

Presence of antibody anti-*Corynebacterium pseudotuberculosis* in sheep in Dormentes, State of Pernambuco, Brazil - Veschi J.L.A.¹, Zafalon L.F.², Borges F.C.³, Azevedo V.³, Miyoshi A.³, Meyer R.⁴, Portela R.⁴, Gouveia A.M.G.³

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The Northeast has the largest Brazilian herd of goats and sheep. Approximately 60% of these animals are located on small farms, and on this fact, are the major health problems of which still exist in this region. Among these problems we can mention the caseous lymphadenitis (CL), which is an infectious disease, spread around the world and caused by the bacteria *Corynebacterium pseudotuberculosis*. Sheep and goats are the most affected and the disease is characterized by the formation of abscesses in the lymph nodes. To evaluate the presence of antibodies against this bacteria, we used 311 sheep of both sexes, regardless of race, age or degree of blood from Dormentes, the municipality that is the largest producer of sheep meat in the backlands of Pernambuco. Blood samples were taken from animals sent to slaughter in the slaughterhouse of Petrolina, PE. All blood samples were collected by jugular vein puncture into tubes in vacuum and the obtained serum remained at -20°C until use in serological testing. We used an Indirect ELISA for the quantification of anti-*C. pseudotuberculosis*. Of the 311 sheep analyzed by Indirect ELISA, 171, or 54.98% had anti-*C. pseudotuberculosis*, and 140 were considered positive, so 45.02% of the animals evaluated showed no anti-*C. pseudotuberculosis*. Based on these results, we conclude that there is a large number of sheep that have anti-*C. pseudotuberculosis* in the city of Dormentes, PE, as assessed by ELISA-I.

Key-words: caseous lymphadenitis, ELISA, antibodies

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Presence of antibody anti-



Corynebacterium pseudotuberculosis in sheep of Dormentes, State of Pernambuco, Brazil



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INTRODUCTION

Caseous Lymphadenitis of sheep and goats is a chronic disease characterized by suppurative, necrotizing inflammation of one or more lymph nodes caused by the bacteria *Corynebacterium pseudotuberculosis*. The disease has been reported in many countries worldwide, but particularly in tropical and subtropical regions and has serious economic consequences. Inapparent infection is common, and failure to diagnose infection in a timely fast results in a high level of animal-animal transmission and thus significant costs.

METHODOLOGY

311 sheep were used (both sexes), regardless breeds, age or degree of blood. All animals used were from the town of Dormentes, State of Pernambuco. The blood samples were taken from sheep, sent to slaughter in Petrolina, Pernambuco. Blood samples were collected by jugular vein puncture into tubes in vacuun and the blood serum remained at -20°C until be used in the Indirect ELISA. The cut-off was a predetermined calculation based on the relative operating curve (ROC) and set at 0.35.



Figure 1: Sheep in their place of origin (Dormentes, Pernambuco)



Figure 2: Slaughterhouse of the city of Petrolina - sheep from Dormentes, Pernambuco.



Figure 3: Local also used for collection of blood samples during the experiment.

RESULTS

From 311 samples blood analyzed by Indirect ELISA, 140 showed no detectable antibodies by Indirect ELISA, or 45.02% (140/311) of the animals evaluated in the test were negative. However, 171 ie 54.98% (171/311) of the animals showed high anti- *C. pseudotuberculosis* with results considered positive.

CONCLUSION

Based on these results, we conclude that 55% of the sheep from the city of Dormentes, slaughtered in Petrolina, Pernambuco, have antibodies of the *C. pseudotuberculosis* as assessed by Indirect ELISA.

