

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

PHYSIOLOGICAL PARAMETERS AFFECTED BY HEAT STRESS IN LAMBS

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The lambs in the tropics can be affected by climatic conditions, high ambient temperatures, high direct and indirect solar radiation, and humidity, resulting in heat stress situations and decreasing their productive performance. Thus, the objective of this study was to evaluate physiological parameters of Santa Ines and Brazilian Somali lambs terminated in an Integrated Crop-Livestock System at Semiarid tropic in Ceará State, Brazil. Twenty-eight non-castrated animals were used, in which 14 were Santa Ines breed and the other 14 were Brazilian Somali breed. The experimental design was completely randomised in factorial scheme 2 x 2 [time of day (6.00 and 14.00 hours) and genetic groups (Santa Ines and Brazilian Somali breeds)]. The physiological variables studied were respiratory frequency and rectal temperature. The data were submitted to variance analysis and averages were compared by the Tukey test with 95% of confidence. The observed average, during the experiment, for air temperature and relative humidity were, respectively, 25.4°C and 70% for 6.00 hours and 37.1°C and 25% for 14.00 hours. The respiratory frequency of Santa Ines lambs was significantly higher ($P < 0.05$) along the afternoon (159 ± 2.0 breaths per min) when compared to the morning (47 ± 1.0 breaths per min). The results were similar to Brazilian Somali, which presented 144 ± 1.0 breaths per min and 40 ± 1.0 breaths per min for afternoon and morning, respectively. It was verified that the time of day significantly influenced ($P < 0.05$) the rectal temperature in both breeds, so that for the 14.00 hours, the registered values were 40.0°C for Santa Ines and 39.8°C for Brazilian Somali lambs. While at 6.00 hours, the obtained values were 38.8°C and 37.7°C for Santa Ines and Brazilian Somali lambs, respectively. According to the meteorological data registered, the afternoon climatic conditions possibly made it difficult for the animals to dissipate all the heat required to maintain body temperature within the mean baseline of 39.1°C. Therefore, under higher temperature conditions, regardless of genetic groups, lambs can be led to heat stress situations.

Keywords: adaptability, small ruminants, tropical environment

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