IDIMMS-C₀ samples of 50 g may be obtained by writing to the University of Idaho, Aberdeen REC, P.O. Box AA, Aberdeen, ID 83210.

E. SOUZA,* J. M. TYLER, AND K. M. O'BRIEN (2)

References and Notes

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Registration of TX76-40-2 Wheat Germplasm

TX76-40-2 (Reg. no. GP-399, PI 557538) is a soft red winter wheat (Triticum aestivum L.) breeding line developed by the Texas Agricultural Experiment Station. It originated from a segregating bulk from Ron Barnett’s wheat breeding program at the North Florida Research and Education Center at Quincy. TX76-40-2 is an F₄ sib-line to ‘Florida 302’ and resembles that cultivar in several characteristics. From 125 F₇ head rows grown in 1977–1978, several were bulked to form the experimental line TX76-40-2. The pedigree is ‘Coker 65-20’/’Purdue 4946A4-18-2-10-1/’Hadden’/3/’Vogel’/5/’Anderson’/’Purdue 4946A4-18-2-10-1/Hadden’. TX76-40-2 was tested from 1980 to 1991 and increased for possible release as a new cultivar, but it lacks adequate test weight, and perhaps adequate yield potential, for release as a cultivar. TX76-40-2 produced grain yields in excess of 5170 kg ha⁻¹ (77 bu acre⁻¹) in East Texas in 1991, compared with 5220 kg ha⁻¹ for Florida 302. The mean yield of TX76-40-2 at Aberdeen, ID, and Ladysville, PA, in 1991 was 7054 kg ha⁻¹, compared with 7861 kg ha⁻¹ for Florida 302, when they were tested in the Uniform Southern Soft Red Winter Wheat Nursery. When averaged over 13 year-locations in East Texas and compared with Florida 302, TX76-40-2 has yielded 174 kg ha⁻¹ (2 bu acre⁻¹) less, had 25 kg m⁻³ (2 lb bu⁻¹) lower test weight, was 3 d later, and 10 cm shorter.

Coeoptile color is slightly reddish and seedling anthocyanin normally is present. Juvenile plant growth is erect, and the line tillers profusely. Seed shape is elliptical, cheeks are rounded, brush size is large and is not collared. Shoulder shape is oblique. Seeds normally are about 6 mm in length and 3 mm in width. Kernel weight varies between 30 and 36 mg. Plant color at booting is green. Anther color is yellow. Anthocyanin

40-2 has been one of the more glume blotch-resistant lines tested at Overton; the only line which has been more resistant has been ‘Coker 762’. The resistance to glume blotch at Overton (1) indicated that TX76-40-2 had an additional Lr gene not possessed by Florida D.V. McVey at the USDA-ARS Cereal Rust Laboratory, St. Paul, MN, for 1991 indicated that TX76-40-2 had significantly lower leaf rust ratings than Florida 302. Ratings at Prosper were 1R and 40MS, respectively. Apparently, TX76-40-2 has one or more other resistance genes, probably Lr 10. The resistance generally appears similar to that of ‘Florida 302’, whose resistance has been overcome under field conditions in Texas. However, in variety tests at both Dallas and Prosper in 1991, TX76-40-2 had significantly lower leaf rust ratings than Florida 302. The resistance to Hessian fly (Mayetiola destructor Say), according to research by R.H. Ratcliffe and G. Safranski, USDA-ARS at Lafayette, IN. Milling and baking analysis at the Quality Laboratory (USDA-ARS) at the Ohio Agricultural Research and Development Center at Wooster indicated that TX76-40-2 has poor soft wheat quality, maintained by the Texas Agricultural Experiment Station at Overton.

L. R. NELSON,* R. D. BARNETT, DAVID MARSHALL, C. A. ERICKSON, M. E. MC DANIEL, W. D. WOR RALL, N. A. TULEEN, AND M. D. LAZAR (2)

References and Notes

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