

### Characteristics of forage mass of *Panicum maximum* cv. Mombaça under nitrogen doses in Af climate.

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Nitrogen fertilization is a factor that contributes to the production of quality forage and sustainability of pasture. The objective of this study was to evaluate the effects of different levels of nitrogen on the mass characteristics of forage of Mombaça grass. The work was conducted in the experimental area of the Faculty of Veterinary Medicine of the Federal University of Pará (UFPA), in the municipality of Castanhal, whose climate is classified as Af by Köppen. The trial took place between 01.07.2015 and 08.31.2015. We used an experimental design of randomized blocks with four replications and six treatments: 0, 10, 20, 30, 40 and 50 kg ha<sup>-1</sup> N application<sup>-1</sup> is the application made after each cut with N as urea, having a total of 24 plots of 12 m<sup>2</sup>. The dry mass total forage (DMTF) variables were evaluated, and the percentage of dry mass of leaf blades (%DMLB), stems (%DMS) and dead material (%DMDM). Samples of harvested forage 0.5 m<sup>2</sup> over 40 cm were sampled sub-fractionated and then weighed. Data were submitted to analysis of variance and regression, the main significance in the study was 5% of linear and quadratic coefficients and the coefficient of determination. Statistical analysis was performed using the program R (R Core Team, 2015). The increase in nitrogen fertilization promoted positive linear increase ( $p < 0.05$ ) in the DMTF variables with values (14757.41, 18862.57, 20842.88, 21380.06, 22498.33 and 23849.53 kg DM ha<sup>-1</sup>) at doses of 0, 10, 20, 30, 40 and 50 kg N respectively, as the regression equation ( $Y = 16300.5 + 162.6x$ ). Highest percentages of leaf blades were also obtained in the treatments with higher fertilization, with values of (88.06; 88.88; 90.34; 90.43; 91.34 and 92.96%) of %DMLB in the respective doses of N from equation ( $Y = 14689.3 + 155.4x$ ). No significant effect ( $p > 0.05$ ) were observed from doses of variable dry mass of stems and dead material, with minimum values during the evaluation period, averaging 6.24% for %DMS, and 3.42% to %DMDM. The use of nitrogen fertilization has promoted increase in accumulation and dry matter of forage, and is also advantageous for the increase of leaf blades, desirable features pasture.

**Key Words:** Dry mass, leaf blade, Mombaça grass, nitrogen fertilization.