

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

Veridiano dos Anjos Cutrim* and Paulo Hideo Nakano Rangel

Embrapa Rice & Beans, P.O Box 179, CEP 75375-000, Santo Antônio de Goiás, GO, Brazil. (* Corresponding Author. E-mail: cutrim@cnpaf.embrapa.br)

ABSTRACT

BRS Jaburu is a rice cultivar for flood irrigation developed by Embrapa Rice & Beans and released for cultivation in the states of Goiás and Tocantins. The average flowering period is 99 days, from emergence, average yield of 6,269 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 and an annual production of 255,000 tons of paddy rice. The main limitation to the crop is leaf blast, in such a degree that 14% of the costs of production are spent on fungicides (Rangel, 1995).

In the state of Goiás two irrigation projects are under way: Projeto Luiz Alves do Araguaia that will cultivate 15,500 ha after completion and Projeto Flores de Goiás in the Rio Paraná valley in the North-West of the state which will have an area of 26,500 ha. In these projects, blast is also a major problem. BRS Jaburu is a new irrigated cultivar developed by Embrapa Rice & Beans from a population in F₄ generation introduced in Brazil from the Centro Internacional de Agricultura Tropical (CIAT) and released for cultivation in the states of Goiás and Tocantins. It has high resistance to *Pyricularia grisea* and high milling and good cooking qualities superior to the varieties most commonly cropped in the region.

PEDIGREE AND BREEDING METHOD

BRS Jaburu (Figure 1) was obtained from a triple cross of lines PDR, P 3790F₄ and CT 5746 conducted at CIAT - Colombia and introduced in 1987 in Embrapa Rice & Beans in F₄ generation. From crop seasons 1987/88 to 1989/90, individual plants were selected and in 1990/91 the selected lines were evaluated for disease resistance and agronomic characteristics. One line was selected and named CNA 7830. In the 1991/92 cropping season, it was

evaluated in the observation trial in the irrigated rice national evaluation network. In 1992/93, it entered the preliminary trial, and from 1993/94 it was evaluated in the advanced trials in different regions 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 also 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 Jaburu is a short plant type, has erect leaves and is resistant to lodging; its average flowering period is 99 days from emergence. Average yield in 20 locations (7 in Goiás and 13 in Tocantins) was 6,269 kg/ha (Table 1). This yield is similar to Formoso and Metica 1 cultivars. The new cultivar is resistant to leaf blast, a factor that contributes to reduction in fungicide applications and lowering production costs, besides having high milling and good cooking qualities.

OTHER CHARACTERISTICS

BRS Jaburu has long slender grains, with high milling quality and good cooking characteristics (Table 2). When processed, it produces a total of 65% of milled

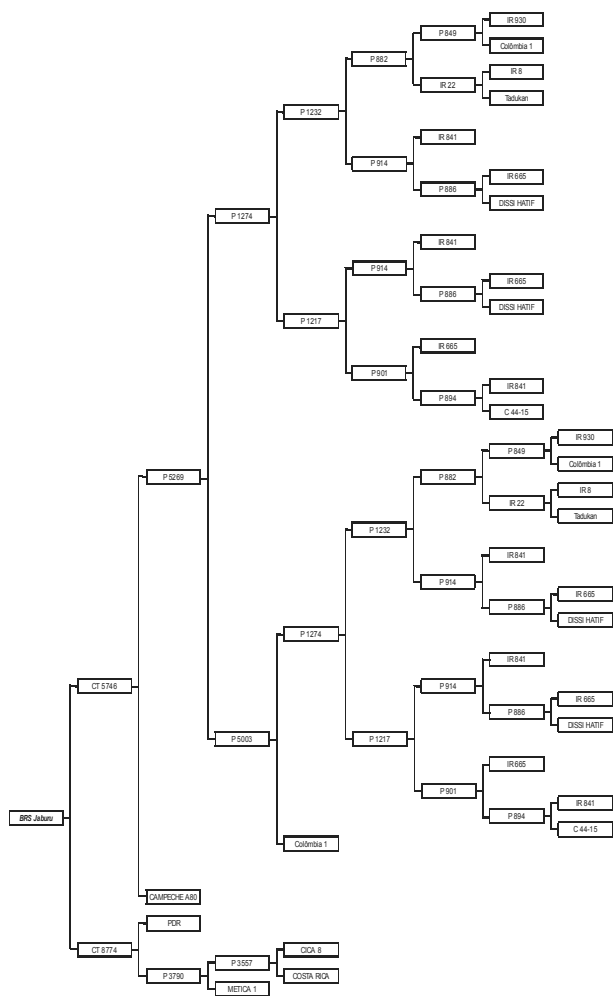


Figure 1. BRS Jaburu pedigree.

Table 1. Average yield, flowering period, plant height and incidence of leaf blast of BRS Jaburu, 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) ^{1/}
BRS Jaburu	6269	99	95	1.3
Formoso	6182	101	95	7.5
Metica 1	6726	102	102	8.3

^{1/} Average of four locations: Notes 1, 2 and 3 = resistant; Notes 4 and 5 = moderately resistant and Notes 6, 7, 8 and 9 = susceptible.

grains, with 57% of whole grains and little white belly. Cooking test results showed fluffiness, soft texture and good aroma.

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.

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

Cultivars	Characteristics ^{1/}							
	Total	Whole	AC	GT	WB	L	W	L/W
BRS Jaburu	65.0	57.0	29	6.0	3.0	7.08	2.23	3.17
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

^{1/} 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 and L/W: Length width ratio. Source: Jennings et al. (1979).

REFERENCES

Jennings, P.R.; Coffman, W.R. and Kauffman, H.E. 1979. Rice Improvement. IRRI, Los Baños.
 Rangel, P.H.N. 1995. Desenvolvimento de cultivares

de arroz irrigado para o Estado do Tocantins. Lavoura Arrozreira. 48:11-13.

Received: October 25, 2001;

Accepted: July 04, 2002.