

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## **MORPHOGENESIS AND DAILY ACCUMULATION RATE OF *PANICUM MAXIMUM* CV MOMBAÇA SUBMITTED TO NITROGEN FERTILIZATION LEVELS UNDER TROPICAL AF CLIMATE CONDITIONS**

Darlena Caroline da Cruz CORRÊA<sup>\*1</sup>, Joelma Kyone Silva de OLIVEIRA<sup>2</sup>, Geysel Maria Machado LIMA<sup>2</sup>, Nauara Moura LAGE FILHO<sup>2</sup>, Kely Prissila Saraiva CORDOVIL<sup>3</sup>, Renan do Carmo SILVA<sup>3</sup>, Felipe Nogueira DOMINGUES<sup>3</sup>, Wilton Ladeira DA SILVA<sup>4</sup>

\*darlenacaroline@hotmail.com

<sup>1</sup>Sao Paulo State University/UNESP, Jaboticabal, SP, Brazil

<sup>2</sup>Federal University of Pará/UFGA, Castanhal, PA, Brazil

<sup>3</sup>Federal Rural University of Amazonia/UFRA, Belém, PA, Brazil

<sup>4</sup>Federal University of Goiás/UFG, GO, Brazil

Morphogenic characteristics and forage accumulation are driven by the action of light, temperature, water and nutrients. The Amazon is characterized by its excellent climatic conditions for forage production, but the soils of the region are considered to be less fertile. It limits the production of fertility-demanding forages, such as Mombaça grass. The aim of this study was to evaluate the effect of different nitrogen levels on the morphogenic characteristics and forage accumulation in Mombaça grass. The study was conducted at the experimental area of the Faculty of Veterinary Medicine, Federal University of Pará (UFGA), in Castanhal, classified as Af – Tropical Wet by Köppen climate classification. The experiment lasted 2 years: year 1 (January 2015 to January 2016) and year 2 (January 2016 to January 2017), and data is relative to year 2. A randomized block design with four replications was used, with plots of 3 x 4 m. The treatments were increasing N levels (0, 10, 20, 30, 40 and 50 kg ha<sup>-1</sup> cutting<sup>-1</sup> per application); when the average height of the plot reached 90 cm, pasture was cut to a height of 40 cm and then the respective N level was applied as urea. The following morphogenic characteristics were evaluated: leaf appearance rate (LAR), stem elongation rate (SER), phyllochron (Phyllo), leaf life-span (LLS) and daily accumulation rate (DAR). The values of LAR and SER increased linearly as N level increased ( $p < 0.05$ ), averaging 0.07, 0.08, 0.09, 0.10, 0.09 and 0.10 leaves tiller<sup>-1</sup> day<sup>-1</sup> for LAR and 0.18, 0.22, 0.25, 0.26 and 0.25 cm tiller<sup>-1</sup> day<sup>-1</sup> for SER at 0, 10, 20, 30, 40 and 50 kg N ha<sup>-1</sup>, respectively. The values for phyllochron: 16.05, 15.40, 13.56, 13.64, 12.40 and 12.52 days leaf<sup>-1</sup> tiller<sup>-1</sup> and LLS: 73.49, 67.45, 57.6, 52.85, 54.02 and 53.28 days, decreased linearly ( $p < 0.05$ ) as fertilization increased. The higher fertilizer levels also increased linearly ( $p < 0.05$ ) the DAR, with averages of 50.46, 78.43, 90.66, 89.30, 91.48 and 103.84 kg DM ha<sup>-1</sup> day<sup>-1</sup>. Higher fertilization levels favored the development of leaves and, consequently, forage accumulation, increasing forage production.

**Keywords:** Amazon, fertilization, mombaça grass, morphogenic characteristics, nitrogen

Promoção e Realização:



Apoio Institucional:



Organização:

