Registration of ‘GR860’ Wheat

‘GR860’, soft red winter wheat (Triticum aestivum L.) (Reg. no. CV-779, PI 508288) was developed by the Ohio Agricultural Research and Development Center, Ohio State University, and licensed to the Agricultural Genetic Research Association (AGRA) in 1986. GR860 was produced from the four-way cross; CS17/Logan/ MoW8184/Va 66-54-10 and was first selected as a single F<sub>2</sub> plant in 1976. It was reselected in 1981 in the F<sub>4</sub> generation. Progeny of 60 F<sub>4</sub> plants, selected for uniformity in 1981 to 1984, were bulked following the 1984 harvest to comprise breeder seed.

GR860 is a white chaffed, apically awnleted wheat with distinctively erect spikes at maturity. Glumes are short with square shoulders and obtuse beaks. GR860 has red kernels that are oval with medium-width creases and rounded cheeks. The brush is not collared.

GR860 was tested in 22 Ohio statewide tests from 1981 to 1985. The average yield of GR860 was 3910 kg ha<sup>-1</sup> compared with 4313 kg ha<sup>-1</sup>, 4529 kg ha<sup>-1</sup>, and 4670 kg ha<sup>-1</sup> for ‘Hart’, ‘Becker’, and ‘Cardinal’, respectively. GR860 is a very early-maturing cultivar that headed an average of 5 d earlier than Hart and 6 d earlier than Cardinal. It is comparable in height to Becker and =13 to 15 cm shorter than Hart and Cardinal. The foliage of GR860 is medium-green. GR860 is less winterhardy than most Ohio cultivars, however, lodging resistance of GR860 is superior to ‘Titan’, Hart, ‘Adena’, Becker, and Cardinal. The average winter survival rating for GR860 was 6 to 7% lower than for Hart and Cardinal.

GR860 has excellent resistance to leaf rust (Puccinia recondita Roberge ex. Desmaz.), powdery mildew (Erysiphe graminis DC. f. sp. tritici Em. Marchal), and wheat spindle streak mosaic virus (WSSMV). It also possesses the H<sub>3</sub> gene for resistance to races GP, A, C, and F of Hessian fly (Mayetiola destructor Say).

USDA Soft Wheat Quality Lab (Wooster, OH) data indicate that GR860 has high milling quality and good baking quality. Its combined quality scores from analyses of samples taken from statewide tests exceeded those for Becker and Hart in 1983 and 1984.

GR860 was tested as OH260 in the Four-State (Illinois, Indiana, Missouri, and Ohio) Regional Nursery in 1983, and in the Uniform Eastern Soft Red Winter Wheat Nursery in 1984 and 1985. In these tests, GR860 was lodging resistant, headed very early, and yielded competitively in comparison to other cultivars. Therefore, GR860 was released as a special purpose cultivar for use in doublecropping systems across the soft red winter wheat region.

Foundation seed of GR860 was first distributed to seedsmen in the fall of 1986. GR860 is a Title V protected cultivar under the provisions of the Plant Variety Protection Act (Certificate 8700138). Breeder seed will be maintained by the Ohio Agricultural Research and Development Center, Ohio State University, Wooster, OH 44691.

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References and Notes

1. Dep. of Agronomy, Ohio Agric. Res. and Development Ctr., Ohio State Univ., Wooster, OH 44691. H.N. Lafever is retired. Salaries and research support were provided by state and federal funds appropriated to Ohio State Univ., Ohio Agric. Res. and Development Ctr. Journal article no. 149-92. Registration by CSSA. Accepted 31 Oct. 1992. *Corresponding author.

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Reference of ‘GR876’ Wheat

‘GR876’, soft red winter wheat (Triticum aestivum L.) (Reg. no. CV-780, PI 515951) was developed by the Ohio Agricultural Research and Development Center, Ohio State University, and licensed to the Agricultural Genetic Research Association (AGRA) in 1987. GR876 was produced from the four-way cross: ‘Hart’/Va 66-54-10/’Kavkaz’/Pur 6693 and was first selected as a single F<sub>2</sub> plant in 1976. It was reselected in 1980 in the F<sub>4</sub> generation. Progeny of 16 F<sub>4</sub> plants, selected for uniformity in 1981 to 1985, were bulked following the 1985 harvest to comprise breeder seed.

GR876 is a white chaffed, awned wheat with purple auricles observable prior to grain ripening. Glumes are medium length with oblique shoulders and acuminate beaks. GR876 has red kernels that are ovate with narrow creases and rounded cheeks. The brush is not collared.

GR876 was tested in 32 Ohio statewide trials from 1981 to 1986. The average yield of GR876 was 4360 kg ha<sup>-1</sup> compared with 4146 kg ha<sup>-1</sup>, 4327 kg ha<sup>-1</sup>, and 4428 kg ha<sup>-1</sup> for ‘Hart’, ‘Becker’, and ‘Cardinal’, respectively. GR876 is a moderately late-maturing cultivar that headed an average of 3 d later than Hart and 1 d later than Cardinal. It is =2 to 3 cm shorter than Hart and Cardinal and its foliage is blue-green. Winterhardiness of GR876 is similar to Hart, Becker, and Cardinal. Lodging resistance of GR876 is superior to ‘Caldwell’ and ‘Titan’, similar to Cardinal and ‘Dynasty’, but inferior to ‘GR855’.

GR876 was crossed to ditelosomics and chromosome pairing analyses of the hybrids indicated that it is homozygous for a 1RS-1BL wheat-rye (Secale cereale L.) chromosome translocation (1). This translocation was derived from the parent, Kavkaz, a hard red winter wheat. When released, the very resistant responses of GR876 to leaf rust (Puccinia recondita Roberge ex. Desmaz) and powdery mildew (Erysiphe graminis DC. f. sp. tritici Em. Marchal), in statewide tests were due to the Pm10 gene for resistance to powdery mildew and the Lr26 gene for resistance to leaf rust carried on the rye portion of the translocation. More recent statewide tests have indicated that GR876 is now moderately susceptible to powdery mildew. GR876 has excellent resistance to wheat spindle streak mosaic virus (WSSMV) and possesses the H<sub>3</sub> gene for resistance to races GP, A, C, and F of Hessian fly (Mayetiola destructor Say).

USDA Soft Wheat Quality Lab (Wooster, OH) data indicate that GR876 has high milling quality and acceptable baking quality. Analyses of samples taken from statewide tests over a period of 5 yr indicate that milling quality is similar to Becker and slightly lower than Cardinal while baking quality is average compared with these two cultivars.

From 1983 to 1986, GR876 was tested as OH257 in the Four-State (Illinois, Indiana, Missouri, and Ohio) Regional Nursery. In 1986, it was tested in the Uniform Eastern Soft Red Winter Wheat Nursery. Its average yield in these nurseries was superior to a majority of other cultivars indicating that it is well-adapted for Ohio and the soft red winter wheat region.

Foundation seed of GR876 was first distributed to seedsmen in the fall of 1987. GR876 is a Title V protected cultivar under the provisions of the Plant Variety Protection Act (Certificate 8800121). Breeder seed will be maintained by the Ohio Agricultural Research and Development Center, Ohio State University, Wooster, OH 44691.

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References and Notes