

Summary

The effect of different $\text{CaCO}_3:\text{MgCO}_3$ ratios (1:0, 2:1, 5:1, 10:1, 20:1) on the yield and quality of *Pennisetum purpureum* cv. Napier was studied in a greenhouse trial, using a medium-textured Red Yellow Latosol. A check treatment was also included. Once the treatments were applied, the soil was incubated for 40 days. A completely randomized design was used with four replicates. Three cuttings were performed, and the DM yield and nutrient concentrations in aerial parts of plants were analyzed. The soil was also submitted to chemical analyses at the beginning and at the end of the trial. The alterations in exchangeable Ca and Mg concentrations in the soil were proportional to the variations in the Ca:Mg ratios applied; the same occurred with plant Ca:Mg concentrations. Dry matter yield was not affected by treatments at the first cutting. At the second cutting, however, yields were higher when Mg was applied, regardless of the Ca:Mg ratio. At the third cutting, the yield obtained with the 20:1 Ca:Mg was significantly lower, evidencing the importance of supplying Mg in *P. purpureum* cv. Napier.