

Summary

Between March 1987 and June 1989, the effect of different stocking rates on the persistence of native pastures and the liveweight gain of several types of animals was evaluated in soils of varying fertility in interfluves and vegas at the ICA-Macagual Research Center in Florencia, Colombia (1° 0' N and 75° 31' W, 260 m.a.s.l., 3600 mm, 26 °C). The trial was carried out in two phases; in the first phase, low, intermediate, and high stocking rates (0.5, 1.0, and 1.5 heifers/ha) were evaluated on interfluvial soils. In the second phase, the same stocking rates were assessed, also on interfluvial soils, but using steers. In vega soils, stocking rates of 1.0 and 1.7 AU/ha were used, with four animals per stocking rate. Pasture size varied: 8, 4, and 2.6 ha, respectively. Heifers, initially weighing 195 ± 15 kg, grazed from April 1987 to April 1988. Steers, initially weighing 291 ± 24 kg, grazed from August 1988 to June 1989. Animals were zebu and crosses of zebu with San Martinero, Blanco Orejinegro, Romosinuano, red Holstein, and Brown Highland, in different degrees.

The pastures consisted of a mixture of native grasses (*Axonopus compressus*, *Panicum laxum*, *Paspalum notatum*, *Paspalum conjugatum*, with dominance of *Homolepis aturensis*) and legumes of the genera *Calopogonium* and *Desmodium* to a lesser extent (< 2%).

The availability of dry green matter (DGM) was slightly higher with heifers (1.74 t/ha) than with steers (1.55 t/ha). In the vega soils, DGM production was higher during the dry season, whereas in the interfluvial area it was higher during the season with highest precipitation. Increased stocking rate notably reduced forage availability per animal, expressed as DGM/100 kg liveweight. This reduction was 48% when the stocking rate increased from 0.5 to 1.0 and from 1.0 to 1.5 AU/ha, for both heifers and steers, and in both types of soils and in both seasons.

Results suggest that the availability of DGM has a critical threshold of approximately 20 kg/100 kg liveweight per day for pasture recovery, which is probably insufficient to satisfy animal consumption. With heifers, the highest daily liveweight gains were obtained in vega pastures during the dry season, whereas with steers these were obtained in interfluvial pastures during the rainy season.