



## HAIRCOAT CHARACTERISTICS EVALUATION OF EWES FROM DIFFERENT GENETIC GROUPS

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The haircoat represents the boundary between the environment and the mammals' body and it directly influences their heat exchanges. The haircoat morphological characteristics, such as number density, fiber length and cover thickness, interfere with thermal insulation and may vary in different breeds. However, there are still few studies on these characteristics in sheep and their influence on the ability to face climate change. The goal of this work is to evaluate length of the fibers, number, type (hair or wool) and fiber percentage from samples collected from Santa Inês (S), Dorper (D), Texel (T) and Ile de France (I) purebred ewes and their crossbreeds  $\frac{1}{2} D + \frac{1}{2} S$ ,  $\frac{1}{2} T + \frac{1}{2} S$  and  $\frac{1}{2} I + \frac{1}{2} S$ , for the variable average. The samples collection was performed in the summer season from a total of 50 animals kept in the Southeast Livestock Research Center (CPPSE) - Embrapa, located in the Southeast of Brazil (22°01'S and 47°53'W). The data were analyzed by the least squares method, considering the genetic group (GG) as fixed effect, and the means were compared by the Tukey test. Genetic group presented significant effect on all variables studied. Regarding the total number of fibers, Ile de France and Texel breeds presented the highest averages ( $1201.86 \pm 135.16$  and  $1268.00 \pm 113.08$  fibers/cm<sup>2</sup>) and Santa Inês and  $\frac{1}{2} D + \frac{1}{2} S$  animals the lowest ( $278.20 \pm 113.08$  and  $311.00 \pm 159.92$  fibers/cm<sup>2</sup>). Out of the total fibers, Ile de France and Texel ewes presented only wool fibers and those of Dorper a high percentage thereof ( $82.89 \pm 0.06\%$ ). As for the crossbreed groups,  $\frac{1}{2} T + \frac{1}{2} S$  ewes kept highest percentage of wool ( $90.56 \pm 0.09\%$ ) in total of fibers, and the animals  $\frac{1}{2} D + \frac{1}{2} S$  and  $\frac{1}{2} I + \frac{1}{2} S$  lowest ( $35.60 \pm 0.09$  and  $46.62 \pm 12.76\%$ ). In relation to the average length of wool fibers, the pure breeds Ile de France and Texel presented the longest wools ( $12.75 \pm 0.99$  and  $17.53 \pm 0.83$ cm, respectively) followed by the crossbreed group  $\frac{1}{2} T + \frac{1}{2} S$  ( $9.70 \pm 1.18$ cm). In relation to the hair fibers,  $\frac{1}{2} T + \frac{1}{2} S$  ewes presented the shortest fibers ( $0.75 \pm 0.39$ cm) and these did not differ from the average of the group  $\frac{1}{2} I + \frac{1}{2} S$  ( $1.69 \pm 0.59$ cm), which showed intermediate values. Thus, changes in the sheep's external cover adaptation characteristics to heat can be evidenced with the use of breeding programs with woolless breeds.

Key-words: adaptation, external cover, tropical environment, thermoregulation