



CULTIVAR RELEASE

Malting barley cultivar BRS 225

Euclides Minella^{*}, Marcio Só e Silva¹, Gerardo Arias¹, and Aroldo Gallon Linhares¹

Received 13 July 2005

Accepted 3 September 2005

ABSTRACT - BRS 225 barley, bred by Embrapa Trigo, is a two-rowed spring barley released in 2002 for cultivation in Southern Brazil. It is an early maturing, medium height and high yielding barley, resistant to diseases (net blotch and powdery mildew) and lodging-resistant, adapted to the major crop production regions of malting barley in Brazil.

Key words: crop, cultivar, barley.

INTRODUCTION

BRS 225 is a barley (*Hordeum vulgare* sp. *vulgare*) cultivar developed by Embrapa Trigo. It was released in 2002 for production in the states of Rio Grande do Sul, Santa Catarina and Parana, after intensive yield testing and malting quality evaluation under the inbred line denomination CEV 96053. The designation CEV indicates that the line had been developed by a formal technical and financial cooperation agreement between Embrapa and the malting/brewing companies Antarctica and Brahma (now AmBev), Kaiser and the Cooperativa Agraria Mista Entre Rios Ltda.

PEDIGREE AND BREEDING METHOD

BRS 225 traces back to a single plant selection realized in the F₂ population from cross PFC 9103/Defra (Figure 1). Line PFC 9103 was developed locally, whereas Defra is a cultivar from Germany. The cross and the inbred line selection were realized in 1992 and 1996, respectively. The F₂ population was field-grown in Guarapuava, state of Paraná (PR), in 1993, where single plants were selected. These plants were advanced to the F₅ generation in bulk by single seed descent (SSD) under greenhouse conditions in Passo Fundo, state of Rio Grande do Sul (RS). The selected F₆ plant progenies were field-grown in Passo Fundo, growing season of 1995, and the selected ones harvested in bulk for seed increase. The selected

¹Rodovia BR 285 km 174, C. P. 451, 99.001-970, Passo Fundo, RS, Brasil. *E-mail: eminella@cnpt.embrapa.com.br

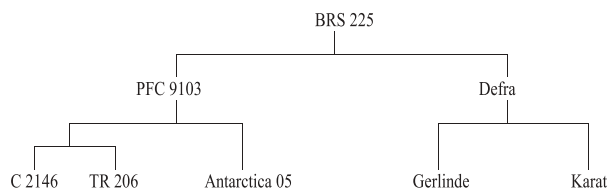


Figure 1. Pedigree of BRS 225

inbred line number 36 harvested in bulk from F₇ grown in Passo Fundo, 1996, gave origin to line CEV 96053. The line was next evaluated in official yield trials in 12 environments consisting of four growing seasons (1998 to 2001) and three sites. In 2002 it was registered and protected under the name BRS 225, as a new production cultivar for all regions of Rio Grande do Sul, Santa Catarina and Paraná. In 2003, BRS 225 entered the official list of recommended varieties of the Comissão de Pesquisa de Cevada (Barley Research Commission) for cultivation in southern Brazil (Comissão 2003).

PERFORMANCE

BRS 225 has a grain yield potential above 4000 kg ha⁻¹ (Minella 2002). Average grain yield and kernel plumpness across the 12 environments in the seasons 1998-2001 were 4420 kg ha⁻¹ and 90.2% (Table 1), respectively. Average yield across all locations was 9% higher than that of check MN 698, varying from 5% in Guarapuava, PR, to 15% in Victor Graeff, RS. The superior yield potential of BRS 225 was confirmed in grower fields, where yields of over 4500 kg ha⁻¹ were obtained. The combination of earliness, high yield and kernel plumpness, and lodging and disease resistance makes BRS 225 a superior cultivar for production of malting barley in Rio

Grande do Sul, Santa Catarina and Paraná. In pilot malt analysis, the quality of BRS 225 malt met the requirements of malting barley. In complete commercial malt and brewing evaluations by the industry it was approved as a malting cultivar.

OTHER CHARACTERISTICS

Table 1. Mean grain yield and kernel plumpness of BRS 225 and check cultivar MN 698, in the growing seasons 1998 to 2001, in three locations in southern Brazil.

Location	Grain yield (kg ha ⁻¹)		Kernel plumpness (%) ¹	
	BRS 225	MN 698	% of MN 698	BRS 225 MN 698
Passo Fundo	4,180	3,835	109	93.7 93.4
Victor Graeff	3,857	3,354	115	86.8 85.9
Guarapuava	5,223	4,974	105	90.2 93.3
Average	4,420	4,054	109	90.2 90.8

¹Kernels retained in a 2.5 mm diameter sieve

BRS 225 attains heading and harvesting maturity about 85 and 130 days after plant emergence, respectively. It heads two days earlier than check MN 698. It has a semi-erect growth habit in the vegetative phase. It grows as tall as 90 cm in height, but resists lodging moderately. BRS 225 carries genes for powdery mildew and net blotch resistance, conferring a moderately resistant reaction to these diseases (Minella et al. 2000, Minella 2005).

MAINTENANCE AND DISTRIBUTION OF FOUNDATION SEED

Breeder seed of BRS 225 is maintained by Embrapa Trigo. Foundation seed is produced and marketed by Embrapa Transferência de Tecnologia, EN Passo Fundo, Caixa Postal 451, 99.001-970, Passo Fundo, RS, Brazil.

REFERENCES

- Comissão de Pesquisa de Cevada (2003) **Indicações técnicas para a produção de cevada cervejeira: safras 2003 e 2004.** Embrapa Trigo, Passo Fundo, 80p.
- Minella E (2000) Adapting barley for unfavorable environments: results from Brazil. In: Logue S (ed.) **Proceedings of the 8th International Barley Genetics Symposium.** Adelaide University, Adelaide, p. 267-268.

- Minella E (2002) Performance de cultivares e linhagens de cevada no sul do Brasil, no período 1998-2001. In: Minella E (ed.) **Anais e ata da 22^a Reunião Anual de Pesquisa de Cevada.** Embrapa Trigo, Passo Fundo, p. 366-373.

- Minella E (2005) Melhoramento da cevada. In: Borém A (ed.) **Melhoramento de espécies cultivadas.** Editora UFV, Viçosa, p. 275-299.