

NOTICE OF RELEASE OF KS04WGRC47 LEAF RUST 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 KS00WGRC44 leaf rust-resistant hard red winter wheat (*Triticum aestivum* L.) germ plasm for breeding and experimental purposes. Scientists participating in this development were G.L. Brown-Guedira, USDA-ARS Plant Science and Entomology Research Unit; A.K. Fritz, Department of Agronomy and B.S. Gill, Department of Plant Pathology, Kansas State University, Manhattan, Kansas; and T.S. Cox, Land Institute, Salina, Kansas.

KS04WGRC47 is a BC<sub>3</sub>F<sub>5</sub>-derived line with the pedigree 'Karl 92'\*4/TA1836. Karl 92 is a hard red winter wheat cultivar, and TA1836 is a leaf rust-resistant accession of *Aegilops speltoides* Tausch. Seedlings of KS04WGRC47 exhibited a low infection type (IT = 0; to ;1, small flecks or small pustules with chlorosis) when inoculated with races KDBL, PNMQ, MCDL, MFBL, and TNRJ of *Puccinia triticina* Eriks. Moderate to high infection types (IT= 2 to 4, moderate to large pustules with little or no chlorosis) were observed on seedlings of Karl 92 with all races of leaf rust tested. Adult plants of KS04WGRC47 displayed a low infection type (;) when exposed to moderate to heavy leaf rust inoculum levels in the field at Manhattan and Hutchinson, Kansas, in 2002, 2003, and 2004, and under heavy inoculum pressure at Castroville, Texas, in 2004. Except for resistance to leaf rust, KS04WGRC47 is similar to Karl 92 in height, heading date, and overall phenotype.

Leaf rust resistance in KS04WGRC47 is due to a single dominant gene from TA1836. The relationship of the leaf rust resistance gene in KS04WGRC47 with the *Ae. speltoides*-derived leaf rust resistance genes, *Lr28*, *Lr36*, *Lr47*, and *Lr51* is not known.

Small quantities (2g) of seed of KS04WGRC4 are available upon written request. Appropriate recognition of the source should be given when this germ plasm contributes to research or development of a new breeding line or cultivar. Seed stocks are maintained by the Wheat Genetics Resource Center, Department of Plant Pathology, Throckmorton Plant Sciences Center, 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 development of new cultivars.