leptospirose em humanos e animais domésticos são importantes para avaliar os fatores biológicos, ambientais e socioeconômicos e culturais que podem favorecer a disseminação e manutenção do agente infeccioso no meio ambiente e em uma região.

Objetivo: Detectar anticorpos anti-*Leptospira* spp. em cães, gatos e humanos residentes nas proximidades de área de fragmentação florestal da vila de Ananim, município de Peixe Boi, localizado no nordeste paraense, Brasil. **Métodos:** Foram examinadas 70 amostras de soro de animais (66 cães e quatro gatos) e 70 amostras de humanos. Para a detecção de anticorpos, foi empregado o teste de soroaglutinação microscópica (SAM), utilizando antígenos vivos representativos de 31 sorovares pertencentes a 19 sorogrupos. O ponto de corte foi a diluição 1:100 da mistura soro/antígeno.

Resultados: Nenhum gato apresentou aglutinação, os cães registraram 7,1% (5/70) de animais reagentes, os sorogrupos Canicola 60% (3/5) e Pyrogenes 40% (2/5) foram os mais frequentes. Os humanos apresentaram 14,3% (10/70) de indivíduos reagentes, dois indivíduos apresentaram aglutininas para mais de um sorovar, impossibilitando o estabelecimento do sorovar predominante. Nos moradores, as reações mais frequentes foram: Sejroe 20% (2/10), seguido de Celledoni, Autumnalis, Djasiman, Ballum, Semarang e Andamana, com prevalência de 10% (1/10) cada um.

Conclusão: As espécies que residem em áreas próximas à fragmentação florestal apresentaram anticorpos anti-*Leptospira*, com predomínio de reações para o sorogrupo Canicola nos cães e Sejroe em humanos, demonstrando que as circulações dos sorogrupos encontrados foram distintas entre os grupos analisados. **CEUA:** Evandro Chagas nº 28/2012. Comitê de Ética Humano nº 1.109.898/2015.

47. SPATIAL DISTRIBUTION OF LEPTOSPIRA SEROVARS IN HORSE POPULATIONS: ANIMAL SEROVAR PREVALENCE AND ASSOCIATED RISK FACTORS

Distribuição espacial de sorovares de leptospira em populações de cavalos: prevalência de sorovar de animais e fatores de risco associados

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Introduction: Leptospirosis is a zoonotic disease, global distributed throughout the horse populations. The control of leptospirosis is often difficult and requires host specific measures, therefore, methods for disease control vary among serovar and, host immunology status. **Objective:** The objective of this study was to estimate the serovar specific prevalence and geographic distribution in the horse populations in Rio Grande do Sul, Brazil, and to determine possible risk factors.

Methods: The global and serovar specific prevalence for both animal and farm level were calculated. Positive animals were tested reagent for at least one serovar with a minimum title of 1:100. The animal-level prevalences and, design effects were calculated. Information on the origin of the animal, age, husbandry, presence of weir within the limits of the farm and, environmental characteristics (ecoregion, soil type, temperature, rainfall, altitude) were considered for the risk factor analysis. **Results:** The global animal-level leptospirosis prevalence was 39.5% (CI_{95%}: 32.0-48.0%). The most prevalent serogroups were Sejroe 24.4% (CI_{95%}: 13.3-40.0%), Tarassovi 14.3% (CI_{95%}: 6.6-28.0%) and Hebdomadis 7.3% (CI_{95%}: 4,8- 11.0%). The spatial distribution of each serovar revealed preferences for specific regions, suggesting a positive association with climate condition, land use, presence of reservoirs and large number of susceptible hosts. Horse populations at the northwestern and northeastern regions, areas with higher precipitation, and, soil type “Neolithic litolithic” were exposed to increased odds for horse leptospirosis. **Conclusion:** The obtained results suggests that serovars are not distributed at random, maps generated may guide serovar specific vaccination and facilitate disease prevention, as well as highlight

the potential public health consequences associated with the prevalent serovars. **CEUA:** Not applicable. **Funding:** SEAPI/RS, FUNDESA/RS.

48. STRATEGIES OF THE CONTROL OF AN OUTBREAK OF LEPTOSPIRAL INFECTION IN DAIRY CATTLE IN NORTHEASTERN BRAZIL

Estratégias de controle de um surto de infecção leptospiral em bovinos leiteiros no nordeste do Brasil

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Introduction: Leptospirosis is a zoonotic disease of global importance, caused by pathogenic bacteria belonging to the genus *Leptospira*. The infection has a wide geographical distribution, with higher occurrence in tropical regions, and each serovar is usually associated with a maintenance host. **Objective:** The aim of the present study was to describe the strategies of the control of an outbreak of leptospiral infection in dairy cattle in Maranhão state, Northeastern Brazil. **Methods:** The outbreak occurred in a dairy farm in the municipality of Timon, state of Maranhão, Northeastern Brazil. The herd was composed of 106 pregnant cows, 90 heifers, eight bulls, and 76 calves, totaling 280 animals. In the period from January to July 2015, 18 (17%) out of 106 cows presented abortion, six (5.7%) stillbirth, and 12 (11.3%) repeated estrus, totaling 24 animals with reproductive problems. The diagnosis of leptospirosis was based on serology (microscopic agglutination test - MAT), bacteriological culture, and polymerase chain reaction (PCR). Antibiotic therapy, vaccination protocols, and changes in management practices were proposed as control measures. **Results:** Of all animals on the farm ($n=280$), 136 (48.6%) were seropositive for at least one serovar of *Leptospira* sp. No pure leptospiral culture was obtained. Eight of the animals with reproductive problems yielded positive PCR results (vaginal fluid of seven animals and urine and vaginal fluid of one animal). Genetic sequencing of a vaginal fluid/urine PCR-positive sample

revealed *Leptospira borgpetersenii*. One year after the adoption of control measures, no reproductive problems were observed. **Conclusion:** Based on the high frequency of seropositivity and carriers (PCR), leptospirosis can be inferred to be the cause of the reproductive problems, although no other collection of material for bacterial isolation, serology, or PCR was performed in the year after the adoption of control measures. **CEUA:** UFCG/20-2012. **Funding:** CNPq/Capes.

49. SUSCEPTIBILITY AMONG BREEDS OF SHEEP EXPERIMENTALLY INFECTED WITH LEPTOSPIRA POMONA SEROGROUP

Suscetibilidade entre raças de ovinos experimentalmente infectados com o sorogrupo de *Leptospira Pomona*

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Introduction: Leptospirosis is a disease that negatively affects the productive and reproductive indices of ruminants. Sheep are considered highly resistant to infection, although susceptibility may vary among breeds. **Objective:** The aim of the present study was to analyze the susceptibility between sheep breeds to the experimental infection by leptospire of the Pomona serogroup. **Methods:** 1×10^7 bacteria (Pomona serogroup, Kennewicki serovar) strain were inoculated via the conjunctival route in 12 sheep divided into two groups, one comprising Santa Inês ewes and the other comprising crossbred sheep. In each group, five ewes were challenged, and one was used as a control. All sheep were monitored for 60 days. Blood samples were collected for serological diagnosis and urine and vaginal fluid samples for molecular and microbiological analyses. As ewes were necropsied, and tissues were collected for microbiological, molecular, and histopathological investigation. **Results:** The antibody titers in group A (median 200, geometric mean 317.48) were significantly different from the group B (median 800, geometric mean 918.96) at D60 post-infection ($P = 0,032$). The Santa Inês sheep presented the higher level and