Registration of ‘Foster’ Wheat

‘Foster’ (Reg. no. CV-835, PI 593689) is a soft red winter wheat (Triticum aestivum L.) developed by the Kentucky Agricultural Experiment Station and released in 1995. Foster was released for its superior grain yield, grain volume weight, and milling and baking quality. Foster was derived from the cross KY 83-60/’Tyler’//KY 83-75. KY 83-60 and KY 83-75 were selections from bulk populations provided by T.M. Starling, formerly small grains breeder at Virginia Polytechnic Institute and State University. The pedigree of KY 83-60 is ‘Coker 65-20’//Arthur’//Chul’*8 CC/VA 68-22-7//Abe’//3/VA 72-54-14. The pedigree of KY 83-75 is ‘Suwon 92’//Arthur//Arthur//VA 70-52-2. Foster was developed through a combination of pedigree and bulk breeding methods. Single-head pedigree selection was initiated in the F2 generation. Subsequent generations through F7 were grown as headrows and reselected. A single F8 progeny plot was increased in the F9 and F10 generations to produce F11 breeder seed.

Foster is white-chaffed, awned, with midlong spikes and intermediate size kernels. It is of midseason maturity, heading approximately 3 d earlier than ‘Cardinal’. Foster is of intermediate height, similar to ‘Jackson’. Winterhardiness of Foster is good, similar to that of ‘Verne’.

Foster was tested under the experimental designation KY 85C-31-6. In 3 yr of testing in the seven location Kentucky state variety trial, grain yield of Foster was 115% of ‘Clark’, and 103% of ‘Northrup King Coker 9803’. Foster was tested for 2 yr in the Uniform Eastern Soft Red Winter Wheat Nursery, where it was the top-yielding entry across 33 locations in 1994, averaging 5172 kg ha⁻¹ and the third highest-yielding entry across 28 locations in 1995, averaging 4483 kg ha⁻¹. Grain volume weight of Foster is slightly higher than that of ‘Madison’. In 4 yr of testing at the USDA Soft Wheat Quality Lab in Wooster, OH, Foster has demonstrated excellent milling quality, similar to Cardinal, with high break flour yield and softness equivalent, and excellent baking quality, similar to ‘Caldwell’.

Foster is resistant to powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici Ém. Marchal), and septoria leaf blotch (caused by Septoria tritici Roberge in Desmaz.). Foster has moderate resistance to glume blotch [caused by Phaeosphaeria nodorum (E. Müller) Hedjaroude], and to most races of leaf rust (caused by Puccinia recondita Roberge ex Desmaz.) to which it was exposed in the Uniform Eastern Soft Red Winter Wheat Nursery. Foster is moderately susceptible to barley yellow dwarf virus, similar to Verne, and is susceptible to all biotypes of the Hessian fly [Mayetiola destructor (Say)].

Exclusive marketing rights to Foster have been granted to Agripro Seeds, Inc. Seed classes of Foster will be breeder, foundation, registered, and certified. Breeder seed will be maintained by the Foundation Seed Project, Dep. of Agronomy, University of Kentucky, Lexington, KY 40546-0091. Application for U.S. plant variety protection (Title V) of Foster will be submitted by the Kentucky Agricultural Experiment Station.

Registration of ‘Arlin’ Wheat

‘Arlin’ (Reg. no. CV-833, PI 564246), is a hard white winter wheat (Triticum aestivum L.) developed cooperatively by the Kentucky Agricultural Experiment Station and the USDA released to seed producers in 1992. Arlin was selected from a population of intercrossed hard red winter wheats in the F4 generation. White-seeded segregates were hand picked in the F5 generation. Arlin was selected as an F5 breeder plant from the USDA Southern Regional Performance Nursery in 1992. Arlin is early, 2 d earlier than ‘Karl 92’ and ‘Rio Blanco’. Arlin is moderately winterhardy, similar to Rio Blanco and ‘TAM 107’. Arlin is well adapted to irrigated production.

Arlin is moderately resistant to wheat spindle leaf mosaic virus (WSSMV) and stem rust (caused by Puccinia recondita Roberge ex Desmaz.). Arlin is moderately susceptible to leaf rust [caused by Puccinia recondita Roberge ex Desmaz.], powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici Ém. Marchal), and septoria leaf blotch (caused by Septoria tritici Roberge in Desmaz.). Arlin has excellent milling properties, characterized by large kernels and high grain volume weight. Its protein concentration is less than that of ‘Eagle’ and 10 g kg⁻¹ less than ‘Madison’. Arlin has demonstrated excellent dough mixing time and tolerance, as measured by the mixograph, which is most similar to that of ‘Eagle’. Arlin’s baking characteristics, loaf volume potential, and crumb grain and texture are most similar to those of ‘Newton’. Arlin’s baking characteristics, loaf volume potential, and crumb grain and texture are most similar to those of ‘Eagle’.

Cultivar protection under the U.S. Plant Varieties Protection Act, Public Law 91-577, has been granted (PVP 3900123). Breeder seed will be maintained by the Foundation Seed Project, Dep. of Agronomy, University of Kentucky, Lexington, KY 40546-0091.

References and Notes

1. R.G. Sears and W.F. Heer, Dep. of Agronomy, Anon. No. 627

Published March, 1997