REGISTRATION OF CROP CULTIVARS

REGISTRATION OF 'ADDER' WHEAT

'ADDER' soft red winter wheat (Triticum aestivum L.) (Reg. no. 707) PI 491996 was developed by the Purdue University Agricultural Experiment Station in cooperation with USDA-ARS and released in 1985. Adder, whose experimental designation was IN74141A10-5-4-2, has a complex parentage consisting of germplasm enhanced for resistance to disease and Hessian fly, Mayetiola destructor (Say), over a 25-yr period. The parentage is 'Abe'/3/'Redcoat'// 'Knox 62'sib//'Dular'/4/'Knox'//Centenario'//'Rio Negro'//3/'Riley'sib'/5/'Abe'/'Caldwell'sib'.

Following the last cross, the new cultivar was developed using a modified pedigree method. Individual plants were selected in the F₁, F₂, F₃, and F₄ generations. Thirty-seven of 100 single-plant progeny rows in the F₅ generation with a 0 to trace reaction to powdery mildew (incited by Erysiphe graminis DC. f. sp. tritici E. Marchal), resistant to leaf rust (incited by Puccinia recondita Rob. ex Desm. f. sp. tritici), and uniform in plant type, were composited for breeder seed.

Adder was tested for performance in advanced nursery yield trials, 1980 to 1984; in intra-state field plots, 1981 to 1984; and in the Uniform Regional Eastern Soft Red Winter Wheat Performance Nurseries, 1982 to 1984. Adder was consistently among the top-yielding cultivars, with its disease and Hessian fly resistances are effective. Adder may be sold for seed only as a class of certified seed and must be labeled as a protected cultivar. The owners further specify that Adder may be sold for seed only by cultivar name. Breeder seed is maintained by the Purdue University Agricultural Experiment Station, West Lafayette, IN 47907.

References and Notes

1. G.E.S., professor of plant pathology; H.W.O., professor of agronomy; J.F.V., research entomologist; USDA-ARS, and associate scientist of entomology; F.L.P., professor of agronomy; R.L.G., research entomologist (retired); USDA-ARS, and professor of entomology; D.M.H., professor of plant pathology; G.C.B., research associate in plant pathology; G.G.S., research assistant in entomology; and J.M.H., research associate in agronomy; all at Purdue Univ. West Lafayette, IN 47907. Cooperative investigations of the Purdue Univ. Agric. Exp. Stn. and USDA-ARS.

REGISTRATION OF 'AUGUSTA' WHEAT

'AUGUSTA' (C117831), a soft white winter wheat (Triticum aestivum L.) (Reg. no. 708) was developed at the Michigan State University Agricultural Experiment Station in cooperation with USDA-ARS, and was released in 1979. It was tested in Michigan and regionally as Michigan-B2035 and M0500. It is named for the town of Augusta, the site of one of the earliest grist mills in Michigan and a milling operation with USDA-ARS, and was released in 1979. It has adult-plant resistance to races of Puccinia recondita var. tritici gene for resistance to Hessian fly, which provides resistance to biotypes GP, A, and B, E, H, I, J, and M. Adder is adapted to Indiana and to nearby areas of the Eastern Soft Wheat Region where its disease and Hessian fly resistances are effective.

Adder is about 3 days later in heading and about 12 cm shorter than 'Arthur', with winterhardiness similar to 'Arthur'. The peduncle is snaky. The spike is mid-dense, oblong, awnletted (with concentration near the tip), and yellow at maturity. Glumes are mid-long and mid-wide, with rounded shoulders and acute beaks. Kernels are red and ovate with a narrow and shallow crease. Milling and baking qualities are excellent and similar to those of Caldwell.

Adder has moderate resistance to the soil-borne mosaic virus, to the wheat spindle streak mosaic virus, and to the aphid-borne barley yellow dwarf virus in Indiana. It has a moderate level of resistance to Rhizoctonia spring blight (caused by Rhizoctonia solani (BN) Kühn) and to the take-all root rot disease (incited by Gaeumannomyces graminis var. tritici). Adder has the H₅ gene for resistance to Hessian fly, which provides resistance to biotypes GP, A, and B, E, H, I, J, and M. Adder is adapted to Indiana and to nearby areas of the Eastern Soft Wheat Region where its disease and Hessian fly resistances are effective.

Adder was a F₃ selection of a 1967 cross of 'Geneseo'/'Redcoat', B2747// 'Yorkstar'. Selections were made in the F₃ and F₄ head rows for plant type, height, powdery mildew,