CROP REGISTRATIONS

Registration of ‘Roberts’ Wheat

‘Roberts’ soft red winter wheat (Triticum aestivum L.) (Reg. no. CV-873, PI 5959583) was cooperatively developed and released by the Georgia and Florida Agricultural Experiment Stations in 1997. Roberts has a combination of high yield, good disease resistance, and late maturity. Roberts was named to honor Dr. J.J. Roberts, retired plant geneticist with the USDA-ARS.

Roberts was derived from the cross ‘GA–Gore’/Coker 86–31’ made in 1987 (1). Coker 86–31 (‘Coker 68–15’ × ‘McNair 1813’/Coker 797’) was evaluated in the Uniform Soft Red Winter Wheat Nursery (USSRWWN) in 1987. GA–Gore (1) was tested as GA 79118-1 in the 1989 and 1990 USSRWWN. The F1 was grown in the greenhouse during the spring of 1988. The population was advanced from the F1 through F5 generations using the pedigree method of breeding with individual spikes selected for resistance to leaf rust (caused by Puccinia recondita Roberge ex Desmaz.), powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici Em. Marchal), and septoria nodorum blotch (caused by Stagonospora nodorum Berk.) Castellani & E.G. Germane]. Roberts is the F5- derived bulk of five F2 headrows selected from 100 head rows.

Roberts was evaluated for agronomic performance as GA 871339 in nursery plots in 1994, Georgia-Florida state trials at five locations from 1995 to 1997, and in the Uniform Southern Soft Red Winter Wheat Nursery at 25 locations in 1997.

In Georgia, Roberts is late maturing (101 d to heading), apically awnleted, white chaffed, and medium stature (92 cm) at maturity with intermediate straw strength. During the 3 yr of state trials, Roberts was equal in grain yield to ‘GA Dozier’ and ‘Coker 9134’ but was 554 kg ha−1 higher than GA Dozier in north Georgia (2). In comparison with GA-Dozier, Roberts averaged 4 d earlier in maturity and 7 cm taller under Georgia conditions (2). In the 1997 USSRWWN, Roberts ranked 13 out of 33 entries for grain yield across within-region locations. Milling and baking quality characteristics of Roberts were rated by the USDA-ARS Soft Wheat Quality Lab., Upper Sandusky, OH, as part of evaluations of the USSRWWN. Roberts’ milling score was 90 (vs. 100 for ‘Coker 9835’) and its baking score was 83 (vs. 100 for Coker 9835). The data indicated that Roberts has average micro test weight, average softness equivalent, average flour yield, low flour protein, and below average cookie diameter.

The spikes are midwide, oblong, and acutely awnleted. The glumes are midwide and narrow with oblique shoulder and acute beaks. Kernels are red, ovate, and midlong; the kernel brush is short; the kernel cheek is rounded, and the kernel crease is shallow in width and depth. Kernels on average are 6 mm in length and 3 mm in width, with a kernel weight of 34 mg.

Roberts is resistant in the field to the biotypes E and G of Hessian fly [Mayetiola destructor (Say)] present in Georgia and Florida and moderately resistant to leaf rust and powdery mildew.

Classes of seed production are limited to Breeder, Foundation, and Certified. Breeder seed of Roberts will be maintained

References and Notes

1. R.H. Busch and D.V. McVey, USDA-ARS and G.L. Linkert, Dep. of Agronomy & Plant Genetics, Univ. of Minnesota, St. Paul, MN 55108; J.V. Wiersma, Univ. of Minnesota, Crookston, MN 56716; R. Dill-Macky, Univ. of Minnesota, St. Paul, MN 55108; G.A. Hareland, USDA-ARS, Fargo, ND 58105; I. Edwards, BioWest Australia Pty., Ltd., P.O. Box 136, Joondalup, WA 6919, Australia; and H. Schmidt, Pioneer Hi-Bred International, Moorhead, MN 56560. Cooperative investigations of the Minnesota Agric. Exp. Stn. and the USDA-ARS, and supported in part by a grant from the Minnesota Wheat Research and Promotion Council. Published as Journal Series no. 98-1-13-0103. Registration by CSSA. Accepted 31 May 1999. *Corresponding author (busch005@maroon.tc.umn.edu).