

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

PIMENTA, C. L. R. M.;¹ COSTA, D. F.;¹ SILVA, M. L. C. R.;¹ JÚNIOR, J. P. A.;² MALOSSI C. D.;² ULLMANN, L. S.;² NOGUEIRA, D. B.;¹ SANTOS, C. S. A. B.;¹ HIGINO, S. S. S.;¹ ALVES, C. J.;¹ AZEVEDO, S. S.¹

¹Academic Unit of Veterinary Medicine, Center of Rural Technology and Health, Universidade Federal de Campina Grande (UFCG), Campina Grande/PB, Brazil.

²Institute of Biotechnology, Universidade Estadual Paulista (Unesp), Botucato/SP, Brazil.

E-mail: sergio@vps.fmvz.usp.br

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 sorogruppo de *Leptospira Pomona*

COSTA, D. F.;¹ SILVA, M. L. C. R.;¹ MARTINS, G.;² DANTAS, A. F. M.;¹ MELO, M. A.;¹ AZEVEDO, S. S.;¹ LILENBAUM, W.;² ALVES, C. J.¹

¹Transmissible Diseases Laboratory, Universidade Federal de Campina Grande (UFCG), Patos/PB, Brazil.

²Laboratory of Veterinary Bacteriology, Department of Microbiology and Parasitology, Universidade Federal Fluminense, Niterói/RJ, Brazil.

E-mail: clebertja@uol.com.br

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

duration of the titles, and their reactions were detected earlier than those observed in the crossbred sheep. According to the molecular diagnosis, the Santa Inês sheep presented more reactions (urine and vaginal fluid) compared to crossbred, but there was no predominance in the detection of leptospiral DNA when comparing urine and vaginal fluid results, nor even between the number of positive kidney and uterus. The Santa Inês sheep presented a higher number of positive bacteriological cultures. **Conclusion:** Pure-bred sheep may be more susceptible than crossbred ones to *Leptospira* sp. infection. The obtained results emphasized the importance of the genital tract as a site of extraurinary infection and indicate the possibility of venereal transmission in sheeps. **CEUA:** 020/2016. **Funding:** CNPq, Capes.

50. SUSCEPTIBLE OF *LEPTOSPIRA INTERROGANS* TO THE SNAKE VENOMS

Suscetível a *Leptospira interrogans* para os venenos de cobra

CIUFFA, A. Z.;¹ GOMES, D. O.;¹ PIRES, B. C.;² RESENDE, L. M.;¹ VELOSO, L. I.;³ RODRIGUES, R. S.;³ RODRIGUES, V. M.;³ LIMA A. M. C.¹

¹Laboratory of Infectious Diseases, Faculty of Veterinary Medicine, Universidade Federal de Uberlândia (UFU), Uberlândia/MG, Brazil.

²Laboratory of Veterinary Bacteriology, Department of Microbiology and Parasitology, Fluminense Federal University (UFF), Niterói/RJ, Brazil.

³Laboratory of Biochemistry and Animal Toxins, Institute of Biotechnology, Federal University of Uberlândia (UFU), Uberlândia/MG, Brazil.

E-mail: andreiazago@yahoo.com.br

Introduction: Nowadays bacterial resistance to antibiotics are becoming an important cause of failures in infectious diseases therapy. Snake venoms have antimicrobial activity and are being used as drugs. Their activity on *Leptospira* is still unknown. **Objective:** To report on the susceptible profile of *L. interrogans* to venoms of *Bothrops pauloensis* and *Crotalus durissus terrificus*. **Methods:** 200µl of culture of *Leptospira interrogans* serovar Icterohaemorrhagiae was subjected to serial decimal dilutions with 200µl of *Bothrops* venom at 3,0mg/mL. Being the first well of the plate, the one of highest concentration of the venom, and the fifth, the lowest concentration (3×10^0 and 3×10^{-4} respectively). The same procedure was performed for *Crotalus* venom.

Samples were observed under microscope for analysis of the movement and viability of *Leptospira*, before and after the addition of the venom, with 0, 24, 48 and 72 hours of incubation. After 72 hours, to confirm the inhibition of bacterial growth, all dilutions were inoculated in EMJH, incubated for seven days and then observed under a microscope. **Results:** *Leptospira* was resistant to *Bothrops* venom, as it continued with unchanged motility, even after 72 hours of venom addition, and the culture of the five dilutions in EMJH after seven days of incubation demonstrated the presence of viable *Leptospira* in all tubes. The efficiency of *Crotalus* venom was dose-dependent. *Leptospira* ceased the movement after 48 hours of the addition of the venom, in the concentration 3×10^0 mg/mL and after 72 hours in the other dilutions. When these dilutions were cultivated in EMJH for seven days, was observed the presence of viable *Leptospira* in the cultures corresponding to the dilutions 3×10^{-2} , 3×10^{-3} , 3×10^{-4} mg/mL. Bacteria were susceptible to *Crotalus* venom at 3×10^0 and 3×10^{-1} mg/ml concentrations. **Conclusion:** *Leptospira* is susceptible to *Crotalus* venom at the highest concentrations. **CEUA:** Not applicable. **Funding:** Capes, Fapemig.

51. USAGE OF A COMBINATION OF T80/40LH MEDIUM+STAFF COCKTAIL FOR CULTURING LEPTOSPIRAL STRAINS FROM SEJROE SEROGROUP

Uso de combinação de coquetel de meio t80/40lh + staff para a cultura de estirpes leptospirais do sorogrupo Sejroe

BRASIL, T.;¹ LOUREIRO, A. P.;¹ CORREIA, L.;¹ CABRAL, B.;¹ PEREIRA, P. V.;¹ LILENBAUM W.¹

¹Laboratory of Veterinary Bacteriology, Microbiology and Parasitology Department, Universidade Federal Fluminense (UFF), Niterói/RJ, Brazil.

E-mail: wlilenbaum@id.uff.br

Introduction: Bovine leptospirosis is an infectious-contagious disease of worldwide distribution, endemic in tropical countries. Correlation between reproductive problems and *Leptospira* infection has been demonstrated, especially for strains of serogroup Sejroe. However, culturing those strains from bovine clinical samples is still challenging, since it is laborious and demands expertise. **Objective:** The present study aimed to analyze the growth dynamics of leptospiral strains from serogroup Sejroe in different culture media in order to suggest better approaches for primary culturing