

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

EFFECT OF NITROGEN FERTILIZATION ON THE CHEMICAL COMPOSITION OF THE PASTURE OF Mombaça IN THE NORTH OF THE TOCANTINS

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The objective of this study was to evaluate the effect of nitrogen rates on the chemical composition of the *Megathyrus maximus* cv. mombasa in the north of Tocantins. The treatments consisted of the following applications: 114.2, 228.3 and 342.5 kg ha⁻¹ of nitrogen applied as ammonium sulphate during the period from December 2014 to April 2015. The pasture was also fertilized with 50 kg ha⁻¹ of P₂O₅ in the form of single superphosphate before the experiment, and K₂O in the form of KCl, applied together with the nitrogen in a ratio of 1: 0.5. The pasture was managed in rotational grazing, with seven days of grazing and 21 days of rest. The experimental design was a randomized complete block design, three treatments, two blocks per treatment with four cycles, evaluating the interaction between treatments and cycles. The variables were submitted to analysis of variance at 5% of significance by the Student t test. The percentage of dry matter in the leaf blades (DMLB%) did not show interaction effect between treatment and grazing cycles, not was it affected by the experimental cycles (p > 0.05), however, the higher doses reduced the dry matter content. Neutral detergent fiber (NDF), acid detergent fiber (ADF) and lignin presented treatment effect (p < 0.05). The lowest NDF results were obtained in the treatments 228.3 (68.62%) and 342.5 kg (67.52%) of nitrogen in cycles first, third and fourth. The elevation of nitrogen doses from 114.2 to 342.5 kg reduced the levels of ADF in cycles second (37.42%), third (36.30%) and fourth (33.57%). On the other hand, the use of higher nitrogen doses increased the lignin content from 5.66% to 6.07% of the forage in the cycles, showing differences between the doses in cycles second and third. The percentage of crude protein (CP) did not present treatment effect x cycle nor effect of the experimental cycles (p > 0.05), however a higher crude protein content was found when the dose increased. It is concluded that in pasture of mombaça grass the dry mass of the leaf blade is reduced by the increase in nitrogen dose. The use of the higher nitrogen dose improves the nutritional quality of Mombasa by reducing NDF and ADF levels and increasing the crude protein fraction in the dry matter.

Keywords: crude protein, cycle, dose, dry matter

Acknowledgments: CNPq, Programa de Pós-graduação em Ciência Animal Tropical – PPGcat, and program “Produtividade em Pesquisa da UFT”.

Promoção e Realização:



Apoio Institucional:



Organização:

