

NOTICE OF RELEASE OF KS04WGRC46 FUSARIUM HEAD BLIGHT RESISTANT HARD RED WINTER WHEAT GERM PLASM

The Agricultural Research Service, U.S. Department of Agriculture and the Kansas Agricultural Experiment Station announce the release of KS04WGRC46 hard red winter wheat (*Triticum aestivum* L.) germ plasm with resistance to Fusarium head blight (caused by *Fusarium graminearum*) for breeding and experimental purposes. Scientists participating in this development were G.L. Brown-Guedira, USDA-ARS, Department of Agronomy, Kansas State University, Manhattan, KS; W.W. Bockus, M.A. Davis, and B.S. Gill, Department of Plant Pathology, Kansas State University, Manhattan, KS; D.A. Van Sanford, Department of Agronomy, University of Kentucky, Lexington, KY; and J.P. Murphy, Department of Crop Science, North Carolina State University, Raleigh, NC.

KS04WGRC46 is a BC₂F₅-derived hard red winter wheat line from the cross Wrangler*3 / TA960. Fusarium head blight (FHB) resistance of the germ plasm is derived from accession TA960 of *Triticum timopheevii* subsp. *armeniicum*. Significantly less disease was observed on plants of KS04WGRC46 in growth chamber tests with point inoculations of *F. graminearum* than on the recurrent parent, indicating that KS04WGRC46 has Type-II resistance to FHB. A mean of 11.18 % infected spikelets was observed on KS04WGRC46, and the recurrent parent Wrangler had a mean of 38.17 % infected spikelets. Mean disease severity on the resistant and susceptible check cultivars Sumai 3 and Trego were 7.5 and 70.0 % infected spikelets, respectively (LSD = 19.8, *P* = 0.05). When KS04WGRC46 was evaluated in inoculated field nurseries at Manhattan, KS, in the 2001 and 2003 growing seasons, 11.7 and 5.7 % of spikelets, respectively, had symptoms of FHB infection. These levels were significantly less than those observed on the winter wheat cultivars 2137 (susceptible, 48.2 and 45.0 % infected spikelets in 2001 and 2003, respectively) and Karl 92 (intermediate, 37.4 and 25.6 % infected spikelets in 2001 and 2003, respectively). The resistant hard winter wheat cultivar Heyne had 15.2 and 11.5 % infected spikelets in 2001 and 2003, respectively. Inheritance of resistance to FHB in KS04WGRC46 is not known.

Small quantities (3 grams) of seed of KS04WGRC46 are available upon written request. We request that the appropriate source be given when this germ plasm contributes to research or development of new cultivars. Seed stocks are maintained by the Wheat Genetics Resource Center, Throckmorton Hall, Kansas State University, Manhattan, KS 66506-5502. Genetic material of this release will be deposited in the National Plant Germplasm System where it will be available for research purposes, including the development of new cultivars.