

# Summary

In Brazil, the tabuleiro ecosystem is characterized by its low soil fertility (Oxisols and Ultisols), and humid tropical climate; it is found south of Bahia State. *Brachiaria decumbens* pastures rapidly lose their productivity in that ecosystem. Researchers at the Centro de Pesquisas do Cacau, (latitude 16° 39' S and longitude 39° 30' E) evaluated six methods (main plots) of mechanically treating degraded pastures of *B. decumbens*: plowing; plowing and harrowing; using the cultivator; burning; burning and harrowing; and, burning and using the cultivator. In each method, fertilizers were applied (subplots) as follows: control, (no fertilization); 22 kg/ha of P; and, 22, 45, 25, 28, 18, and 15 kg/ha of P, N, K, CaO, MgO, and S, respectively.

During 420 days, seven cuts were performed. Mechanical treatments without fertilization did not improve pasture development nor its productivity. Phosphorus application produced the best results: (3.58 t/ha of DM per cut and 71% coverage of soil). Burning accompanied by P application is essential for the recovery of degraded *B. decumbens* pastures in the Brazilian tabuleiro ecosystem.