

# BRS Biguá - Irrigated rice cultivar for the states of Goiás and Tocantins

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## ABSTRACT

BRS Biguá is a rice cultivar for flooded irrigation, developed by Embrapa Rice & Beans and released for cultivation in the states of Goiás and Tocantins. The average flowering period is 101 days, from the emergence, average yield of 6374 Kg/ha, high resistance to leaf blast (*Pericularia grisea*) and good culinary characteristics and high milling grain quality.

**KEY WORDS:** *Oryza sativa*, cultivar development, breeding.

## INTRODUCTION

The state of Tocantins is the third largest irrigated rice producer in Brazil, with a cultivated area of 60,000 ha with a production of 255,000 tons of paddy rice. The main limitation to the crop is blast; in such a degree that 14% of the costs of production are consumed on fungicides (Rangel, 1995).

In the state of Goiás two irrigation projects are under way: Projeto Luiz Alves do Araguaia will cultivate 15,500 ha after completion and Projeto Flores de Goiás in the Rio Paranã valley in the North-West of the state will have an area of 26,500 ha. In these projects, blast is also a major problem. BRS Biguá is a new irrigated cultivar developed by Embrapa Rice & Beans and released for cultivation in the states of Goiás and Tocantins. It has as a characteristic the resistance to blast *Pyricularia grisea*.

## PEDIGREE AND BREEDING METHOD

BRS Biguá was obtained from a single cross between cultivars Bluebelle x Pisari conducted in Embrapa Rice & Beans in 1990. After some selection cycles using genealogical and bulk selection methods, the line CNAx 5211-B-1-B-1-B, was named CNA 8598. After evaluation for disease resistance and agronomic characteristics, in 1995/96 cropping season, it joined the national trial of lines of irrigated rice. In 1996/97 it was included in the yield observation trial; in 1997/98 in the preliminary yield trials, and from 1998/99 to 2000/01 it was included in the advanced trials in several region in the country, excelling in the states of Goiás and Tocantins. The genetic seeds were

obtained using the panicle per row method. Initially, 100 plants were picked from a seed multiplication plot and from each plant a panicle was harvested and thrashed individually and sowed also individually in plots and the seedlings of each panicle were transplanted in a five meter-long row. Rows with off-type plants were eliminated and the seeds from the homogeneous rows were harvested and mixed together to compose the initial genetic seed stock.

## PERFORMANCE

BRS Biguá is a short plant type, has erect leaves and is resistant to lodging; its average flowering period is 101 days from emergence. Average yield in 15 locations (Goiás and Tocantins) was 6374 Kg/ha (Table 1). This yield is similar to Formoso and Metica 1 cultivars. Although its yield is only similar to the check cultivars, the release for planting is justified for its higher resistance to blast. That factor contributes to reduction in fungicide applications and lowering production costs, besides having high milling and good cooking qualities, consequently conferring though a higher market value.

## OTHER CHARACTERISTICS

BRS Biguá has long slender grains, with high milling quality and good cooking characteristics (Table 2). When processed, it produces a total of 65% of milled grains, with 54% of whole grains and little white belly. Cooking test results showed fluffiness, soft texture and good aroma.

**Table 1.** Average yield, flowering period, plant height and incidence of leaf blast of BRS Biguá, Formoso and Metica 1 cultivars, in the states of Goiás and Tocantins.

Cultivars	Yield (Kg/ha)	Flowering (days)	Plant height (cm)	Leaf Blast (1-9) <sup>1/</sup>
BRS Biguá	6374	101	100	2.5
Formoso	6233	101	95	7.5
Metica 1	6726	102	102	8.3

<sup>1/</sup>Average of four locations; Notes 1, 2 and 3 = resistant; Notes 4 and 5 = moderately resistant; Notes 6, 7, 8 and 9 = susceptible.

**Table 2.** Physical and chemical grain characteristics of rice cultivars BRS Biguá, Formoso and Metica 1.

Cultivars	Characteristics <sup>1/</sup>							
	Total	Whole	AC*	GT*	WB	L	W	L/W
BRS Biguá	65.0	54.0	29	3.0	3.0	6.95	2.04	3.40
Formoso	64.0	54.0	31	3.0	3.0	7.50	2.20	3.40
Metica 1	63.0	51.0	31	4.0	3.0	6.49	2.16	3.00

<sup>1/</sup>Total: Percentage of total grain milled; whole: Percentage of whole grain; AC: Percentage of amilose content; GT: Index for gelatinization temperature; WB: White belly; L: Grain length; W: Grain width; L/W: Length width ratio. \*Source: Jennings et al. (1979).

## MAINTENANCE AND DISTRIBUTION OF FOUNDATION SEED

The genetic seed stock is kept by Embrapa Rice & Beans, located at Rodovia Goiânia/Nova Veneza, Km 12, P.O. Box 179, CEP 75375-000, Goiânia, GO, Brazil.

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