

Summary

The biological effects and economical returns of different methods of pasture reclamation on the productivity and longevity of a jaraguá (*Hyparrhenia rufa* (Nees) Stapf) pasture were studied in a trial carried out during 3 years, at Presidente Hermes Farm, in the county of Presidente Médice, Rondônia State, Brazil (390 m.a.s.l. at 11° 71' S and 61° 55' W). The soil was an Ultisoil with the following chemical characteristics: pH = 5.5, Al = 0.1 mE%, Ca + Mg = 2.3 mE%, P = 2 ppm, and K = 55 ppm. A completely randomized factorial design was used (3 x 2 x 2) with three reclamation methods: (1) Weed cleaning (W), (2) W + legumes + phosphorus fertilization, and (3) W + legumes + *Brachiaria humidicola*, two stocking rates (low and high), according to the seasons, and two grazing systems (continuous and rotational), with two replications. The experimental area was a degraded pasture of jaraguá grass with 10 years of formation, with predominance of weed plants (60%-70%). The area was initially cleaned manually. *Brachiaria humidicola* was sown using vegetative material with a legume mixture of 2, 2, and 1 kg/ha, respectively, of *Pueraria phaseoloides*, *Centrosema pubescens* and *Stylosanthes guianensis*. Phosphorus fertilization was applied at the level of 50 kg/ha of P₂O₅. Nelore steers of 1.5 to 2.0 years of age were used. The results showed that the introduction of *B. humidicola* plus legumes was the most efficient method for the reclamation of jaraguá grass degraded pasture, and resulted in greater forage availability, higher stocking rates, lower incidence of weeds, better animal performance, and economic returns.