

Summary

At the experiment station of the Comissão Executiva do Plano da Lavoura Cacaueira (CEPLAC), Itabela, Brazil (16° 40' S, 39° 43' W, 1312 mm of rainfall, and 23 °C), between March 1985 and April 1990, an experiment was conducted. This experiment evaluated DM production and persistence of an associated pasture of *Brachiaria humidicola* (Rendle) Sw. + *Desmodium ovalifolium* Wall cv. Itabela under three grazing systems: continuous, and rotational (with 7 days of occupation and 28 and 56 days of rest); and three animal stocking rates (2, 3, and 4 Zebu steers/ha). The experimental time was divided into four periods of variable length.

The animal stocking rate and the grazing system affected the availability of total forage of the association ($P < 0.05$). Availability was higher as stocking rate decreased or the rest period was extended. The highest availability of forage (3 t/ha of DM) occurred with the stocking rate of 2 animals/ha and in the grazing system with 7 days of occupation and 56 days of rest.

DM availability of *D. ovalifolium* decreased when stocking rate increased, independently from the grazing system. The effect of the stocking rate was more notable in the last three experimental periods, except for the rate of 2 animals/ha, for which forage availability of the legume was always high. The average of the percentage of legume increased during the experimental period, and was 42% in continuous grazing and 35% and 29% in the rotational systems. CP increased when stocking rate and the rest period of the pasture increased; CP averaged 5.8% for the grass and 11% for the legume.