

MORPHOGENETIC CHARACTERISTICS OF MAVUNO GRASS SUBJECT TO DIFFERENT N:K RATIOS

CARACTERÍSTICAS MORFOGÊNICAS DA GRAMA MAVUNO SUJEITA A DIFERENTE RELAÇÃO N:K

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Abstract

This study aimed to evaluate the morphogenetic characteristics of Mavuno grass (*Urochloa* hybrid) submitted to different ratios of N:K fertilization. The experiment took place in a greenhouse at Fazenda Escola de Igarapé-Açu, Pará. A completely randomized design was carried out, with six treatments referring to the proportions of nitrogen and potassium applied, respectively 0:0; 75:0; 0:75; 75:75; 150:75; 300:150 kg.ha⁻¹ of nutrient. Ten seeds were sown in each pot containing soil corrected by liming. The seedlings were thinned after 14 days, leaving only 3 plants. Every 7 days, evaluations of the morphogenetic characteristics were carried out, immediately after fertilization. After measurements with a ruler, it was possible to calculate the morphogenetic variables of Mavuno grass: Leaf Elongation Rate (LER), Leaf Appearance Rate (LAR), Phylochron (Phylum), Leaf Life Duration (LLD), Leaf Senescence Rate (LSR) and Stem Elongation Rate (SER). Data were submitted to analysis of variance, and when significance ($P < 0.05$) was observed, means were compared using the Tukey test, at a significance level of 5%. An effect of N:K ratios was observed on LAR ($P = 0.043$), where the lowest LER is observed at the 0:75 ratio, and the highest at the 75:75 ratio, showing the importance of complete fertilization in the system. The LSR and LLD variables showed significant effects ($P = 0.030$ and $P = 0.014$, respectively), with higher rates of senescence at the 350:150 ratio and lower at the 0:0 ratio, and since this variable has an inverse relationship with the LLD, a DVF value of 20.63 days was observed at the 0:0 ratio and 11.43 days at the 350:150 ratio. The SER was higher at the 75:75 ratio, with values of 0.28 cm of stem per day. In general, the different N:K ratios altered the morphogenetic characteristics of the Mavuno grass, highlighting the effect of complete fertilization in the system, accelerating the development of the grass.

Keywords

Fertilization, *Urochloa brizantha*, morphogenesis