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MORPHOGENESIS, TILLERING AND DRY MATTER YIELD OF *Panicum maximum*, ACCORDING TO LIGHT INTENSITY AND NITROGEN SUPPLY¹

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Morphogenesis, tillering and dry matter yield of *Panicum maximum* cv. Tanzânia were evaluated under three photon flux densities (100, 64 and 46%) and four nitrogen rates (0, 50, 100 e 150 mg/dm³). Plants were grown under shade cloths in pots, containing a mixture (3:1) of field soil and sand. Measurements were carried out at the end of three growth periods of 35 days each. The experimental design was completely randomized, in factorial arrange (3x4) and three replications. The results were submitted to analysis of variance and means compared by Tukey test and regression analysis ($\alpha=0.05$). Leaf elongation rate and leaf length increased quadratically with nitrogen rates, while leaf number per tiller responded according to linear model. Shade caused an increase on leaf and stem elongation rates (3.0; 3.4 e 4.3 mm/tiller/day for the leaf and 0.11; 0.20 and 0.28 mm/tiller/day for the stem, respectively in 100, 64 and 46% of light intensity). The dry matter yield varied only with nitrogen, according to the quadratic model. Tillering varied with the nitrogen rate x light intensity interaction. In full sunlight the tillering increased linearly ($\hat{Y}=21.4 + 0.29 X$; $R^2=0.97$), but under shading, a quadratic responses was observed ($\hat{Y}=18.7 + 0.35 X - 0.001 X^2$; $R^2=0.99$ and $\hat{Y}=13.7 + 0.42 X - 0.0017 X^2$; $R^2=0.97$, to 64 and 46% of light intensity, respectively). Although shading reduced tiller density, at 46% sunlight, dry matter yield was similar to that at full light conditions, showing tolerance of grass to shade.

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