

Barley cultivar BRS Greta

Euclides Minella^{1*}, Gerardo Arias¹, Marcio Só e Silva¹, and Luiz Eichelberger¹

Received 05 June 2006

Accepted 28 April 2007

ABSTRACT - BRS Greta is a short, stiff-strawed, two-rowed spring barley cultivar registered by Embrapa Trigo in 2006 for commercial production in southern Brazil. It combines short straw with high grain yield and kernel plumpness, disease resistance (to net blotch) and acceptable malting quality. It is well-adapted to the major barley production regions of southern Brazil.

INTRODUCTION

BRS Greta is the second dwarf barley (*Hordeum vulgare* sp. *vulgare*) cultivar released by Embrapa Trigo. It was registered in 2006 for production in the states of Rio Grande do Sul, Santa Catarina and Parana, after four years of yield testing and malting quality evaluation, under the inbred line denomination PFC 99199. BRS Greta traces back to a single-plant selection in the F₄ population from the cross Krona/PFC 9219//PFC 9204 (Figure 1). Lines PFC 9204 and PFC 9219 are inbreds developed locally by Embrapa, whereas Krona is a variety from Germany. The cross and inbred line selection were completed in 1994 and 1999, respectively. The F₂ and F₄ generations were advanced by bulks of selected spikes in Passo Fundo whereas F₃ was advanced in Guarapuava and harvested as a bulk of selected heads. The F₅ generation was space-planted for single-plant selection. The F₆ plant progenies were grown in Passo Fundo, where selected progeny rows were harvested in bulk. Selected progenies were tested in row plots in the following generation in Passo Fundo, where a row of F₅ plant number six was harvested in bulk and advanced to observation plots in 1999, which gave rise to line PFC 99199. This line was then tested in preliminary, regional and in advanced yield trials in 15

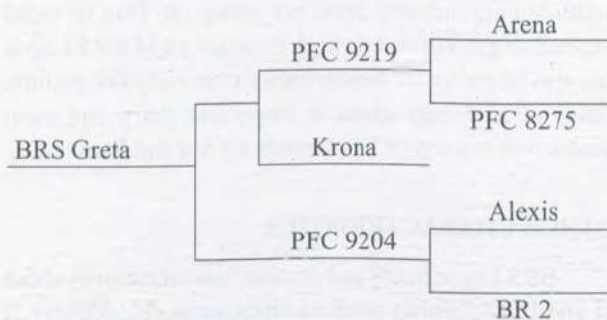


Figure 1. Pedigree of BRS Greta

environments (three sites in five growing seasons). Early in 2006 the line was registered under the name BRS Greta for production in all regions of the states of Rio Grande do Sul, Santa Catarina and Parana.

PERFORMANCE

BRS Greta has a grain yield potential of 5,500 kg ha⁻¹ (Minella 2004). In the growing seasons 2000-2004 average grain yield and kernel plumpness across 15 environments were 4,980 kg ha⁻¹ and 92.8%, respectively. The average yield across all locations was 2.6% higher than that of the check BRS 195, presently the highest-yielding and most cultivated variety in

¹ Embrapa Trigo. BR 285, Km 294. C.P. 451, 99.001-970, Passo Fundo, RS, Brasil. *E-mail: eminella@cnpt.embrapa.br

Table 1. Mean grain yield and kernel plumpness of BRS Greta and check cultivar BRS 195 from 2000 to 2004, at three locations in southern Brazil

Location	Grain yield (kg ha ⁻¹)			Kernel plumpness (%) ¹	
	BRS Greta	BRS 195	% of Ck.	BRS Greta	BRS 195
Passo Fundo	5,091	5,034	100.0	89.3	83.9
Victor Graeff	4,314	4,313	100.0	93.6	86.0
Guarapuava	5,536	5,198	106.5	95.6	88.0
Average	4,980	4,852	102.6	92.8	85.9

¹ percent kernels retained in a 2.5 mm diameter sieve

Brazil, varying from no difference in Victor Graeff and Passo Fundo, RS to 6.5% in Guarapuava, PR. BRS Greta produced on average 8% more plump kernels (> 2.5 mm diameter) than BRS 195. The high grain yield potential and larger kernel size of BRS Greta was confirmed in seed production fields. In micromalting evaluations performed so far, BRS Greta fulfilled most of the quality parameters required for malting barley and was slightly superior to BRS 195 in malting quality. Pilot and commercial malting quality evaluations at the malt/brewing industry level will take place in the 2006 and 2007 growing seasons.

OTHER CHARACTERISTICS

BRS Greta heads and reaches harvest maturity about 85 and 130 days after seedling emergence, respectively. On average it heads five days later than MN 698 but six days earlier than BRS 195, currently the most cultivated varieties in Brazil. It has a semi-prostrate growth habit in the vegetative phase and grows to an average height of 76 cm, compared to 70 cm of BRS 195.

It has a good level of lodging resistance, probably due to the stiffness of its straw. BRS Greta carries resistance genes which, under field conditions, confer moderate net blotch resistance (Minella 2005).

MAINTENANCE AND DISTRIBUTION OF FOUNDATION SEED

Breeder seed of BRS Greta 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

- Minella E (2004) Desempenho comparativo das cultivares de cevada indicadas para cultivo no sul do Brasil. In: Minella E (ed.). *Anais e ata da 24ª Reunião Anual de Pesquisa de Cevada*. Embrapa Trigo, Passo Fundo, p. 156-161.
- Minella E (2005) Melhoramento da cevada. In: Borém A (ed.) *Melhoramento de espécies cultivadas*. Editora UFV, Viçosa, p. 275-299.