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CD 110 - Wheat cultivar

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ABSTRACT *- 'CD 110' was developed by COODETEC and is indicated for cultivation in the State of Paraná, Brazil. This cultivar has wide adaptation, tolerance to spike sprouting, and grain yield means of 2883, 2640, and 3768 kg ha^{-1} in the regions 6 (north), 7 (center-west) and 8 (center-south) in the State of Paraná, respectively.*

Key words: COODETEC´s breeding program, wheat cultivar, CD 110

INTRODUCTION

The Wheat Breeding Program of COODETEC is intended to meet different environmental demands. Productivity potential, industrial quality, tolerance to spike sprouting, diseases, drought, acid soils, and natural threshing as well as lodging resistance, high tiller number, response to fertilizer, and grain yield adaptability and stability are the main characteristics that are being improved. 'CD 110' has productivity potential and tolerance to spike sprouting.

PEDIGREE AND BREEDING METHODS

Wheat cultivar CD 110 (*Triticum aestivum* L.) was developed by COODETEC. F_1 seeds were obtained from the cross of the parents 'ANAHUAC 75' and 'EMBRAPA 27' (Figure 1). Mass selection was used in the selection of the F_2 population, which consists in the selection of the best plants, whereupon these plant seeds are mixed and used to obtain the next generation. The pedigree method, which is the selection of individual plants, where seeds of each plant are used to obtain a new population in the following generation, was utilized in the selection of the F_3, F_4, F_5, and F_6 populations. Numerous sib lines were selected in F_7; the best line gave origin to the CD 110 cultivar.

PERFORMANCE

'CD 110' was tested under the experimental designation 'CD 2013'. After pre-evaluations in experiments in 1998 and 1999 in Cascavel and Palotina, State of Paraná, the cultivar was evaluated in different locations and years in the adaptation regions 6 (North), 7 (Center-west) and 8 (Center-south) of Paraná (IAPAR 2003). Table 1 displays the mean grain yield efficiency of several cultivars in the regions 6, 7, and 8 of the State of Paraná. Cultivar CD 110 presented a grain yield efficiency of 19%, 17%, and 4% above the mean,

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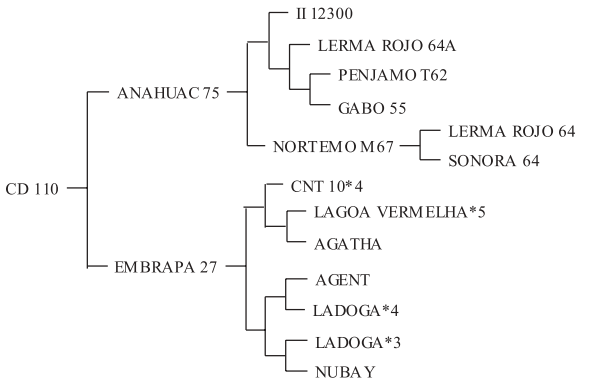

Figure 1. CD 110 pedigree

respectively. Due to CD 110's good performance, it was indicated for cultivation in the regions 6, 7, and 8 in Paraná State (IAPAR 2003), and registered on July 10, 2003, by the National Service of Cultivars Protection (SNPC), under number 00441 (MAPA 2003). The indication for cultivation was extended to Regions 1, 2 and 3 of Rio Grande do Sul and Regions 4 and 5 of Santa Catarina in 2003.

OTHER CHARACTERISTICS

CD 110's plant height is mean, varying from 65 to 90 cm, and the cycle is mean, varying from 60 to 80 days to flowering, and 114 to 135 days to maturity. Mean values of these characteristics were 82 cm, 71 days, and 126 days respectively, which can vary according to environmental conditions, sowing date, and soil nature. An analysis of the industrial quality revealed a mean general gluten force (W) of 276 x 10^{-4} Joules. The weight of one hectoliter and of a thousand seeds amounted to 74 kg hL^{-1} and 31 grams, respectively. 'CD 110' was classified as moderately resistant to lodging, moderately resistant to spike sprouting, and moderately tolerant to acid soils. In relation to the main diseases, 'CD 110' was classified as moderately susceptible to *Blumeria graminis* f.sp. *tritici*, moderately susceptible to *Bipolares sorokiniana*, *Septoria tritici* and *Stagonospora nodorum*, and moderately resistant to *Puccinia triticina*. 'CD 110' was also classified as moderately susceptible to *Fusarium graminearun*, which is more frequent in regions of long rain periods, and regions where the temperature averages lie above 20 ^{0}C after the initial flowering (Reis et al. 2001). Top characteristics of 'CD 110' are wide adaptation, high grain yield potential, and tolerance to sprouting.

1. 110 ( ) 6, 7, 8

	6			7				8			
	2001	2002		2000	2001	2002		2000	2001	2002	
110	3393	2373	2883	2249	2846	2824	2640	3101	4873	3331	3768
18	2761	1770	2266	1333	2676	2148	2052	2416	5069	3063	3516
53	3367	1532	2449	2103	2457	2356	2305				
16	3321	1791	2556	2033	2909	2321	2421				
24								2984	5021	3150	3718
( )	3150	1698	2424	1823	2681	2275	2260	2700	5045	3107	3617

MAINTENANCE AND DISTRIBUTION OF FOUNDATION SEED

COODETEC commissions protects cultivars according to law nº 9456/97, so that seed companies can cultivate and commercialize them under agreement. Also, COODETEC has regional representatives under its own management supervision, who distribute and commercialize the seeds. Small quantities of seeds for research purposes are available upon request at the address above.

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