







of caprine tuberculosis we detected tree (7,14%) animals with tuberculous mammary lesions. The animals were subject to a clinical and a post mortem examination. Because the suspicion of tuberculosis, samples of different organs, including the mammary gland were collected for histological examination and microbiological tests. For histological examination specimens were fixed in 10%, neutral-buffered formaldehyde. The tissues were routinely processed, embedded in paraffin wax, sectioned at 3 µm, and were stained with HE and Zielh-Nielsen for acid fast bacilli detection. For bacteriological exams were send frozen samples (- 20 °) to LNIV- Lisbon.

Results: At clinical examination the animal presented fever, weakness, cough and large, nodular and firm mammary gland. At the post mortem examination, the lymph nodes were moderately enlarged and presented yellowish white lesions caseous or caseo-calcareous. Similarly lesions were seen in lungs, liver and spleen, serosas, mesenteric. The tree animals with mammary lesions presented a mammary gland enlarge, nodular and firm. On cut surface the udder presented a firm consistency, whitish, with caseous yellowish multifocal areas in the parenchyma. Supramammary lymph node was enlargement with caseous granulomas similarly to described above. Histopathology revealed tuberculous granulomas in lungs, lymph nodes, liver and spleen. At mammary gland granulomatous foci composed of epithelioid cells and Langhan's type of giant cells with caseation were seen. Acid-fast bacilli has be demonstrated in granulomas. In one case, a mammary tumour was also detected and characterized by intraductal papillary-like nests with fibrovascular stroma and mild lymphoid cell infiltration. The tumor cells were pleomorphic with prominent nucleolus. Mitosis was infrequent. Ziehl-Neelsen technique showed acid-fast bacilli. Mycobacterium caprae was found in the samples sent to the laboratory.

Conclusions: Granulomatous lesions in the mammary gland are found in a few cases of goat tuberculosis. However the transmission of tuberculosis through the milk goats should not be neglected. The transmission of tuberculosis through the milk to kids can contribute to the increase the prevalence of disease in the folks. Likewise, the unpasteurized milk and cheese can be a route of spread with serious zoonotic implications. Several measures must be taken to diagnostic detection and control of goat tuberculosis.

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Serological survey of Map infection in goats in the Northeast of Portugal

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Objectives: The aim of this work is to study the seroprevalence of paratuberculosis in the Northeast of Portugal in order to discern its economic impact, and to prioritize the allocation of disease control resources.

Materials and Methods: The goat flocks studied were located in the region of Trás-os-Montes e Alto Douro, Northeast of Portugal and included 3 counties (Macedo de Cavaleiros, Mirandela and Alfandega da Fé). In each flock, veterinary practitioners collected blood samples from at least 2 years old goats between May and July 2011. A goat flock was defined to be paratuberculosis seropositive if at least one seropositive adult goat was present. Blood (10 ml) was collected in the jugular vein and serum was separated after clotting by centrifugation at 200 g for 10 min and frozen at-20 °C until use. All samples were subjected to a commercial enzyme-linked immunosorbent assay (ELISA) test according to the manufacturer's instructions

Results: In total, 628 samples of goats older than 2 years belonging to 39 goat flocks from 3 counties were investigated for the presence of antibodies against Mycobacterium avium subspecies paratuberculosis. About 66.7% (26/39) flocks had one or more serologically positive animals. The individual paratuberculosis prevalence was 15.5% (97/628)

Conclusions: The results of this survey indicate that antibodies against M. avium subspecies paratuberculosis measured by ELISA are widely distributed in goats in the Northeast of Portugal. A high percentage of animals and a high percentage of flocks were serologically positive. More research is needed on effective control of this infection in collaboration with farm associations like OPP, veterinarians and producers in order to establish an efficient control program with regular evaluation.

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Stimulation of sexual behavior of male goats during the sexual-resting season in northern Mexico

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Objectives: The aim of this study was to evaluate whether application of testosterone or exposure to estrus females increase sexual behavior of male goats during the male sexual-resting season in northern Mexico (26° LN). Materials and Methods: Three groups (n = 8, each) of local adult male goats were fed alfalfa hay while free access to 200 g of commercial concentrate (14% CP) per day per animal; animals had an homogeneous body condition, body weight, scrotal circumference and odor score. On March 15th, one group (TG) was injected (25 mg of testosterone) every third day during three weeks. A second group (HG) was put in contact with three estrogenized females, which were separated from males by a transparent grid. These females received 0.2 mg of estradiol cypionate every three days. A third group (Control) was treated with saline solution every third day during three weeks. On April 11, all males were exposed to an estrus female during 15 min; sexual behavior was evaluated considering the number of approaches, attempted mounts and mounts. Data were compared by means of chi-square test and analyzed using the statistical software SYSTAT 10. Sexual behavior was recorded for every group as the percentage of events observed in the three components (approaches, attempted mounts and mounts) in relation to the total events in all groups (642).

Results: The greatest sexual behavior was observed in the HG (46.4%) and TG (41.1%) groups, without differences between groups (P<0.05), while the lowest value (12.5%) was recorded in the Control group. The greatest Approaches and Attempted mounts were observed in the HG (14, 278, respective) and TG (10, 225, respective) groups, without differences between groups (P<0.05), while the lowest value (3, 68, respective) was recorded in the Control group. The greatest Mounts was observed in the TG (29), while the lowest value were recorded in the HG (6) and Control group (9, P<0.05). Conclusions: Results of this study suggest that during the males sexualresting season, either application of testosterone or exposure of males to estrus females, stimulates sexual behavior in male goats in northern Mexico.

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Comparison of superficial scrotal temperatures in sheep of different ages

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Objectives: To verify the efficiency of testicular thermoregulation in sheep of different ages using an infrared thermograph.

Materials and Methods: Six prepubertal (PS) and four adult sheep (AS), previously subjected to andrological examination were used. Environment temperature was 24.6°C at the moment of the experiment. Rectal temperature (RT, °C) was measured using a dry-bulb digital thermometer. Scrotal surface temperature (SST, °C) and body surface temperature (BST, °C) were evaluated using an infrared thermograph (Infra Cam™, FLIR Systems Inc.). The anteroposterior (AP, cm) and lateromedial (LM, cm) diameter and length (L, cm) were measured in both testicles to calculate the testicular volume (TV, cm3) through the formula: $V = (3/4) \times p \times (AP/2) \times (LM/2) \times (L/2)$. Thermographs were assessed using ThermaCAM Quick Report® software and data analyzed through analysis of variance (ANOVA), Tukey test and Pearson's test at significance level of 5%.

Results: No difference was detected (p>0.05) in RT regarding age (39.3±0.4 vs 39.2±0.6, PS and AS, respectively) and BST (36.4±0.4 vs 36.6±0.04, PS and AS, respectively). However, PS had higher (P<0.,05)