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A022 Male Reproductive Physiology and Semen Technology

### **Epididymal and testicular temperatures of Morada Nova and Santa Inês sheep breeds during Summer in a tropical environment**

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**Keywords:** homeothermy, testicular thermoregulation, tropical climate.

High relative humidity and ambient temperature are characteristics of a tropical climate and influence negatively animals mechanisms of heat exchange. Testicular thermoregulation is dependent on the individual ability thermolysis and failures in this process lead to functional impairment of testes. Sheep kept under high temperatures and humidity can present temporary or permanent infertility. For this reason, search and selection of heat tolerant breeds favor reproductive function, despite challenges posed by tropical climate. Native breed Morada Nova is considered adapted and the interest for their productive attributes and rusticity has grown each day, constituting an alternative for meat production and quality leather. However, for greater integration in production systems, this germplasm needs to be better investigated and understood. The aim of this study was to evaluate rectal temperature, testicular and epididymal surface temperatures of individuals Breeds Morada Nova (MN) and Santa Inês (SI) in order to compare efficiency racial regarding maintenance of body and testicular homeothermy. The experiment was conducted at Embrapa Southeast Livestock, in Sao Carlos - SP ( 21 ° 57'42 " S , 47 ° 50'28 " W , elevation 860m ), local of altitude tropical climate type (Cwa). 16 adult sheep (*Ovis aries*) were used, 7 MN and 9 SI, kept in paddocks of star grass (*Cynodon nlemfuensis*), supplemented with mineral salt, with access to drinking fountain for water consumption *ad libitum*. Between the months of December 2013 and February 2014, monthly campaigns of three consecutive days were conducted to measure rectal temperature (RT), with clinical thermometer, surface temperatures of dorsal poles (TESTD) and ventral poles of the testes (TESTV ) and surface temperature tail of the epididymis ( EPID), obtained with infrared thermometer. The measurements were performed during the morning (07h30 to 10h00) and afternoon (13:30 to 16:30). Experimental data were analyzed using the program BioEstat 5.3. Descriptive analysis was followed by an evaluation of the normal distribution of the same, using the Kolmogorov - Smirnov test (KS test). Analysis of variance was applied followed by comparison of means using Tukey test at 5 % significance level. MN sheep showed lower rectal temperature than SI sheep (38.7 °C vs 38.9 °C, P < 0.01). There was no difference in TESTD (31.3 °C vs 31.3 °C), TESTV (30.3 °C vs. 30.5 °C) and EPID (29.2 °C vs 29.4 °C) for MN and SI. Thus, Morada Nova breed resemble Santa Inês on the ability for testicular and epididymal thermoregulation.