CULTIVAR RELEASE
Malting barley cultivar BRS 225

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INTRODUCTION

BRS 225 is a barlely (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 F5 plant progenies were field-grown in Passo Fundo, growing season of 1995, and the selected ones harvested in bulk for seed increase. The selected...
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

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.

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.

<table>
<thead>
<tr>
<th>Location</th>
<th>Grain yield (kg ha(^{-1}))</th>
<th>% of MN 698</th>
<th>Kernel plumpness (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BRS 225 MN 698</td>
<td>BRS 225 MN 698</td>
<td></td>
</tr>
<tr>
<td>Passo Fundo</td>
<td>4,180 3,835 109</td>
<td>93.7 93.4</td>
<td></td>
</tr>
<tr>
<td>Victor Graeff</td>
<td>3,857 3,354 115</td>
<td>86.8 85.9</td>
<td></td>
</tr>
<tr>
<td>Guarapuava</td>
<td>5,223 4,974 105</td>
<td>90.2 93.3</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>4,420 4,054 109</td>
<td>90.2 90.8</td>
<td></td>
</tr>
</tbody>
</table>

\(^1\) Kernels retained in a 2.5 mm diameter sieve

REFERENCES


