

**Forage mass in intercropping systems with nitrogen sources and gypsum**

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The intercropping of grasses with legumes and the application of gypsum is an alternative to reduce production costs and fluctuations in forage availability. This research aimed to evaluate the mass of *Urochloa* ssp. cv. BRS RB331 Ipyporã and *Stylosanthes* cv. Campo Grande (80% *Stylosanthes capitata* Vog. + 20% *Stylosanthes macrocephala* M.B. Ferr. et S. Costa). The research was conducted at the Animal Production Unit (UNIPAZ) of the Universidade Estadual do Maranhão (UEMA), São Luís, MA, Brazil. The local climate is of the Aw type, equatorial, hot, and humid, with an average annual precipitation of 2062 mm⁻¹ yr⁻¹ and two well-defined seasons, a rainy season from January to June and another with a marked water deficit from July to December. The experiment was set in a randomized block design, with three repetitions. Each block had 550 m² and was subdivided into five plots of 110 m², which received five treatments: I: BRS Ipyporã; II: BRS Ipyporã + 100 kg N ha⁻¹ year⁻¹; III: BRS Ipyporã + 100 kg N ha⁻¹ year⁻¹ + gypsum; IV: BRS Ipyporã + *Stylosanthes*; and V: BRS Ipyporã + *Stylosanthes* + gypsum. The nitrogen source was urea (CH₄N₂O) (46% N), which was applied twice during the rainy season, in January and February. The amount of gypsum applied was 4 tons ha⁻¹ year⁻¹, to reach a soil calcium level of 40 mmolc dm³, which is the critical limit to maintain soil sustainability. Urea and gypsum were manually distributed without incorporation. Pasture management was performed by manual harvesting whenever it reached a height of 30 cm. Forage mass was evaluated every 21 days from February to May 2024, totaling five evaluations. The collections were made using a 0.25 m² frame, and the samples were dried in an oven at 55°C until constant weight. Data were analyzed using InfoStat, and the means of each treatment were compared using Tukey's test at a 5% probability level. The greatest Ipyporã mass was in the treatment with gypsum and urea (3,700 kg ha⁻¹) and with urea only (3,117 kg ha⁻¹), which significantly differed ($P < 0.0001$) from the treatments with *stylosanthes* + gypsum (2,151 kg ha⁻¹), *stylosanthes* intercropped (2,010 kg ha⁻¹), and Ipyporã monocropping (1,944 kg ha⁻¹). The use of urea promoted an increase in the forage mass of Ipyporã in the five months evaluated; further evaluation will be necessary to analyze the residual effect of nitrogen on forage mass throughout the year.

Keywords: *stylosanthes*, ipyporã, urea, intercropped systems

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