

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

CHEMICAL COMPOSITION OF *PANICUM MAXIMUM* CV MOMBAÇA SUBMITTED TO DIFFERENT NITROGEN LEVELS UNDER TROPICAL AF CLIMATE CONDITIONS

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Brazilian livestock production is predominantly pasture-based, demanding higher forage quality and productivity to meet the nutritional requirements of animals. Inadequate supply of nutrients in the soil is one of the major constraints to forage production and nitrogen fertilization is the most efficient technique to increase production and to improve forage chemical composition. The aim of this study was to evaluate the chemical composition of Mombaça grass submitted to different levels of nitrogen fertilizer. The study was conducted at the experimental area of the Faculty of Veterinary Medicine, Federal University of Pará (UFPA), 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⁻¹ cutting⁻¹ 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 dry matter (DM), crude protein (CP), neutral detergent fiber (NDF), acid detergent fiber (ADF), and lignin (Lig) contents were evaluated. There was a linear decrease ($p < 0.05$) in DM content, averaging 27.69, 26.63, 26.67, 24.92, 25.41 and 23.89%, whereas CP contents increased linearly with fertilization ($p < 0.05$), with averages of 8.34, 9.74, 11.09, 11.86, 13.07 and 13.39% at 0, 10, 20, 30, 40 and 50 N kg ha⁻¹, respectively. On the other hand, NDF, ADF and Lig contents did not differ significantly ($p > 0.05$), averaging 64.41, 65.84, 66.20, 65.51, 66.31 and 64.93 for NDF, 35.56, 36.05, 35.91, 35.30, 35.73 and 35.43 for ADF, and 2.47, 2.57, 2.51, 2.58, 2.91 and 2.76 for Lig according to the respective N levels. Fertilization positively affected CP contents, whereas fiber parameters did not change probably due to the use of canopy height as a management criterion, demonstrating that the fibrous fraction is more related to plant structure than to fertilization.

Keywords: Amazon, chemical analysis, mombaça grass, nitrogen fertilization

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