Registration of ‘Jules’ Wheat

‘Jules’ (Reg. no. CV-813, PI 564851) hard red winter wheat (Triticum aestivum L.) was developed by the Colorado Agric. Exp. Stn. and released to seed producers in March 1993. Jules was released because of its high yield under long-season conditions and its resistance to leaf rust (caused by Puccinia recondita Roberge ex Desmaz.,). Jules was selected from the cross NE76667/‘Hawk’ made in 1981. Hawk was released by AgriPro Biosciences, Inc., in 1981; NE76667 is a Nebraska line, ‘Warrior’*5/‘Agent’//‘Agate’ sib. Jules is an F4-derived line bulked in 1986 and tested as CO860094. It was later purified for plant type by the selection of 60 headrows from the F4.9 generation to propagate breeder seed.

Jules has been tested in Colorado yield nurseries since 1987 and in the Southern Regional Performance Nursery (SRPN) in 1991 and 1992. In 3 yr (1990–1992) of dryland testing in the Colorado Variety Trial (23 location-years), Jules’s grain yield (2897 kg ha⁻¹) was 3% higher than ‘TAM 107’ and 7% higher than ‘Lamar’. At two longer-season locations, Jules was 5% higher yielding than the earlier TAM 107, and remained 7% higher than the later Lamar. In the SRPN in 1991 and 1992, Jules averaged 6.5 and 19% higher yielding than TAM 107 in Colorado and Nebraska tests, respectively. Jules is the same height as ‘Yuma’ and TAM 107 and 10 cm shorter than Lamar, a conventional height wheat. Jules has a longer coleoptile (91 mm) than Yuma (82 mm). Jules is recommended for all long-season production areas in Colorado.

The grain volume weight of Jules is lower than most other cultivars, probably because of its lateness. The winterhardiness of Jules is adequate for Colorado growing conditions and is equal to TAM 107 and ‘Arapahoe’. Jules is 6 d later in anthesis date than TAM 107 and 3 d later than ‘Akron’. The straw strength of Jules is less than TAM 107 and greater than Lamar, and should be adequate for Colorado dryland and irrigated conditions. Jules is resistant to the prevalent races of leaf rust and stem rust (caused by P. graminis Pers. :Pers.). Jules is susceptible to aphid (Diuraphis noxia (Mordvilko)). Based on incidence of wheat streak mosaic virus, Jules is susceptible. Because of its lax spike and late maturity, Jules has lower hail damage than other cultivars.

Jules is an awned, white-glumed, semidwarf, with lax and tapering. The foliage is green at booting stage, with a waxy bloom at anthesis. The glume is midlong, medium length, red, hard textured, and oval. The awn has a short collar, rounded cheeks, midsize germ, short to medium length, red, hard textured, and oval.

Based on composite samples from several locations, the wheat and flour protein content of Jules was 82% of the same height as ‘Yuma’ and TAM 107 and less than Lamar. Jules has strong mixing quality to Lamar, a high quality standard, and superior to TAM 107. The kernels of Jules have been classified by the Federal Grain Inspection Service as hard red winter wheat.

Breeder seed of Jules will be maintained by the Colorado Agricultural Experiment Station. Jules has U.S. plant variety protection (No. 9400122) with the certification option.

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References and Notes


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Registration of ‘Garland’ Wheat

‘Garland’ (Reg. no. CV-816, PI 583291) hard red winter wheat (Triticum aestivum L.) was developed by the Utah Agricultural Experiment Station (UAES) and released in 1993. Garland, tested under the designation UT1706-1, was released to provide superior yield and test weight under irrigated management, where mildew (caused by Erysiphe graminis DC. f. sp. tritici Ém. Marchal) can be severe. Garland was derived from the cross ‘Favorite’*/‘S/’ Cardon’*/‘S/’Bannock’*/‘Columbia’*/‘Delmar’*/‘Hussar’/‘Turkey Red’/‘Ridit’*/‘Oro’/‘Ridit’*/‘Norin 10’/‘Brevor’.

The F2 through F5 generations were grown as bulks with selection for agronomic types and resistance to powdery mildew, common bunt [caused by Tilletia tritici (Bjerk.) G. Wint. in Rabenh.], and dwarf bunt (caused by Tilletia controversa Kühn in Rabenh.). Individual heads from desirable F5 plants were selected for resistance to disease and good yield characteristics as determined by the mixograph. In Colorado and Nebraska, Garland has been light volume weight.

Garland is an awned, semidwarf wheat. Tall and juvenile growth is semierect. Garland is 2 cm taller than ‘Nugaines’ and 1.5 cm shorter than ‘Ute’. One of the complaints about Ute has been light volume weight.

Birding quality was evaluated by the Wheat Quality Laboratory in Pullman, WA. Milling and baking characteristics of Garland are acceptable, although late applications of N are required for good bread quality in high-yield conditions associated with dairy farming.

Garland is moderately resistant to dwarf bunt. Head rust, leaf rust, and juvenile growth is semierect. Garland is 2 cm taller than ‘Nugaines’ and 1.5 cm shorter than ‘Ute’. One of the complaints about Ute has been light volume weight.