Registation of ‘Pronghorn’ Wheat

‘Pronghorn’ hard red winter wheat (Triticum aestivum L.) (Reg. no. CV-848, PI 593047) was developed cooperatively by the Nebraska Agricultural Experiment Station and the USDA-ARS. It was jointly released to seed producers in 1996 by the developing institutions, the Wyoming Agricultural Experiment Station, and the South Dakota Agricultural Experiment Station.

Pronghorn was selected from the cross ‘Centura’/‘Dawn’/‘Coit’ sib which was made in 1982 by J.W. Schmidt. Pronghorn is an F3-derived line that was selected in the F4 generation. Pronghorn was released primarily for its superior adaptation to drought-prone, dryland agriculture and superior resistance to stem rust (caused by Puccinia graminis Pers.:Pers.) compared to Buckskin, a popular cultivar in Pronghorn’s area of adaptation. Pronghor is a awned, white-glumed cultivar. The foliage is blue-green, with a waxy bloom at anthesis. The leaf is glabrous. The spike is middense and fusiform. The glume is midlong and the glume shoulder is narrow to midwide and sloping to square. The beak is long. Kernels are red, hard, and ovate. The kernel has no collar, rounded cheeks, midsize germ, large brush of medium length, and a midwide and middeep crease.

Pronghorn was tested as NE88584 in Nebraska yield nurseries starting in 1989, in the Western Regional Performance Nursery in 1993 and 1994, and in state variety trials in Nebraska in 1993 to 1995, Wyoming in 1994 and 1995, and South Dakota in 1995. Using western Nebraska data from the Nebraska Fall Sown Cereal Variety Trials (16 environments in 1993 to 1995), data from the Western Regional Performance Nursery (17 environments in 1993 and 1994), and Wyoming (11 environments in 1994 and 1995), Pronghorn (2940 kg ha⁻¹) was 2% higher yielding than ‘Lamar’ and 4% higher yielding than ‘Arapahoe’. Using only data from western Nebraska and Wyoming (a total of 27 environments), the yield of Pronghorn, Buckskin, Lamar, and Arapahoe were similar. In 5 yr of testing in the advanced trials in Nebraska (24 environments over the period from 1991 to 1995), Pronghorn averaged 3100 kg ha⁻¹, which was 4% less than ‘Alliance’, 2% less than ‘Redland’, ‘Vista’, and ‘Niobrara’, similar to ‘Rawhide’ and ‘Siouxland’, 4% greater than Arapahoe; 7% greater than TAM 107; and 15% greater than Buckskin. The recommended growing areas for Pronghorn are the dryland wheat production areas of the Panhandle of Nebraska, eastern Wyoming, and western South Dakota. The name was chosen to represent the region where the namesake animal and cultivar are adapted.

Pronghorn is a tall wheat cultivar, averaging 80 cm over 27 environments in western Nebraska and Wyoming; it is 3 cm shorter than Buckskin, 2 cm taller than Lamar, and 6 cm taller than Arapahoe. Pronghorn has a long coleoptile, similar to ‘Siouxland’, and can be planted deep in dry seedbeds. Pronghorn is tolerant to Al-toxic soils. Pronghorn has moderate straw strength, greater than Scout 66, but less than Buckskin, Centura, Siouxland, and ‘Thunderbird’. The winterhardiness of Pronghorn is comparable to other winter wheat cultivars adapted and commonly grown in Nebraska, Wyoming, and South Dakota. Its winterhardiness is similar to Arapahoe and Buckskin, and superior to ‘Vona’ and ‘TAM 200’. Pronghorn is a medium early-maturing wheat (about 1 d earlier than Arapahoe, Lamar, and Buckskin).

Pronghorn has exhibited moderate resistance to stem rust (conditioned by genes Sr6 and Sr17) and is moderately susceptible to leaf rust (caused by Puccinia recondita Roberge ex Desmaz). Pronghorn is susceptible to the Great Plains Biotype of Hessian fly [Myciella destructor (Say)], wheat soilborne mosaic virus (SBWMV), and wheat streak mosaic virus (WSMV).

Pronghorn has high grain volume weight, similar to Buckskin, Siouxland, and Scout 66 and superior to Arapahoe, Niobrara, and Redland. The milling and baking properties of Pronghorn were determined using 7 yr of testing by the Nebraska Wheat Quality Laboratory, with Arapahoe and Scout 66 as check cultivars. Four years of comparisons are available between Pronghorn and Buckskin. Average wheat and flour protein content of Pronghorn is higher than Arapahoe, Scout 66, and Buckskin. Dough mixing properties were stronger than Arapahoe and Scout 66, but similar to Buckskin—though Pronghorn has the best mixing tolerance. While the baking absorption of Pronghorn was less than Arapahoe, Scout 66, and Buckskin, its average loaf volumes were greater. External appearance and internal attributes of the baked bread loaf indicated generally acceptable quality characteristics.

Breeder seed of Pronghorn will be maintained by the Nebraska Agricultural Experiment Station. Small quantities of seed for research purposes may be obtained from the corresponding author for at least 5 yr from the date of this publication.


References and Notes


Registration of ‘GR 915’ Wheat

‘GR 915’ soft red winter wheat (Triticum aestivum L.) (Reg. no. CV-843, PI 562383) was developed by The Ohio State University, Ohio Agricultural Research and Development Center, and was released in 1991. GR 915 was selected from the cross OH111/’Tor- opi’/‘Roland’. OH111 is from the cross s410/’Logan’. s410 is a spring wheat from India and Toropi is a tolerant Brazilian spring wheat. The final cross was made in 1979. GR 915 was first selected as an F3 plant in 1982 and was designated as experimental line 23179-5. Forty spikes were reselected in the F7 generation in 1986 and progeny rows were examined for uniformity and yield in 1987 through 1990. Breeder seed of GR 915 consisted of the progeny of four F711 Plants bulked after harvest in 1990. GR 915 was released because of its high yield, lodging resistance, and overall performance.