

Summary

Nutrients limiting the growth of *Paspalum atratum* BRA-09610, planted in a yellow, clayey Oxisol (Ca + Mg = 1.3 cmol/dm³, P = 2 mg/kg, and K = 56 mg/kg) were determined under greenhouse conditions at the Centro de Pesquisa Agroflorestal in Rondônia, Brazil. Several treatments were applied in a random block design. These included a complete treatment (CT) with lime, N, P, K, S and micronutrients, and treatments in which one element was missing. The complete treatment, applied at planting, consisted of (kg/ha): N = 40, P = 50, K = 40, S = 30, and micronutrients = 15. Overall, four cuttings were performed, at 35-day intervals. Higher DM yields (13.8 kg/pot) were obtained with the CT. The absence of P reduced DM yields by 70%; the absence of N and lime had similar negative effects. The absence of S and K reduced yields by 66% and 45%, respectively.