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BRS Minotauro, the first truly Brazilian triticales cultivar

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In 2005, 'BRS Minotauro', the first truly Brazilian triticales cultivar, was registered. It is derived from a cross, made at Embrapa Trigo, between the primary octoploid 'OCTO 92-3' [hexaploid wheat 'PF 89358' (BR 35*3//BR 14*2/LARGO) and the Brazilian rye 'Centeio BR 1'] crossed with the hexaploid triticales 'Triticales BR 4' (Beagle/Cinamon//Muskox). 'BRS Minotauro' showed a better grain yield and an outstanding test weight compared with the check cultivars. It is tolerant to soil aluminum toxicity; resistant to leaf rust, stem rust, powdery mildew and lodging; moderately resistant to spot blotch, septoria leaf blotch and BYDV; and moderately susceptible to scab and pre-harvest sprouting.

Introduction

Triticales (X *Triticosecale* Wittmack) is an important crop for the winter growing season in Southern Brazil. The total triticales area in 2005 was approximately 131,000 hectares and the same area is estimated for 2006 in Brazil. The average grain yield was 2,200 kg ha⁻¹ in 2005, without irrigation. Despite this, due to the seed availability, four very similar cultivars are responsible for more than 95% of growing area. Cereal growers have a few cultivars to choose and cultivate annually.

The genetic basis for today's triticales in the world is narrow and should be increased. This is also true for Brazilian released triticales genotypes since all recommended cultivars originated from a cooperation program with CIMMYT.

At the National Wheat Research Center (Embrapa Trigo), the triticales breeding program is focused on obtaining triticales cultivars with specific characteristics aiming at adaptation to local climate and on increasing genetic variability.

Materials and Methods

'BRS Minotauro' is derived from a cross, made at Embrapa Trigo in the winter of 1991, between the Brazilian hexaploid wheat line 'PF 89358' (BR 35*3//BR 14*2/LARGO) and the Brazilian rye 'Centeio BR 1', followed by doubling the F₁ plant chromosomes using colchicines to produce the new primary octoploid 'OCTO 92-3'. This octoploid line was crossed with the hexaploid triticales 'Triticales BR 4' (Beagle/Cinamon//Muskox) in 1995.

Annual selections of individual plants were performed according to the generation, in a Modified Pedigree Method. In 1998, after mass selection, the spring hexaploid line 'PFT 008' was selected and agronomic evaluation started in 1999. Breeder's seed was increased in 2000 and 2001. In 2002 and 2003, the population was described for "Distinctness, Uniformity and Stability" according to UPOV and evaluated in field trials under distinct environments.

Results and Discussion

'BRS Minotauro' yielded on average 3,790 kg ha⁻¹ of grain, 9 % above the check varieties, and showed an outstanding test weight and Hagberg Falling Number. It was registered in 2005 as a new triticale variety. It has a medium tall

stature and medium ear emergence and maturity cycle. It is tolerant to soil aluminum toxicity; resistant to leaf rust, stem rust, powdery mildew and lodging; moderately resistant to spot blotch, septoria leaf blotch and BYDV; and moderately susceptible to scab and pre-harvest sprouting.