

Summary

On an Entisol in the valley of Sacta, Bolivia (2726 mm of mean annual rainfall and 23°C of mean annual temperature) the response of *Brachiaria decumbens* c.v. Basilik to applications of N, P and K was studied. Nitrogen was applied as urea at the annual rate of 50 kg/ha. Phosphorus was applied as rock phosphate at the yearly rates of 0 and 44 kg/ha at planting, and potassium as KCl at the rates of 0, 17 and 34 kg/ha in two applications per year.

After five harvests during 1984, significant effects ($P < 0.05$) were observed of N and N x K interactions on the dry matter (DM) production of the grass. Single applications of P or K did not show significant effects on the DM production. The highest DM production/cut (4.6 t/ha) was obtained with 50, 44 and 17 kg/ha of N, P and K, respectively. Economic analysis of the results has also shown the superiority of this treatment.

The results have indicated that annual N applications to *Brachiaria decumbens* c.v. Basilik at rates of 50 kg/ha favored the DM production at the lowest applied rates of P and K. In addition, it was possible to obtain reasonable DM yields of 3.5 t/ha of this grass in the region with any fertilizer applications.