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The Forage Selection Program at the Cerrados Research Center--33 Years of Contributions for the Tropics

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Introduction The Brazilian Savannah or Cerrados extends for over 207 million of ha in the central region of Brazil , occupying 24% of Brazil's territory . It is the second most important biome of Brazil gathering a very large and rich biodiversity . Nowadays , about 96 million hectares are explored in agricultural or livestock enterprises . From this 96 million ha explored cultivated pastures represents 50 million ha . The Cerrados is responsible for about 55% of the brazilian soybean production and 42% of the brazilian cattle population , which represents 50% of the annual beef production . The Cerrados Research Center was founded in 1975 with the main goal to improve the knowledge about the natural resources and to promote a sustainable use of the Cerrados . The forage selection program started at that time and made , along these 33 years , great contributions to the livestock business , releasing 5 grasses and 3 legumes cultivars .

Materials and methods An evaluation scheme proposed by the International Network of Tropical Pastures Evaluation (RIEPT) , coordinated by the International Center for Tropical Agriculture (CIAT) , and described in Toledo (1982) , Paladines & Lascano (1983) and Lascano & Pizarro (1984) was used to assess tropical forage grasses and legumes adaptation to the environmental conditions of the Cerrados Research Center (15° 35' 33" S and 47° 42' 30" W) and other locations . Since 1975 approximately 5000 germplasm accessions of 50 different genera (84% legumes and 16% grasses) were evaluated . Adaptation to acid soils , pests and diseases resistance (spittlebug , anthracnose , rust , and viruses) , high forage dry matter yield and seed production were some of the characteristics evaluated .

Results The work conducted at the Cerrados Research Center pointed that from those 50 different genera evaluated , three genera of grasses and three genera of legumes were best suited to the low input and extensive pasture systems . These genera are : *Brachiaria* , *Panicum* , *Paspalum* , *Stylosanthes* , *Arachis* and *Leucaena* . Since then , the work with these genera resulted in the releasing of the following cultivars : *Brachiaria brizantha* cv . Marandu (1985) ; *Brachiaria brizantha* cv . Xaraes (2002) ; *Panicum maximum* cv . Vencedor (1990) ; *Paspalum atratum* cv . Pojuca (2000) ; *Stylosanthes guianensis* cv . Bandeirante (1983) ; *Stylosanthes macrocephala* cv . Pioneiro e *Stylosanthes guianensis* cv . Mineirão (1993) . The Cerrados Research Center portfolio of cultivars also includes *Andropogon gayanus* cv . Planaltina (1980) . A hybrid cultivar of *Leucaena* (*L. leucocephala* x *L. diversifolia*) its been prepared to release in 2009 . The area cultivated with the Cerrados Research Center cultivars has been estimated in 30 million hectares , which clearly demonstrate the importance of this forage selection program to Brazil and the Tropical region . Nowadays , the increasing of the low tillage systems and crop-pastures rotations , presents a new challenge to the research done at Cerrados Research Center . This new paradigm brings the opportunity to revisit some of the genera evaluated in the past , since the low input and extensive pasture systems it is not anymore the only option to the beef cattle enterprises .

Conclusions The forage selection program of the Cerrados Research Center has done a great contribution to the beef cattle industry of Brazil , especially to producers of the Brazilian savannas (Cerrados) . The cultivars released demonstrated a wide adaptation and resistance to spittlebug and anthracnose , some of the biggest problems facing grasses and legumes forages . The new challenges are already being addressed with a realignment of the focus of the research .

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