

'BRS Timbo': new common bean cultivar of the "Roxinho" commercial grain type

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Received 31 March 2004

Accepted 15 May 2004

ABSTRACT - *Embrapa Rice and Beans* received this purple-colored seed line FEB 163 from CIAT and released it in 2002 under the trade name 'BRS Timbo'. It stands for superior yield potential, excellent cooking performance, semi-erect plant type, resistance to lodging and to major diseases, and was recommended for cultivation in the States of Goiás, Distrito Federal, Mato Grosso, Mato Grosso do Sul, and Minas Gerais.

Key words: *Phaseolus vulgaris*, plant breeding, cultivar description, seed production

INTRODUCTION

As a daily component of the nutrition of Brazil's population, dry bean is one of the most essential crops of the country. The principal production share comes from small farms. In the past ten years, annual productions varied between 2.2 and 3.4 million tons. Planted areas decreased while yields increased in this period. The market for different grain types from carioca (beige with brown stripes) to black is expanding in Brazil. There is an industrial demand for a product with different type and quality for higher income groups. As a result of this program, Embrapa Rice and Beans is releasing BRS Timbo, a cultivar of the 'Roxinho' (purple) grain type.

CULTIVAR ORIGIN AND DEVELOPMENT

The cultivar BRS Timbo originates from a multiple cross performed at CIAT (A252/XAN105//A373/A213///A445/XAN112//BAT447/A213). Embrapa Rice and Beans received the developed line FEB 163 and promoted it to the Preliminary Trial in 1991 (Del Peloso et al. 2002).

PERFORMANCE

This line was assessed together with additional 22 lines and three controls in the National Trial, conducted in 1993 in eight environments in the States of Goiás (2), Mato Grosso

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(1), Mato Grosso do Sul (1), Minas Gerais (3), and Espírito Santo (1). The underlying joint analysis of the grain yield data and other agronomic characteristics distinguished the FEB 163 for the Regional Trial in the 1995/96 crop season. This time, FEB 163 was assessed with seven additional lines and four controls in a randomized complete block design with four replications in 26 environments in the States of Goiás (8), Distrito Federal (2), Minas Gerais (5), Mato Grosso (7) and Mato Grosso do Sul (4). The line produced a 3.5% larger average grain yield than the controls (Table 1). Based on these results, it was released in 2002 under the trade name BRS Timbo, recommended for the States of Goiás, Distrito Federal, Minas Gerais, Mato Grosso, and Mato Grosso do Sul.

OTHER CHARACTERISTICS

Technological and industrial grain quality

'BRS Timbo' has uniform grain size and color, an average 100 grain mass of 19.3 g, excellent cooking quality, and a good grain appearance when cooked (Table 2).

Reaction to diseases

'BRS Timbo' is resistant to common mosaic under artificial inoculation. It also presented resistance reaction to the *Colletotrichum lindemuthianum* pathotypes 55, 89, 453, and 585. In the field trials, it presented resistance reaction to

rust, intermediate resistance to angular leaf spot, and a susceptible reaction to common bacterial blight.

Plant type and resistance to lodging

'BRS Timbo' presents a semi-erect plant type in any crop system and under a variety of soil and climate conditions where it was evaluated. Besides, the lodging resistance throughout its average cycle of 87 days from emergence to physiological maturity was considerable.

CONCLUSION

'BRS Timbo', due to its superior yield potential and differentiated grain type, associated to excellent cooking performance, semi-erect plant type, and resistance to lodging and major diseases is an interesting option for specialty grain type producers. It represents a commodity with additional values for commercialization in the States of Goiás, Distrito Federal, Mato Grosso, Mato Grosso do Sul, and Minas Gerais.

SEED PRODUCTION

Genetic seed stocks are maintained by Embrapa Rice and Beans and foundation seed is available at Embrapa Technology Transfer.

Table 1. Grain yield of cultivar BRS Timbo compared to the mean of two control cultivars in 1995 and 1996

Region	State	BRS Timbo	Mean for controls ¹	Relative yield	Number of sites
		kg ha ⁻¹	kg ha ⁻¹	%	
Southeast	Minas Gerais	2787	2649	105.2	5
Center West	Goiás/Distrito Federal	2449	2372	103.2	10
	Mato Grosso do Sul	1544	1447	106.7	4
	Mato Grosso	1665	1653	100.7	7
Mean	-	2163	2089	103.5	

¹Controls: Vermelho 2157 and Roxo 90

Table 2. Technological and industrial grain quality of the cultivar BRS Timbo

Cultivar	Cooking time	Soluble solids	Protein	Whole grain
	minutes	%	%	%
BRS Timbo	30.0	9.5	23.43	92

PARTNER INSTITUTIONS IN THE CULTIVAR ASSESSMENT

Embrapa Arroz e Feijão, Embrapa Milho e Sorgo, Embrapa Cerrados, Embrapa Transferência de Tecnologia/Escritório de Negócios de Sete Lagoas-MG, Embrapa Transferência de Tecnologia/Escritório de Negócios de Goiânia-GO, Empaer-MT, Empaer-MS, Agenciarrural-GO, Universidade Federal de Viçosa, Universidade Federal de Lavras, Coagril, Fesurv/Esucarv.

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