

# 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  $F_5$  selection from which Russell originated was made at Aberdeen in 1978 and designated 78Ab9009. Detailed evaluations of a series of  $F_8$  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 USDA-ARS Cereal Crops Research Unit, Madison, WI, and the American Malting Barley Association (AMBA), Milwaukee, WI, cooperated in the early testing of malting and brewing quality. Plant-scale evaluations of malting and brewing quality were initiated in 1985 in cooperation with the AMBA and the Great Western Malting Company, Vancouver, WA.

Russell is named after Osborne Russell (1814-1892), an early Rocky Mountain fur trapper. Mr. Russell traveled extensively in the southeastern Idaho area from 1834 to 1843, maintaining a detailed journal that was later published under the title "Journal of a Trapper". Breeder and Foundation seed of Russell will be maintained by the University of Idaho, Tetonia Research and Extension Center, P.O. Box 1231, Star

Route, Newdale, ID 83436. The USDA has no seed for general distribution.

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## References and Notes

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- We gratefully acknowledge the assistance of D.E. Burrup, 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.

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## REGISTRATION OF 'TAMCOT CD3H' COTTON

'TAMCOT CD3H' cotton (*Gossypium hirsutum* L.) (Reg. no. 94) (PI 513381) was developed and released in 1986 by the Texas Agricultural Experiment Station Multi-Adversity Resistance (MAR) Genetic Improvement Program. This program uses MAR techniques to select for broad spectrum resistance to plant pathogens, insects, and environmental stresses.

Tamcot CD3H was developed from a cross between 'Tamcot SP37H' and CDPS-1-77. Individual  $F_3$  plants were selected using the MAR procedure (2) and the resulting  $F_4$  progeny row was designated TX-CDP37HH-1-83 (3).

Tamcot CD3H has the  $B_2B_3B_4B_5$  major genes, and minor and modifier genes that confer high resistance to the 19 designated U.S. races of the bacterial blight pathogen [*Xanthomonas campestris* pv *malvacearum* (Smith) Dye]. Tamcot CD3H has higher levels of resistance to insects (fleahopper, *Pseudatomscelis seriatus* Reut.; boll weevil, *Anthonomus grandis* Boh.; and *Heliothis* spp.) than 'Tamcot CAMD-E', and the same level of resistance to plant pathogens (1,3).

Tamcot CD3H is as hirsute as Tamcot SP37H, has a cylindrical shaped growth habit, flowers with yellow pollen, and storm resistant bolls. Plants are medium height and less determinant than Tamcot CAMD-E. Tamcot CD3H has a higher yield potential than Tamcots CAMD-E, SP37H, 'SP21S', and 'CAB-CS', and matures significantly earlier than Tamcot CAMD-E (3).

Lint percentage of Tamcot CD3H is higher (38%) than other Tamcot cultivars (average 37%). The fiber is slightly shorter and lower in uniformity, but equal in fiber strength to the other Tamcot cultivars (3). Bolls average 6.48 g seed cotton.

The Foundation Seed Service of the Texas Agricultural Experiment Station will produce and sell foundation seed to producers of registered and certified classes. Tamcot CD3H

has Plant Variety Protection, which requires that it be sold only by name as classes of certified seed.

L. S. BIRD, K. M. EL-ZIK,\* AND P. M. THAXTON (4)

#### References and Notes

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2. ———, 1982. The MAR (multi-adversity resistance) system for genetic improvement of cotton. *Plant Dis.* 66:172-176.
3. ———, K.M. El-Zik, and P.M. Thaxton. 1987. Tamcot CD3H, a multi-adversity resistant cotton variety. *Texas Agric. Exp. Stn. L-2240.*
4. L.S. Bird, Dep. of Plant Pathology and Microbiology, K.M. El-Zik and P.M. Thaxton, Dep. of Soil and Crop Sciences, Texas Agric. Exp. Stn., Texas A&M University System, College Station, TX 77843. Paper no. 22997 of the Texas Agric. Exp. Stn. Registration by CSSA. Accepted 30 Dec. 1987. \*Corresponding author.

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#### REGISTRATION OF 'GLENWOOD' SOYBEAN

'GLENWOOD' soybean [*Glycine max* (L.) Merr.] (Reg. no. 211) (PI 513382) was developed by the Minnesota Agricultural Experiment Station. Glenwood was released because of its superiority in seed yield and protein content compared with public cultivars of similar maturity.

