

Forage production and animal performance of Ipyporã and Mulato II Brachiariagrasses under continuous stocking

Bruno C. Pedreira¹, Ana Paula S. Carvalho², Isadora G. N. Paraiso², Débora M. Silva², Leandro F. Domiciano², Luciano S. Cabral², Dalton H. Pedreira², Lynn E. Sollenberger³.

¹Embrapa Agrossilvipastoril, Sinop, MT, BR; ²Universidade Federal de Mato Grosso, Animal Science Dept., Cuiabá/Sinop, MT, BR; ³University of Florida, Agronomy Dept., Gainesville, FL, USA

Introduction

In the last two decades breeders have focused on hybridization within the grass genus *Brachiaria* in order to integrate the most outstanding characteristics of several species to enhance animal performance in forage-livestock system, especially when addressing edaphoclimatic conditions and pest susceptibility. Our objective was to compare herbage accumulation, nutritive value, and animal performance of Ipyporã (*Brachiaria* 'BRS RB331 Ipyporã') (*B. ruziziensis* × *B. brizantha*) and standard cultivar Mulato II (*B. ruziziensis* × *B. brizantha* × *B. decumbens*) under continuous stocking in the Amazon Biome.

Materials and Methods

- The trial was carried out in Sinop - MT, Brazil
- From May 2016 to May 2018;
- Two cultivars: Ipyporã and Mulato II;
- Randomized complete block, with four replicates, totaling eight experimental units;
- Each unit was 1.5 ha (150 x 100 m) for a total of 12 ha of experimental area;
- Fertilizer: 20 kg P ha⁻¹ (single superphosphate), 50 kg N ha⁻¹ (potassium chloride) and 40 kg K ha⁻¹ (urea);
- Nellore steers (*Bos indicus*), with initial body weight (BW) of:
 - 250±11 kg in Year 1 and 276±12 in Year 2,
 - and age of 11±2 and 14±2 months,
- Continuous stocked using a variable stocking rate



The HA was determined using the paired-cage method



Average canopy height was maintained at 30 ± 5.0 cm



Fig 1. Experimental area.

Results

Table 1. Annual herbage and animal responses in Ipyporã and Mulato II pastures during two years.

Variable response	Cultivar		SE [†]
	Ipyporã	Mulato II	
Herbage production			
Herbage mass (kg DM ha ⁻¹)	6,110	6,060	525
Herbage accumulation (kg DM ha ⁻¹ yr ⁻¹)	14,930 b [‡]	17,370 a	3,990
Herbage accumulation rate (kg DM ha ⁻¹ day ⁻¹)	46 b	54 a	12
Animal performance			
Herbage allowance (kg DM kg ⁻¹ BW)	6.71	6.34	0.32
Average stocking rate (kg BW ha ⁻¹)	1,010 b	1,260 a	312
Average daily gain (kg BW day ⁻¹)	0.610	0.570	0.08
Gain ha ⁻¹ (kg BW ha ⁻¹ yr ⁻¹)	660 b	815 a	253

[†] SE, standard error.

[‡] Least squares means followed by the same lowercase letter in the row are not different by t test (P > 0.05).

Conclusion

Greater annual HA and gain ha⁻¹ for Mulato II support its use in intensive forage-based systems. However, susceptibility of Mulato II to spittlebug requires regular monitoring and treatment in regions like the Amazon biome, where risk of spittlebug damage is great. In contrast, spittlebug-resistant Ipyporã can provide excellent plant and animal response with no spittlebug risk, offering a sustainable alternative to Mulato II for forage diversification.

Contact information:
bruno.pedreira@embrapa.br

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