REGISTRATION OF 'CLARK' WHEAT

'CLARK' (Reg. no. 736) (PI 512337) is a common soft red winter wheat (Triticum aestivum L.) developed at the Purdue University Agricultural Experiment Station in cooperation with USDA-ARS and released in 1987. The parentage of Clark is: 'Beau'/65256A1-8-1/67137B5-164/'Sullivan'/3/ 'Beau'/5517B8-5-3-3/Logan'. The line 65256A1-8-1 is a selection from the same F_2 plant and has characteristics similar to 'Caldwell'; 67137B5-16 is similar to 'Oasis'; 5517B8-5-3-3 is similar to, but 20 cm shorter than 'Redcoat'. Subsequent to the final cross, Clark was developed by a modified pedigree method of breeding. Plant selections were made in the F_3, F_4, and F_5 generations. Clark is the progeny from one of 100 head rows from plant selections made in the F_3 generation from its parent line, 77249RC1-133-2. Foundation seed produced in 1988 was the F_3 generation. Clark has been tested as the line 77249RC1-133-2-50 in performance and disease nurseries at Lafayette, IN since 1983, in Indiana drill trials since 1984, in the Uniform Eastern Soft Red Winter Wheat Nursery in 1986, and in the Four-State (Illinois, Indiana, Missouri, and Ohio) Regional Nursery in 1987. Soft wheat quality characteristics of Clark or its parent line have been evaluated since 1983.

A significant contribution of Clark is its early date of heading, 1 to 2 d earlier than Caldwell, combined with a yield potential similar to that of Caldwell. Plant height, lodging score, and winter hardiness of Clark are similar to those of Caldwell. Kernel weight of Clark averages 34mg compared to an average of 29mg for Caldwell. Milling and baking characteristics of Clark are acceptable for soft red winter wheat commercial usage. Clark is adapted to central and southern Indiana, and nearby states generally to the south of Lafayette, IN.

A light purple streak is present in the coleoptile of Clark. Juvenile plant growth is erect. Plant color at the boot stage is green; anthers are yellow. Color due to anthocyanin is absent in the stem and auricles, although margins of glumes and rachis incrostes of the spikes may have a tinge of purple under some conditions. Spikes are lax, tapered, awned, and brown at maturity. Glumes are of medium length and are wide. Glume shoulders are square and glume beaks are obtuse. Kernel shape is oval, kernel brush is medium and not collared. Kernel pellicle reaction is fawn. Clark has been uniform and true breeding during development of Breeder seed, except that 0.2% of spikes are 10 cm taller than other spikes, but they are otherwise characteristic of the cultivar.

Clark is resistant to soil-borne mosaic virus, wheat spindle streak mosaic virus, and to biotypes B and D of the Hessian fly, Mayetiola destructor (Say). Clark has tolerance to all that is caused by Gaumeannomyces graminis (Sacc.) von Arx & Olivier. It is moderately resistant in Indiana to Erysiphe graminis DC. f. sp. tritici E. Marchal and Mycosphaerella graminicola (Fueckel) Schroeter. Clark is moderately susceptible to prevalent races of Puccinia recondita Rob. ex Desm. f. sp. tritici and P. graminis Pers. f. sp. tritici Eriks. & Henn. in Indiana. It has been free from Ustilago tritici (Pers.) Rostr. and presumably has resistance derived from Sullivan.

The generation sequence of seed production will be Breeder, Foundation, and Certified. Cultivar protection under the Plant Variety Protection Act, Public Law 91-577, and Title V of the Federal Seed Act is pending. Breeder seed is maintained by the Purdue University Agricultural Experiment Station, West Lafayette, IN 47907.

H. W. Ohm,* G. Shaber, J. E. Foster, F. L. Patterson, and G. Buechley (1)

References and Notes

1. H. W. Ohm and F. L. Patterson, Dep. of Agronomy; G. Shaber and G. Buechley, Dep. of Botany and Plant Pathology; and J. E. Foster, USDA-ARS, and Dep. of Entomology, Purdue Univ., West Lafayette, IN 47907.

REGISTRATION OF 'LAURA' SPRING WHEAT

'LAURA' hard red spring wheat (Triticum aestivum L.) (Reg. no. 737) (PI 518648) was developed at the Research Station, Agriculture Canada, Swift Current, Saskatchewan. Registration no. 2730 was issued for Laura on 23 Dec. 1986 by Plant Health and Plant Products Directorate, Food Production and Inspection Branch of Agriculture Canada.

Laura was selected from the progeny of a cross made in 1976 between BW515 and BW517 whose parentages are "Manitou"/"Tobari 66" and 'Carazinho/CT 763'/Atlas 66'/CT 262, respectively. Laura was developed using a modified pedigree method and early generation yield testing procedures.

An F_5 derived F_5 line designated 76233 UA1A became the progenitor of Laura. From 1983 to 1985 it was evaluated in the Western Breeders' Winter Cooperative tests as BW581 and BW593. Laura averaged 7% more grain yield than 'Neepawa' and 3 to 9% more than other check cultivars. It matured about 2 d later than Neepawa and about 1 d earlier than Columbus, and had slightly shorter, weaker straw than Neepawa. Laura is photoperiod insensitive, whereas other all Canadian hard red spring wheats are photoperiod sensitive except 'Lancer' and 'Leader'.

The spikes are oblong to fusiform, midlong, midlong, erect, awned; glumes are midwide, midlong, glabrous and white; glume shoulders are square, some rounded, some slightly elevated, midwide; glume beaks are midwide, tending to accumulate. The kernels are hard, red, medium size, and ovate; checks are angular to slightly rounded; brush hairs are midlong; crease is midwide, middeep; germ is midsize and ovate.

Laura is resistant to prevalent races of leaf rust (caused by Puccinia recondita Rob. ex Desm. f. sp. tritici) and stem rust (caused by P. graminis Pers. f. sp. tritici Eriks. and Henn.) and moderately resistant to common root rot (caused primarily by Bipolaris sorokiniana (Sacc. in Sorok.) Shoem.). It is physiologically susceptible to loose smut (caused by Ustilago tritici (Pers.) Rostr.) but expresses morphological resistance. Laura is susceptible to common bunt (caused by Tilletia foetida (Wall.) Liro and T. caries (DC.) Tul.).

The Canadian Expert Committee on Grain Quality has rated Laura equal in baking quality to Neepawa and noted that it has very good bread baking properties and stronger gluten properties than Neepawa. A more detailed description of the cultivar has been published (1).

Breeder seed originating from a bulk of 142 breeder lines will be maintained by the Experimental Farm, Agriculture Canada, Indian Head, Saskatchewan, SOG 2A0, Canada. The