

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## EVALUATION OF LIGHT INTERCEPTION IN DIFFERENT TIMES UNDER HIGH TEMPERATURES IN TROPICAL ENVIRONMENTS

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The objective of this study was to evaluate the influence of the time of evaluation in the results of light interception (LI) in tropical environments of high average annual temperature, in the beginning of autumn, using the AccuPAR® linear PAR/LAI ceptometer (Model PAR-80) canopy analyzer. The work was carried out in the forage field of the Instituto de Zootecnia of UFRRJ, in Seropédica - RJ, whose climate is classified as Aw (Köppen). Evaluations began at 08:30 am and finished at 03:30 pm, with one-hour intervals between measurements. The evaluation schedules included reference periods (11:00 am to 01:00 pm) indicated by the AccuPAR® LP-80 manual, in addition to others before and after them, on march 24 to 26, 2018 (early autumn, with typical days of clear sky). The forage species (under free growth) used were *Panicum maximum* 'Likoni' (Likoni grass), *Urochloa decumbens* 'Basilisk' (decumbens grass) and *Cynodon plectostachyus* (star grass), evaluated exclusively for their specific structural variations, under a randomized complete block design, with eight treatments (evaluation times) and three replicates (evaluation days). Data were analyzed by PROC GLM and regression analyzes by PROC REG from SAS®. For regression analysis the evaluation times were described as minutes counted from the first hour (08:30 am) to the last (03:30 pm) which, together with the values obtained for LI, were considered as data pair. All LI data presented normality (Shapiro Wilk;  $P > 0.05$ ). There was an effect of time of evaluation ( $P < 0.05$ ) and negative quadratic behavior ( $P < 0.01$ ) for the regression analysis of all forage species. The regression equations, coefficients of determination and significance of the regression equations obtained were:  $LI = 97.888 - 0.0389M + 0.0001M^2$ ,  $R^2 = 0.74$ ,  $P < 0.001$ , for Likoni grass;  $LI = 88.871 - 0.1081M + 0.0002M^2$ ,  $R^2 = 0.64$ ,  $P < 0.001$ , for decumbens grass; and  $LI = 80.228 - 0.1272M + 0.0003M^2$ ,  $R^2 = 0.37$ ,  $P < 0.0084$ , for star grass. From 08:30 am to 12:30 pm there was a reduction of 14.5; 20.5 and 4.5% in mean LI values for decumbens grass, star grass and Likoni grass, respectively. In tropical environments with an average annual high temperature, the evaluation times with the AccuPAR® LP-80 ceptometer influence the LI of the canopies of the sward forage plants studied in the beginning of autumn, due to the structural / morphological modification of these.

**Keywords:** AccuPAR PAR LP-80, *Panicum maximum*, star grass, sward forage, *Urochloa decumbens*

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