



A005 Physiology of Reproduction in Male and Semen Technology

Testicular thermolysis ability of “Morada Nova” sheep under heat thermotolerance teste: preliminary results

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This research aimed to evaluate thermoregulatory capacity of scrotum, of Morada Nova sheep, subjected to heat tolerance test, using infrared thermography analyses. The study was conducted from January to February 2015 in the experimental unit of Livestock Southeast, São Carlos-SP, subtropical climate region (Cwa Koppen). Seven Morada Nova males were subjected to heat tolerance test (Baccari Junior et al. 1986 Annual Meeting of the Society of Animal Science, 23, p. 316), and yours themolitics answers was evaluated during three distinct periods (T1, T2 and T3), with animal exposure to the sun and shade. In T1, animals were maintained in the shade for two hours (11:00 to 13:00), then they were exposed to direct sunlight for a period of one hour (13:00 to 14:00), featuring T2. In T3, animals returned to the shade, where they remained for an hour (14:00 to 15:00). At end of each period, rectal temperatures were measured (RT-oC) with thermometry. Testicular surfaces temperatures (°C) measured were: dorsal pole temperature (DPT), ventral pole temperature (VPT) and average testicular temperature (ATT). Gradients of temperature between the dorsal and ventral poles were calculated (GDV) and between rectal temperature and average testicular (GRT). These measurements were made with infrared thermal imager (Testo875i, Testo®, Lenzkirch, Germany). Statistical analysis consisted of evaluation of the normality of data, analysis of variance (ANOVA). The effects of time and results were expressed in mean ± SD. Significance level was 5%. Rectal temperatures and testicular surface measured on T2 (RT=39.0±0.3°C, DPT=34.0±1.2°C, VPT=33.5±1.4°C, ATT=34.0±1.1°C and GRT =4.9 ±1.0 °C) were significantly higher than observed in T1 (RT=38.3±0.3°C, DPT=33.0±1.0°C, VPT=32.1±1.0°C, ATT=32.6±0.9°C and GRT=5.7±0.9°C) and T3 (RT=38.4±0.3°C, DPT=32.5±1.8°C, VPT=31.4±2.0°C, ATT=32.1±1.7°C and GRT=6.3±1.6°C). Thus, there was no statistical difference between values observed in pre and post challenge. Only gradient between testicular poles (GDV) behaved differently from the others, with statistical difference between T2 (0.48±0.63°C) and T3 (1.1±0.79°C). These results demonstrate the thermoregulatory efficiency of Morada Nova sheep, since even after submission to heat stress situation, its surface testicular temperatures were set to baseline standard noted previously challenge. This ensures the maintenance of the physiological temperature gradient between core body and testicles, vital for normal spermatogenesis.