

Summary

The changes in botanical composition and animal performance on pastures of *Melinis minutiflora* and *Brachiaria decumbens* were studied from June 1986 to April 1990 at the Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)-Gado de Leite, located in the Zona da Mata of Minas Gerais in Coronel Pacheco, Brazil. The research station is located 414 m.a.s.l., at 21° 33' S and 43° 06' W, with an average temperature of 28 °C and 1581 mm of rainfall. Stocking rates used were 0.4 AU/ha for *M. minutiflora* and 1.2 AU/ha for *B. decumbens*. Eleven direct forage samplings were conducted to determine forage availability during the rainy and dry seasons, and the following components were measured for both species: percentage of grasses, legumes, and weeds; dry matter production of leaves and stems. Liveweight gain per animal and per hectare was estimated using dairy calves with initial weights of 130 kg. Throughout the experimental period, results showed a decrease in *M. minutiflora* production and an increase in that of *B. decumbens*. Dry matter yields were higher in *B. decumbens* pastures (2.58 t/ha) than in *M. minutiflora* pastures (2.11 t/ha), which is normal under the environmental conditions of the trial. Daily liveweight gain per animal was higher in *M. minutiflora* pastures (178 and 467 g during the dry and rainy seasons, respectively) than in *B. decumbens* pastures (39 and 333 g during the dry and rainy seasons, respectively). However, dry weight production per hectare was higher in *B. decumbens* (160.6 kg/ha per year) than in *M. minutiflora* (82.3 kg).