



## Barley cultivar BRS Marciana

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**ABSTRACT** - BRS Marciana barley bred by Embrapa Trigo (Wheat) is an early maturing, two-rowed spring barley registered in 2005 for commercial production in Southern Brazil. It combines good biomass and grain yield potential and disease resistance (to net blotch, powdery mildew, leaf rust). It is well-adapted to all major barley production regions of southern Brazil.

### INTRODUCTION

BRS Marciana is a barley (*Hordeum vulgare* sp. *vulgare*) cultivar developed by Embrapa Trigo. It was registered in 2005 for production in the states of Rio Grande do Sul, Santa Catarina and Parana, after five years of yield testing and malting quality evaluation, under the inbred line denomination PFC 98074. BRS Marciana traces back to a single plant selection in the F<sub>4</sub> population from the cross PFC 9240/PFC 9211 (Figure 1). PFC 9240 and PFC 9211 are inbred lines developed by Embrapa in Passo Fundo, RS. The cross and inbred line selection were performed in 1993 and 1998, respectively. The F<sub>2</sub> and F<sub>3</sub> and generations were advanced by selected bulk in Passo Fundo. The F<sub>4</sub> generation was space-planted in Guarapuava, PR, where single plants were selected. The F<sub>5</sub> plant progenies were grown in Passo Fundo, where single plants were selected again. The progenies of the selected plants were tested in the following season in Passo Fundo, where row number 4 was harvested in bulk and advanced to observation plots in 1998, giving rise to line PFC 98074. The line was then tested in preliminary regional and advanced yield trials and in 15 environments (five growing seasons and three sites) of

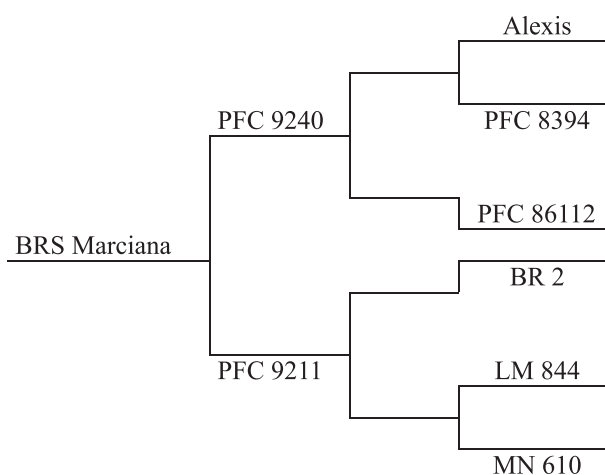


Figure 1. Pedigree of BRS Marciana

yield trials. In 2005 it was registered under the name BRS Marciana, for production in all regions of the states of Rio Grande do Sul, Santa Catarina and Parana. Due to its superior field performance and acceptable laboratory malting quality results, BRS Marciana was included in the official list of recommended malting varieties for southern Brazil by the Comissão de Pesquisa de Cevada (Barley Research Commission) (Comissão 2005).

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## PERFORMANCE

BRS Marciana has a grain yield potential of 5,000 kg/ha (Minella 2004). Average grain yield and kernel plumpness across 15 environments, in the growing seasons 2000-2004 were 4,391 kg ha<sup>-1</sup> and 95.8% (Table 1), respectively. The average yield across all locations was 10% higher than that of the check cultivar, varying from 5% in Guarapuava, PR, to 13% in Passo Fundo, RS. The yield potential of BRS Marciana was confirmed in seed multiplication fields, where yields of over 4,000 kg ha<sup>-1</sup> have been harvested. In micromalting evaluations, BRS Marciana met most of the requirements for malting barley. Pilot and commercial malting quality evaluations at the malt/brewing industry level are going

on. Due its earliness and high biomass yield this cultivar is being further evaluated as fodder, either as early fall pasture, silage or as forage grain, in important dairy and meat production regions of Rio Grande do Sul and Parana.

## OTHER CHARACTERISTICS

BRS Marciana heads and matures around 83 and 130 days after seedling emergence, respectively. It heads three days later than the check MN 698. It has a semi-erect growth habit in the vegetative phase. It is rather tall with an average height of 93 cm, but moderately lodging-resistant due to its straw strength. BRS Marciana carries genes for powdery mildew, leaf

**Table 1.** Mean grain yield and kernel plumpness of BRS Marciana and check cultivar MN 698, from 2000 to 2004, at three locations in southern Brazil

Location	Grain yield (kg ha <sup>-1</sup> )			Kernel plumpness (%) <sup>1</sup>	
	BRS Marciana	Check	% of Ck.	BRS Marciana	Check
Passo Fundo	4,389	3,867	113	95.4	87.6
Victor Graeff	4,010	3,566	112	96.5	88.4
Guarapuava	4,776	4,556	105	95.9	92.7
Average	4,391	3,996	110	95.8	89.6

<sup>1</sup> percent kernels retained in a 2.5 mm diameter sieve

rust and net blotch resistance, which confers the plants moderate resistance to these diseases under field conditions (Minella 2005).

## MAINTENANCE AND DISTRIBUTION OF FOUNDATION SEED

Breeder seed of BRS Marciana is maintained by Embrapa Trigo. Foundation seed is produced and sold by Embrapa Transferência de Tecnologia - EN Passo Fundo, Caixa Postal 451, CEP 99001-970, Passo Fundo, RS, Brazil.

## REFERENCES

- Comissão de Pesquisa de Cevada (2005) **Indicações técnicas para a produção de cevada cervejeira nas safras 2005 e 2006**. Embrapa Trigo, Passo Fundo, 102p.
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