Summary

An intensive rotational grazing system was evaluated in six 1-ha paddocks of *Panicum maximum* cv. Tobiatã (BRA 001503) pasture in Belém (Para, Brazil) at the Embrapa-Amazonía (1° 28' S latitude, 48° 27' W longitude) with 2870 mm rainfall/year. Buffalo heifers were submitted to 24-day grazing cycles, with 4 days of grazing and 20 days of rest. The average stocking rate was 2.3 AU/ha. The averages of the variables measured were: grazing pressure, 13 kg DM/100 kg LW/day; total forage availability, 4017 kg/ha DM; total available forage, 2881 kg DM/ha; leaf:stem ratio, 2.9; leaf crude protein, 12.8%; stem crude protein, 9.6%; leaf IVDMD, 60%; stem IVDMD, 56%; animal liveweight gain, 0.524 kg/animal per day; and liveweight gain per area, 42.7 kg/ha per cycle. Annual liveweight gain of animals was 649 kg/ha. Except for leaf and stem IVDMDs, pasture cycle affected all pasture responses ($P \leq 0.05$). Protein content is sufficient to ensure a daily animal weight gain of 1000 g/animal. Forage quality and animal performance were positively related.