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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

AGRONOMIC EVALUATION OF *Brachiaria decumbens* HYBRIDS IN CERRADO: PLANALTINA - DF REGIONAL TRIAL – COLLECTION 2011

Allan Kardec Braga RAMOS*¹, Gustavo José BRAGA¹, Marcelo Ayres CARVALHO¹,
Carlos Eduardo Lazarini da FONSECA¹, Francisco Duarte FERNANDES¹, Sânzio
Carvalho Lima BARRIOS², Cacilda Borges do VALLE²,

*corresponding author: allan.ramos@embrapa.br

¹ Embrapa Cerrados, Planaltina, Distrito Federal, Brasil

² Embrapa Gado de Corte, Campo Grande, Mato Grosso do Sul, Brasil

The current *Brachiaria* breeding programs are based in crosses being the main source of new genetic variability for the development of future forage cultivars. Forage and seed yield are crucial plant attributes to selection of promising genotypes. So, one *B. decumbens* work collection with 24 genotypes hybrids (plus control cv. Basilisk) was evaluated at Embrapa Cerrados (Planaltina-DF, 15°S, 47°W, 1.000 m) for forage and seed yield components during three years. Two contiguous and simultaneous trials (forage and seed) were conducted under the same experimental design (random blocks, four replicates) and plot size (row, five plants), after soil (Oxisol, 62% clay) fertility adjusts by use of mineral fertilizers (P and K). Plants of forage trial (ForT) were evaluated under cuts (10 cm intensity) during rainy (30-40 days frequency) and dry (90-180 days) season and forage yield components mass (leaf blade, stems, dead tissues) was estimated (dry mass 65°C basis) and adjusted number of plants by plot. Also, scores to pests and diseases attack severity were applied to the hybrids during rainy season. Plants of seed trial (SeedT) were maintained under free continuous growth until complete plot seedfall. So, annually, at the begin (November) of rainy season, total above ground biomass was harvested (5-10 cm), removed, and fertilized (N-P-K). Nylon bags were installed during flower anthesis involving part of reproductive tillers (RT), ensuring total seed (pure and empty) collection and avoiding herbivory. Thus, estimate seed yield per RT was possible. After seedfall, plot total number of RT's was counted and seed yield extended to plot or plant basis. Also, in the first year, phenology and seed yield components (number and dimensions of tiller, raceme, seed) were evaluated in selected RT's. In the ForT, hybrid, date of cutting, and season effects ($P < 0.05$) were observed on forage yield (total and component). In the SeedT, these differences ($P < 0.05$) were between hybrids and years. Reproductive tillers number and inflorescence dimensions were weakly correlated ($P > 0.05$) with seed yield. Three hybrids groups were established by cluster analysis integrating 13 variables (ForT and SeedT). One group of promising hybrids (R130, S40, T59 and cv. Basilisk) presented a balance between forage (dry-season: 1.1 kg DM plant⁻¹; rainy-season: 5.4 kg DM plant⁻¹) and seed yield (47-129 g plant⁻¹). Despite the similar or higher forage yield, the other 21 hybrids were not selected because the lower seed yield (0-16 g plant⁻¹) associated with poor seed development, probably genetically controlled.

Keywords: cultivar development, forage, seed, selection, yield

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