REGISTRATION OF CROP CULTIVARS

REGISTRATION OF ‘CARDINAL’ WHEAT

‘CARDINAL’, PI 502973, soft red winter wheat (Triticum aestivum L.) (Reg. no. 727) was developed and officially released by the Ohio Agricultural Research and Development Center, The Ohio State University in 1986. Cardinal was tested prior to release as OH 244 in state-wide trials in Ohio from 1981 through 1985. Cardinal was also tested in the Uniform Eastern Soft Red Winter Wheat Nursery from 1983 through 1985.


Cardinal has apically awnleted, fusiform, upright spikes. The white, long glumes are glabrous; shoulder is oblique to square and beaks are obtuse. Kernels are red, ovate with narrow creases and rounded cheeks. Brush is noncollared and medium in length. Foliage of Cardinal is blue-green.

Cardinal is a midseason maturity cultivar with an average heading date in Ohio 2 d later than ‘Hart’ and 2 d earlier than ‘Titan’. It has moderately short stature averaging 2.5 cm shorter than Hart and Titan, but 12.5 cm taller than Becker. Cardinal has exhibited excellent straw strength in Ohio and region-wide tests exceeding all currently grown cultivars except ‘Becker’ and ‘GR855’. Winterhardiness of Cardinal is excellent, equaling that of the best currently grown cultivars in Ohio tests and exceeding numerous other soft wheat cultivars except ‘Charmony’ in severe tests in the upper Midwest.

Cardinal possesses excellent tolerance to Al, often a problem in eastern U.S. acid soils, being nearly as tolerant as ‘Seneca’.

Cardinal possesses excellent resistance to leaf rust (caused by Puccinia recondita Rob. ex Desm. f. sp. tritici), but is only moderately resistant to powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici E. Marchal). Cardinal is also resistant to wheat spindle streak mosaic virus (WSSM) and appears highly resistant to natural infections of wheat bacterial leaf blight (caused by Xanthomonas oryzae pv. oryzae), leaf blight (caused by Xanthomonas oryzae pv. oryzicola), and wheat powdery mildew (caused by Blumeria graminis f. sp. tritici). Cardinal possesses resistance to races GP, A, C, and F, (Mayetiola destructor Say) imparted by the PI 502973. Cardinal possesses resistance to races GP, A, C, and F, (Mayetiola destructor Say) imparted by the PI 502973.

The USDA-ARS Soft Wheat Quality Laboratory, OH, has found Cardinal to possess excellent baking quality. Cardinal has exceeded the mill quality of Hart, Titan, and ‘Tyler’ and is approximately equal to ‘Adena’ and Becker in tests of Ohio grown samples.

The yield of Cardinal in 1981 through 1985 over 25 tests was 4603 kg ha⁻¹ while Becker, Hart, averaged 4448, 4253, and 4186 kg ha⁻¹, respectively. Cardinal has exhibited excellent straw strength in Ohio tests of Ohio grown samples. Cardinal was selected primarily for its high-yielding ability and its strong straw strength, particularly in such popular cultivars in Ohio as Caldwell, Hart, Titan, and should be well suited to all production conditions in Ohio and the Midwest.

Foundation seed of Cardinal was first distributed to farmers in the fall of 1986. Application for protection under the Plant Variety Protection Act, Title V option has been filed. Breeder seed will be maintained by the Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, OH 44691.

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References and Notes

1. Dep. of Agronomy, Ohio Agric. Res. and Development Ctr., The Ohio State Univ., Wooster, OH 44691. Salaries and research facilities were provided by state and federal funds appropriated to The Ohio State University, Wooster, OH, under the provisions of the Agricultural Research and Development Act. The Foundation for Plant Variety Protection of The Ohio State University, Wooster, OH, was substantially used to finance this research. *Corresponding author.

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REGISTRATION OF ‘CHAMP’ SPELT

‘CHAMP’ spelt (Triticum aestivum L. var. spelta f. sp. T. spelta L.), PI 502974, (Reg. no. 728) was developed by the Ohio Agricultural Research and Development Center, The Ohio State University, Wooster, OH, and officially released in 1986. It was selected from a cross of WW1001-1/’Ardenne’. WW1001-1 is a selection from ‘Mironovskaya 808’ winter wheat, a Russian cultivar. Ardenne is a European

from 1981 through 1985 and at two locations in these tests, Champ averaged 25% higher in yield than common spelt over 17 location-yr (3292 vs. 2636 kg ha⁻¹). The common spelt used in these trials originated as a high-yielding spelt line from dozens collected on farms throughout Ohio in the early 1970s and entered in yield trials as ‘Purified Common Spelt’, it has been the only certified spelt in Ohio and has been available for several years. The true origin of the cultivar is unknown.