



'BRS Vereda': new common bean cultivar of the "Rosinha" commercial grain type

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ABSTRACT - This cultivar originated from a multiple cross performed at Embrapa Rice and Beans. After undergoing the bulk method in F_2 and F_3 and modified SSD in F_4 and F_5 , line LM 93203304 was selected for its remarkable grain yield and erect plant type. It was released in 2002 under the trade name BRS Vereda, for the States of Goiás/Distrito Federal, Mato Grosso do Sul, and Minas Gerais.

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

INTRODUCTION

Bean production in Brazil has suffered significant impacts under the strong social and economic changes during the last years. This situation suggests that anyone involved in the bean production chain should try to create alternatives to be better prepared to meet consumer demands. Plant breeders have the possibility to seek differentiated bean cultivars. In this context, Embrapa Rice and Beans releases 'BRS Vereda', of the 'Rosinha' (pink) grain type, different from the traditional black and carioca commercial classes, with the objective to supply regional market demands as well as broadening the consumer alternative choices.

CULTIVAR ORIGIN AND DEVELOPMENT

'BRS Vereda' was originated from a multiple cross (HI 822510/CB 733743//LM 30013/Rosinha G2RMC), performed at Embrapa Rice and Beans. The bulk method was used in F_2 and F_3 generations. In F_4 , after inoculation with the pathotype 89 of *Colletotrichum lindemuthianum*, modified mass selection was performed and susceptible plants were eliminated. One pod per plant was collected from the remaining resistant plants to reconstitute the population (Faria et al. 2002). In the F_5 generation the same selection procedure was used, but the plants were harvested individually. This originated the F_6 families out of which line LM 93203304 was selected for its grain yield and erect plant type.

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PERFORMANCE

In 1995 this line was assessed together with additional 24 lines and three controls in the National Trial, conducted in nine environments in the States of Goiás (4), Mato Grosso (2), Minas Gerais (2) and Espírito Santo (1). The underlying joint analysis of the grain yield data and other agronomic characteristics distinguished LM 93203304 for the Regional Trial in the 1997/98 crop season. This time, LM 93203304 was assessed with eight additional lines and four controls in a randomized complete block design with four replications in 28 environments in the States of Goiás (11), Distrito Federal (2), Minas Gerais (7), and Mato Grosso do Sul (8). The average grain yield was 11.2% superior to the controls (Table 1). Based on these data, the cultivar was released in 2002 under the trade name BRS Vereda, recommended for the States of Goiás/Distrito Federal, Mato Grosso do Sul, and Minas Gerais. Despite 0.8% lower grain yields than the controls in Mato Grosso do Sul, the cultivar was indicated for this State owing to its disease resistance and superior grain quality.

OTHER CHARACTERISTICS

Technological and industrial grain quality

'BRS Vereda' has uniform grain size and color, an average 100 grain mass of 26.3g, excellent cooking quality and an appealing grain appearance when cooked (Table 2).

Reaction to diseases

Under artificial inoculation, 'BRS Vereda' showed resistance reaction to common mosaic virus and to the *C. lindemuthianum* pathotypes 89, 585, and 95. In the field trials, it showed resistance reaction to rust and intermediate resistance to angular leaf spot and susceptibility to common bacterial blight.

Plant type and resistance to lodging

'BRS Vereda' presents a semi-erect plant type in any crop system and under a variety of soil and climate conditions where it was evaluated. It also presented good lodging resistance throughout its average cycle of 93 days from emergence to physiological maturity.

CONCLUSION

Due to its superior yield potential and differentiated grain type, associated to excellent cooking performance, semi-erect plant type, resistance to lodging and major diseases, this cultivar is an interesting option for specialty grain type producers. It represents a commodity with additional values for the States of Goiás/Distrito Federal, 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 'BRS Vereda' compared to the mean of control cultivars in 1997/1998

Region	State	BRS Vereda	Mean for controls ¹	Relative yield	Number of sites
		kg ha ⁻¹	kg ha ⁻¹	%	
Southeast	Minas Gerais	2545	2259	112.7	7
Center West	Goiás/Distrito Federal	2746	2408	114.0	13
	Mato Grosso do Sul	1648	1662	99.2	8
Mean		2397	2156	111.2	

¹Controls: Rosinha G2 and Roxo 90

Table 2. Technological and industrial quality of cultivar BRS Vereda seeds

Cultivar	Cooking time	Soluble solids	Protein	Whole grain
	minutes	%	%	%
BRS Vereda	27.0	10.8	22.8	95

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-MS, Agenciarrural-GO, Universidade Federal de Viçosa, Universidade Federal de Lavras, Coopertinga, Fesurv/Esucarv.

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