

BRS 195 Malting barley cultivar

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ABSTRACT

BRS 195 developed by Embrapa-Centro Nacional de Pesquisa de Trigo, is a two-rowed spring malting barley, released in 2000 for cultivation in Southern Brazil. BRS 195 is a short, high yielding, disease (net blotch, powdery mildew and leaf rust) and lodging resistant barley, with competitive performance throughout the major production regions.

KEY WORDS: Cultivar description, plant breeding, crop breeding, *Hordeum vulgare*.

INTRODUCTION

BRS 195 is a barley (*Hordeum vulgare* sp. *vulgare*) cultivar developed by the National Wheat Research Center of Embrapa. It was released in 2000 for sowing in the states of Rio Grande do Sul, Santa Catarina and Paraná, after four years of yield testing in regional trials and extensive malting quality tests under the inbred line denomination of CEV 95076. The CEV designation indicates that the line was developed during a formal technical and financial cooperation agreement between Embrapa and the malting-brewing companies Cia. Antarctica Paulista, Cia. Cervejaria Brahma, Kaiser and Cooperativa Agraria Mista Entre Rios Ltda.

PEDIGREE AND BREEDING METHOD

BRS 195 traces back to a single plant selection made in the F₅ of the cross DEFRA/BR 2. DEFRA originated in Germany whereas BR 2 was developed in Brazil. The cross and the inbred line selection were made in 1992 and 1995, respectively. The F₂ population was field grown in Guarapuava, PR in 1993 and harvested as a bulk of selected spikes. The F₃ and F₄ generations were advanced through the Single Seed Descent method, under greenhouse conditions in Passo Fundo, RS. The F₅ was field planted in Passo Fundo in the 1994 growing season. Single plants were selected and planted in the greenhouse for seed increase. The F₇ progenies were planted in plots in Passo Fundo in 1995 and evaluated for yield and other traits. A pure line selection from one of the plots generated the inbred line PFC 95011, which was later denominated CEV 95076. This line was evaluated in official yield trials in 32

environments over four growing seasons (1996 to 1999) with four to ten sites per season. In 2000 it was registered as BRS 195 by the Ministry of Agriculture and released as a malting barley for all the production regions in the Rio Grande do Sul, Santa Catarina and Paraná states. In 2001, BRS 195 entered the official list of recommended cultivars for cultivation in Southern Brazil (Comissão, 2001).

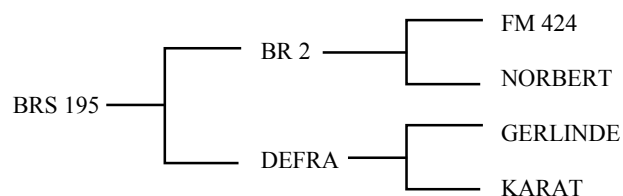


Figure 1. Pedigree of BRS 195.

PERFORMANCE

BRS 195 has a grain yield potential above 4,000 kg/ha (Minella, 2001). Its grain yield and kernel plumpness means estimated in 30 environments during the 1998-2000 seasons were 3,739 kg/ha and 86 % (Table 1). The yield over all locations was 107 % of that of the check BR 2, varying from 90 % in Lapa-PR, to 119 % in Papanduva, SC. The superior experimental performance of BRS 195 has been confirmed in commercial fields where yields close to 5.000 kg/ha have been obtained. Due to its unique combination of yield potential, short straw and disease resistance, BRS 195 can be a superior alternative to BR 2 for most of the barley production regions in Brazil. BRS 195 was classified as malting barley by the malting industry based in both pilot and commercial malt analysis. BRS 195 has shown consistently, the lowest protein content among the genotypes in trials.

OTHER CHARACTERISTICS

BRS 195 reach anthesis (heading) and harvesting maturity at about 100 and 148 days after sowing, respectively. Compared to BR 2, it heads 8 to 10 days later and reaches maturity at about the same time. It has a semi-prostrate growth habit in the vegetative phase. It is a very short (dwarf) barley reaching 70 cm in height and resistant to lodging. BRS 195 is resistant to the major leaf diseases of barley in Brazil, combining the resistance to mildew and leaf rust of DEFRA with the resistance to net blotch of BR 2 (Minella et al., 2000). It is also moderately resistant to Barley Yellow Dwarf Virus.

MAINTANANCE AND DISTRIBUTION OF FOUNDATION SEED

Breeder seed of BRS 195 is maintained by Embrapa Trigo. Foundation seed is commercialized by Embrapa Technology Transfer, EN Passo Fundo, Caixa Postal 451, CEP 99001-970, Passo Fundo, RS, Brasil.

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Table 1. Barley Final Yield Trial. Mean grain yield and kernel plumpness of BRS 195 and check BR 2, over the 1998-2000 growing seasons in ten locations of Southern Brazil.

Locations	Yield (kg/ha)			Plumpness (%) ^{1/}	
	BRS 195	BR 2	% of BR 2	BRS 195	BR 2
Piratini-RS	4,161	4,395	95	96	92
Tapera-RS	3,244	2,968	109	75	78
Passo Fundo-RS	4,202	3,869	109	86	91
Sananduva-RS	4,200	3,597	117	81	86
Vacaria-RS	3,515	3,026	116	89	85
Campos Novos-SC	3,717	3,775	98	85	93
Papanduva-SC	3,293	2,757	119	91	93
Lapa-PR	3,157	3,505	90	91	95
Guarapuava-PR	4,161	3,576	116	84	84
Average	3,739	3,496	107	86	89

^{1/} kernels retained in a 2.5 mm sieve.

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