

TITLE: MICROBIOLOGICAL, MOLECULAR, AND HISTOPATHOLOGICAL FINDINGS IN GOATS EXPERIMENTALLY INFECTED WITH *ACTINOBACILLUS SEMINIS*.

AUTHORS: SANTOS, F.A.; COSTA, D.F.; SILVA, A.F.; SANTOS, R.M.S.; ROCHA, V.C.F.; OLINDA, R.G.; DANTAS, A.F.M.; MELO, M.A.; ALFARO, C.E.P.; AZEVEDO, S.S.; CLEBERT J. ALVES, C.J.

INSTITUTION: UNIVERSIDADE FEDERAL DE CAMPINA GRANDE (UFCG), CENTRO DE SAÚDE E TECNOLOGIA RURAL (CSTR), PATOS, PB (AV. UNIVERSITÁRIA, S/N, SANTA CECÍLIA, CEP 58708-110, PATOS – PB, BRAZIL)

ABSTRACT:

The objective of this study was to experimentally evaluate the pathogenicity of an *Actinobacillus seminis* isolate named SAAS01 in goats. Animals were challenged with 2 mL of a suspension containing $1,5 \times 10^8$ CFU/mL of *A. seminis* (SAAS01 isolate) through the intrapreputial, epididymis tail, and conjunctival routes. Epididymis and testicular fragments were submitted to histopathological exam, and semen samples underwent microbiological and molecular diagnoses. Clinically, a unilateral increase in firm consistency was observed in the epididymis and testicles of two animals inoculated in epididymis tail and in one animal inoculated through conjunctival sac; this firmness continued until the day of euthanasia. Two goats inoculated through epididymis tail and conjunctival sac routes presented histopathological findings with macroscopically and microscopically significant changes. *A. seminis* was isolated from semen samples collected from goats inoculated through the epididymis tail and conjunctival sac routes. *A. seminis* DNA was amplified from six semen samples of three goats inoculated through the epididymis tail, two in conjunctival sac and one through intrapreputial route. The experimental infection model using goats confirmed the pathogenicity of the *A. seminis* isolate, demonstrating the predilection of the agent for the epididymis, with clinical signs, histopathological lesions, bacterial isolation, and a positive molecular diagnosis.

Keywords: Epididymitis, *Actinobacillus seminis*, Experimental inoculation.