



## CULTIVAR RELEASE

### ALBASUL – White Oat

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Received 16 October 2003

Accepted 16 March 2004

**ABSTRACT** - The white oat cultivar Albasul was developed at the Center of Genomics and Plant Breeding, Faculdade de Agronomia Eliseu Maciel (FAEM), Universidade Federal de Pelotas (UFPEL) with support of the Universidade Federal do Rio Grande do Sul (UFRGS). After analyses in yield trials, it was indicated for cultivation in the Central Southern Region of Brazil, due to its wide adaptation spectrum and high yield potential.

**Key words:** *Avena sativa* L., hexaploid oat, grain yield, pedigree seed.

#### INTRODUCTION

The Center for Genomics and Plant Breeding of the FAEM/UFPEL aims at the formation of human resources of outstanding technical and humanistic capacity. Besides this main goal, basic and applied research projects into oats, rice, and wheat are conducted. In this sense, an oat (*Avena sativa* L.) breeding program to develop higher yield and superior quality genotypes was carried out, focusing on the search for genotypes with adaptation to different environments, with traits such as high yield potential, milling quality, resistance and/or tolerance to diseases, grain yield stability, adaptability to broader environments, and the capacity to respond to environmental improvement.

#### PEDIGREE AND BREEDING METHODS

The cultivar Albasul is an outcome of the crossing of the genotypes UFRGS 14 and UFRGS 881920. This cross was realized at the UFRGS in 1995, where the F<sub>2</sub> and F<sub>3</sub> generations were also performed by the mass selection method, consisting in the selection of the best plants, mixed to compose the following generation (Carvalho et al. 2003). The F<sub>4</sub>, F<sub>5</sub>, and F<sub>6</sub> generations were also conducted by the same method, in the County of Capão do Leão by the UFPEL. F<sub>6</sub> selected plants

were tested in full row in the next generation, when selection among F<sub>7</sub> lines originated line URPEL 95/003 (name given to genotype while on preliminary yield trials). According to the performance presented in the grain yield trials, it was promoted cultivar and designated Albasul.

#### Performance

In 1999, having attained advanced uniformity stage, the genotype was evaluated in an internal preliminary grain yield trial (IPGYT), with three controls, in Capão do Leão, State of Rio Grande do Sul. In this trial, the Albasul genotype displayed its high grain yield potential. In 2000, it was introduced into the Regional Line Trial (RLT) and 2001 and 2002 into the Brazilian Line Trial (BLT), coordinated by the Brazilian Oat Research Committee. Average grain yields of controls and Albasul are presented in Table 1, which shows that the grain yield presented by Albasul was 6% superior to the best control (mobile control - MC) averaged over three years. Due to its high grain yield performance, it has been recommended for cultivation as grain crop in the Central Southern Region of Brazil and registered in the National Cultivar Protection Service of the Ministry of Agriculture under certificate 16142, July 14, 2003 (MAPA 2003).

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**Table 1.** Summary of grain yield data, obtained in trials conducted by the member Institutions of the Brazilian Oat Research Committee (average of 11 locations\*, over three years)

Genotypes	Years					%MC	Mean yield	%
	2000	%MC	2001	%MC	2002			
	kg ha <sup>-1</sup>		kg ha <sup>-1</sup>		kg ha <sup>-1</sup>		kg ha <sup>-1</sup>	
Albasul	3123	103	3379	115	2061	97	2854	106
OR 2	2916	-	2942	-	2115	-	2658	-
UPF 16**	2823	-	2179	-	-	-	2501	-
UFRGS 14	3025	-	2220	-	1477	-	2241	-
UPF 18	-	-	-	-	1838	-	1838	-
MC***	3025	100	2942	100	2115	100	2694	100

\* Passo Fundo (RS), Eldorado do Sul (RS), Vacaria (RS), Capão do Leão (RS), Lages (SC), São Carlos (SP), Pato Branco (PR), Guarapuava (PR), Ponta Grossa (PR), Londrina (PR), and Mauá da Serra (PR).

\*\* In 2002, one of the control cultivars UPF 16 was replaced by UPF 18.

\*\*\* MC: mobile control (the line is compared with the best control every year).

### Other characteristics

The Albasul cultivar cycle is short, with an average of 130 days from emergence to maturation and has a relatively short vegetative cycle (Albasul = 88 days; MC = 91 days), with a grain filling period above the controls (Albasul = 43 days; MC = 41 days). The plant height of cultivar Albasul is intermediate, with approximately 105 cm. These data refer to a three-year average of 11 environments, which can vary according to climatic conditions, sowing time, and soil type. Hectoliter weight and weight of 1000 grains presented intermediate results of 45 kg hl<sup>-1</sup> and 26.7 g, representing 95% and 84% when compared to MC, respectively. With regard to the main diseases, the referred cultivar was classified as moderately susceptible to leaf rust, moderately tolerant to barley yellow dwarf virus, and resistant to stem rust.

### Maintenance and distribution of pedigree seed

The institution in charge for the maintenance of the cultivar is the Center of Genomics and Plant Breeding, FAEM/UFPel. To contact the Professor Fernando Irajá Félix de Carvalho for further information.

### REFERENCES

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