

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

LIGHT EXTINCTION COEFFICIENT OF ANDROPOGON GRASS MANAGED AT THREE HEIGHTS IN THE RAINY PERIOD

Dhiéssica Morgana Alves BARROS¹, Rosane Claudia RODRIGUES¹, Clésio dos Santos COSTA², Juliana Rodrigues Lacerda LIMA¹, Ezakiel Reis MARINHO¹, Ricardo Escórcio GOMES¹, Ana Paula Ribeiro de JESUS¹, Jocélio dos Santos ARAUJO¹

*corresponding author: clesiosantzoo@gmail.com

¹Universidade Federal do Maranhão, Chapadinha, Maranhão, Brasil

²Universidade Federal do Ceará, Fortaleza, Ceará, Brasil

Light radiation plays a role of paramount importance in herbage accumulation, as it is an essential and direct source of energy for the plant development that acts as a regulator of growth rate alongside water and nutrient availability and temperature. The objective of this study was to evaluate the light extinction coefficient (k), leaf area index (LAI), and final height of andropogon grass (*Andropogon gayanus* Kunth cv. Planaltina) managed at the harvest heights of 15, 25, and 35, in three evaluation cycles. The experiment was set up as a completely randomized design with split plots over time where the harvest heights represented the plots and the evaluation cycles (1st, 2nd, and 3rd) were the subplots. Each treatment had 8 replicates, totaling 24 experimental units. The pasture was defoliated upon reaching 95% light interception, which was measured using the AccuPAR Linear PAR/LAI ceptometer (model PAR-80). Pasture height was determined using a 2.5-m ruler graduated in centimeters. All data were subjected to analysis of variance and mean comparison by Tukey's test using SAS 9.0 statistical software. The pasture managed at a height of 15 cm provided the highest LAI (4.74), which was a consequence of the greater exposure of the base of the canopy to radiation. As a result, the activation of basal buds was stimulated, leading to greater tiller appearance and consequently greater leaf emergence. Harvest height did not affect ($P>0.05$) k . In the 3rd evaluation cycle, the pasture had the highest LAI. Larger leaf areas mean a greater capacity to intercept the photosynthetically active radiation, which caused the 3rd evaluation cycle to also have the lowest k . There was an interaction effect ($P<0.05$) for final pasture height. The pasture managed at 15 cm had the height necessary to reach 95% light interception reduced at every cycle. The grass managed at 25 and 35 cm intercepted 95% of light at a lower height in the 2nd cycle; however, there was no difference between the 2nd and 3rd cycles. In this case, the grass adapts differently according to the harvest height; i.e., all grasses intercepted 95% light, but the final pasture height will depend on the harvest height. In conclusion, pastures managed at 25 and 35 cm have a constant height from the 2nd cycle onwards.

Keywords: leaf area, light interception, herbage

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