REGISTRATION OF CROP CULTIVARS

REGISTRATION OF ‘RUSSELL’ BARLEY

‘RUSSELL’ spring barley (Hordeum vulgare L.) (Reg. no. 210) (PI 483127) was developed cooperatively by USDA-ARS and the Idaho Agricultural Experiment Station. It was released in 1985 by these agencies and the Oregon Agricultural Experiment Station.

Russell was selected from a cross of ‘Karla’/ND 1265. Karla was developed at Aberdeen, ID by USDA-ARS and the Idaho Agricultural Experiment Station from a cross of 63Ab2987-9/2*‘Conquest’. ND 1265 is a line selected at North Dakota State University from a cross of ‘Beacon’/‘Nordic’. The F_3 selection from which Russell originated was made at Aberdeen in 1978 and designated 78Ab9009. Detailed evaluations of a series of F_3 breeder seed rows of 78Ab9009 in 1981 revealed that both long and short haired rachilla lines were present. In other respects, the lines appeared identical, so 119 short-haired rachilla lines were bulked and the resulting seed lot was designated 78Ab9009-SRC. All of the seed used in tests in Idaho since 1982 and in all regional trials traces to the 1981 78Ab9009-SRC lot, which became Russell. Russell is a white-aleuroned, six-rowed spring barley that matures in midseason. It has relatively lax, midlong spikes, smooth awns, and short-haired rachillas.

Russell’s testing in replicated yield trials began at Aberdeen in 1980. It has been tested widely in both irrigated and dryland trials in Idaho since that time. It was tested in the regional Western Spring Barley Nursery from 1982 to 1984 and in the Western Dryland Barley Nursery from 1983 to 1986. In 57 station-yr of testing in the Western Spring Barley Nursery, Russell’s yield averaged 93% of ‘Steptoe’ and 109% of ‘Morex’. In these trials, Russell averaged 9% lodging vs. 22% for Steptoe and 32% for Morex. Compared to Steptoe, Russell was superior in test weight and similar in height and heading date. In 34 station-yr of testing in Idaho irrigated and dryland trials from 1980 to 1985, Russell’s yield averaged 96% of Karla, 86% of Steptoe, and 120% of Morex. Russell was superior to these three cultivars in test weight and lodging resistance. At Aberdeen, Russell headed 1 d earlier than Steptoe and Morex, and 2 d earlier than Karla.

In 20 station-yr of testing from 1982 to 1984 in the Western Spring Barley Nursery, Russell averaged 80.2% malt extract vs. 78.6% for Morex. Russell was superior to Morex in fine-coarse difference, soluble protein, and alpha amylase, but was inferior in diastatic power. In these comparisons, Russell averaged 11.3% protein vs. 12.7% for Morex. Similar results were observed in Idaho trials from 1980 to 1986. The 1981 results were also in agreement with the 1981 test. Russell averaged 11.4% protein vs. 12.7% for Morex. In research trials initiated in 1985, Russell averaged 11.3% protein vs. 12.7% for Morex.

Russell was superior to Morex in both yield and protein content in research trials. It was selected at the Idaho Agricultural Experiment Station for College of Idaho Seed Co. in 1985. It is currently being tested in the United States and the United Kingdom. It is a white-aleuroned, six-rowed spring barley with fine-coarse difference, soluble protein, and alpha amylase. Russell is the best barley tested at the Idaho Agricultural Experiment Station in terms of yield and protein content.

We gratefully acknowledge the assistance of D.E. Bunup, USDA-ARS biological research technician, Aberdeen, ID, and E.D. Goplin, USDA-ARS agricultural research technician, USDA-ARS Cereal Crops Research Unit, Madison, WI, in the development and evaluation of Russell barley.

References and Notes

1. D.M. Wesenberg, USDA-ARS, Univ. of Idaho Agric. Exp. Ctr., P.O. Box 1231, Star Route, Newdale, ID 83436. The USDA has no seed for general distribution.

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REGISTRATION OF ‘TAMCOT CD3H’ COTTON

‘TAMCOT CD3H’ cotton (Gossypium hirsutum L.) (Reg. no. 94) (PI 513381) was developed and released by the Texas Agricultural Experiment Station Mult-adversity Resistance (MAR) Genetic Improvement Program. This program uses MAR techniques to select for resistance to plant pathogens, insects, and other stresses.

Tamcot CD3H was developed from a cross of Tamcot SP37H and CDPS-1-77. Individual F_3 progeny was selected using the MAR procedure (2) and the resulting progeny row was designated TX-CDP37HH-I-83. Tamcot CD3H has higher levels of resistance to bacterial leaf blight, Heliothis malvacearum (Smith) and Helianthus annuus L. (2).

Tamcot CD3H has the B_2 B_3 B_4 B_5 major and modifier genes that confer high resistance to various races of Xanthomonas campestris pv malvacearum (Smith) Dye, which CD3H has higher levels of resistance to than Tamcot SP37H and Pseudatomscelis seriatus Reut.; boll weevil, Anthonomus grandis Boh.; and Heliothis spp.) than Tamcot SP37H and the same level of resistance to plant pathogens.

Tamcot CD3H is as hirsute as Tamcot SP37H, but has a cylindrical shaped growth habit, flowers with yellow pollen, and modifier genes that confer high resistance to other diseases.

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