

Summary

The effect of applying lime and P on the dry matter (DM) yield and crude protein (CP) content of *Brachiaria brizantha* cv. Marandú grown in a Latosol was studied from September to December, 1989, under screenhouse conditions at the Centro de Pesquisa Agroflorestal in Rondônia, Brazil. Lime was applied 45 days before planting at rates of 0, 1, and 2 t/ha, and P was applied at planting at 22, 44, and 88 kg/ha.

After 12 weeks of growth, lime and P were observed to affect ($P < 0.01$) grass DM production and CP content. When no lime was applied, DM production was highest with 119 kg/ha of P; however, when 2 t/ha of lime was applied, this same production was reached with 100 kg/ha of P. The highest CP content was obtained by applying

1 t/ha of lime and 22 kg/ha of P. These results indicate that the quality of *B. brizantha* cv. Marandú improves and its production increases when both lime and P are applied.