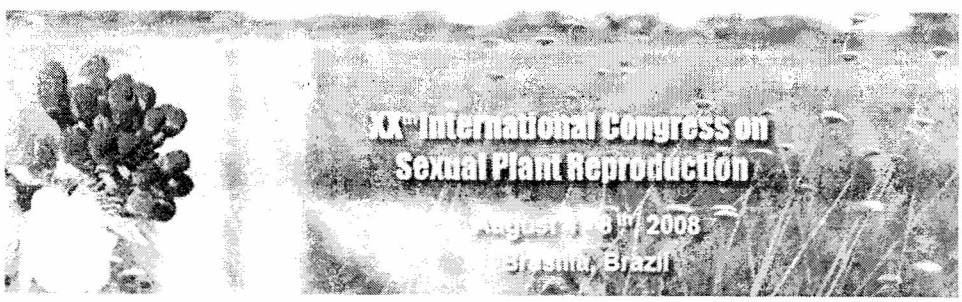
Documentos

ISSN 0102-0110 259

Agosto, 2008.

XX Congresso Internacional de Reprodução Sexual em Plantas

XX International Congress on Sexual Plant Reproduction



Embrapa

Exemplares desta edição podem ser adquiridos na

Embrapa Recursos Genéticos e Biotecnologia
Serviço de Atendimento ao Cidadão
Parque Estação Biológica, Av. W/5 Norte (Final) -
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Editoração: *Ana Cláudia Guerra de Araújo, André Luiz Garcia da Silva*
Ilustração da Capa: *Adilson Werneck*
Fotos da capa:*Syngonanthus nitens* (Bong. Ruhland)- *Isabel Belloni Schmidt*
Caryocar brasiliense (Camb.)- *André Dusi*

1ª edição
1ª impressão (2008):

Dados Internacionais de Catalogação na Publicação (CIP)
Embrapa Recursos Genéticos e Biotecnologia

C 749 Congresso Internacional de Reprodução Sexual em Plantas (20. : 2008 : Brasília, DF)

XX Congresso Internacional de Reprodução Sexual em Plantas: XX International Congress on Sexual Plant Repproduction / Ana Claudia Guerra de Araújo, coordenadora. — Brasília, DF: Embrapa Recursos Genéticos e Biotecnologia, 2008.

238 p. — (Documentos / Embrapa Recursos Genéticos e Biotecnologia, 0102 - 0110; 259).

Plantas - reprodução sexual. 2. Congresso internacional. I. Araújo, Ana Claudia Guerra de. II. Série.

575.6 - CDD 21.

Evaluation of an apomictic genotype of *Brachiaria brizantha* leading to cultivar release and protection

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The evaluation process leading to cultivar development of a forage grass is a long-term investment, which requires a multidisciplinary team. Forage plants are only valuable when transformed into high quality protein such as milk, meat, leather or hide. Therefore indirect measures of quantity and quality of the forage need to be undertaken starting with plot evaluatio under a cutting regime all the way to animal performance trials, in pastures under grazing. Not before 8-10 years is needed to confirm the usefulness and advantages of the candidate genotype. Apomixis adds an interesting aspect to forage cultivar development for at one hand, it simplifies seed multiplication and yields uniform pastures which are easier to manage, but on the other hand, impairs recombination of useful traits by hybridization if a sexual compatible genotype is not available. Apomixis is never obligate in most useful forage species, therefore there is always the possibility of the residual sexuality yielding some hybrid genotypes in the progeny. *Brachiaria* reproduces predominantly by apomixis of the Panicum type and is pseudogamous, thus the embryo is always a hybrid tissue. The path to cultivar development of BRS Piatã, the first *Brachiaria* cultivar protected by Embrapa, started in 1988 by agronomic trials in plots, established by cuttings since seed was not available and mode of reproduction had not been established at the time. Seed multiplication followed so that regional trial could be carried out between 1994 and 1997. Animal trials to study the effect of the animal on the pasture were started in 1997, in 1000 m paddocks replicated twice. To determine animal performance on BRS Piatã, 2-hectare pastures in two replicates were established and measurements were taken for three years. For over 10 years breeder's seed was multipliec from the most vigorous plants in four different areas, and later, distributed for basic seed production. Twenty years of evaluation and selection were enough to produce differences picked up with molecular markers, between the original plants and those derived from breeder's certified seed. Possible inferences will be discussed at the conference.