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'/65256A1-8-1/67137B5-16/4*Sullivan/'3/'Beau'/5517B8-5-3-3/Logan'. The line 65256A1-8-1 is a selection from the same F2 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 F2, F4, and F7 generations. Clark is the progeny from one of 100 head rows from plant selections made in the F7 generation from its parent line, 77249RC1-133-2. Foundation seed produced in 1988 was the F13 generation. Clark has been tested as the line 77249RC1-133-2 in performance and disease nurseries at Lafayette, IN since 1983, in Indiana drill plot 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 internodes of the spikes may have a tinge of purple under some conditions. Spikes are lax, tailed, awnleted, 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 phenol 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 rust (caused by Puccinia graminis Pers. f. sp. tritici DC. f. sp. tritici (Henn.) and moderately resistant to common root rot (caused by Gaeumannomyces graminis F. Sacc.) von Gaeumannomyces graminis. Some head smut (caused by Ustilago tritici (Pers.) Rostr.) is expressed, but it is not serious. Clark is moderately resistant to prevalent races of leaf rust (caused by P. graminis f. sp. tritici, E. Arx & Olivier), and Hessian fly (excess by Mayetiola destructor Say). Clark has tolerance to take-all, streak mosaic virus, and to biotypes B and D of the Hessian fly, but they are otherwise characteristic of the cultivar.

Clark is 'Beau'//65256A1-8-1/67137B5-16/4*Sullivan/'3/'Beau'/5517B8-5-3-3/Logan' or a F4 generation. Clark is the progeny from one of 100 head rows from plant selections made in the F3 progenitor of Laura. From 1983 to 1985 it was evaluated in the Western Bread Wheat Cooperative tests, CT 262, respectively. Laura was selected from the progeny of a cross in 1976 between BW15 and BW517 whose progenitor was 'Manitou'/'Tobari 66' and 'Carazinho'/CT 262. Laura was developed by a modified pedigree method and early generation yield trials.

An F4 derived F4 line designated 7623 UA1A became the progenitor of Laura. From 1983 to 1985 it was tested in the Western Bread Wheat Cooperative tests. Laura averaged 7% more grain yield and 3 to 9% more than other check cultivars. Laura matured about 2 d later than Neepawa and about 1 d earlier than Caldwell. Laura is adapted to central and southern Indiana, and nearby states generally to the south of Lafayette, IN. Laura is resistant to prevalent races of leaf rust, common root rot, and Hessian fly, but they are otherwise characteristic of the cultivar.

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