Glenwood is the progeny of an  $F_4$  plant from a population advanced by single seed descent from the cross 'Evans'  $\times$  'Peterson 85'. Peterson 85, released by the Peterson Seed Company, was a selection from the cross 'Provar'  $\times$  ('Amsoy'  $\times$  PI 248404). Glenwood was evaluated from 1978 to 1986 in Minnesota and in the Uniform Soybean Tests, Northern States, Group 0 from 1981 to 1983 and 1985 to 1986 under the designation M74-12 (2).

Glenwood, a Maturity Group 0 cultivar, matures 1 d later than 'Dawson' and is a full season cultivar from 45 to 47° N lat. It is indeterminate in growth type with purple flowers, gray pubescence, brown pods at maturity, and dull yellow seed with imperfect black hila. Glenwood has outyielded Dawson by about 5% (1, 2). It is about 3 cm shorter than Dawson and has a lodging score of 1.6, compared to 2.0 for Dawson, on a scale of 1 = all plants erect to 5 = all plants prostrate. Seeds of Glenwood are 23 mg seed<sup>-1</sup> heavier, 1.1 percentage points higher in protein, and 0.2 percentage points lower in oil than Dawson. Seed quality of Glenwood has been similar to that of Dawson. On high pH soils, Glenwood has an Fe chlorosis score of 3.0, compared with 2.1 for Dawson, on a scale of 1 = resistant to 5 = susceptible. Glenwood is resistant to races 1 and 2 of *Phytophthora* root rot (caused by *Phytophthora megasperma* Drechs. f. sp. *glycinea*, Kuan and Erwin) and is resistant to powdery mildew (caused by *Microsphaera diffusa* Cke. and Pk.).

Glenwood was released on 15 Feb. 1987 to certified seed growers in Minnesota, South Dakota, and Wisconsin. Breeder seed will be maintained by the Minnesota Agricultural Experiment Station. Other information on Glenwood is published in *Varietal Trials of Farm Crops* (1).

J. H. ORF\*, J. W. LAMBERT, AND B. W. KENNEDY (3)

#### References and Notes

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3. J.H. Orf and J.W. Lambert, Dep. of Agronomy and Plant Genetics, B.W. Kennedy, Dep. of Plant Pathology, Univ. of Minnesota, St. Paul, MN 55108. Work supported in part by grants from the Minnesota Soybean Res. and Promotion Council. Contribution from the Minnesota Agric. Exp. Stn. Paper no. 15 615, Scientific Journal Series, Minnesota Agric. Exp. Stn. Registration by CSSA. Accepted 30 Dec. 1987. \*Corresponding author.

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#### REGISTRATION OF 'CP 77-1776' SUGARCANE

'CP 77-1776' sugarcane (a complex hybrid of *Saccharum officinarum* L., *S. spontaneum* L., *S. barberi* Jeswiet, and *S. sinense* Roxb. amend. Jeswiet) (Reg. no. 74) (PI 512290) was selected from progeny of 'CP 68-1067' (1)  $\times$  CP 68-1022. The cross was made at Canal Point, FL, in November 1975. The cultivar, CP 77-1776 was developed through cooperative research by the USDA-ARS, the Institute of Food and Agricultural Sciences of the University of Florida, and the Florida Sugar Cane League, Inc., and was released in the fall of 1986.

CP 77-1776 has the highest early sucrose content of any clone ever developed in this cooperative breeding program. It is a midseason (late December) flowering clone that has a rather erect growth habit. Individual stalk weights, averaged over plant, first-, and second-ratoon crops at eight locations, were 1.5 kg for CP 77-1776 compared to 1.6 kg for the commercial check, 'CP 63-588' (2).

In the average of 23 replicated yield tests (8 plant cane, 8 first ratoon, and 7 second ratoon), sugar per ton of cane for CP 77-1776 averaged 23 and 9% higher than that of CP 63-588 at early (last 2 wk of October) and regular harvests, respectively. The harvest season in Florida runs from late October through March. Although CP 77-1776 has excellent yield of sugar per ton of cane, it is somewhat lower in cane yield than the commercial checks. However, when sugar per ton and cane yield are considered together, the yield of sugar per hectare for CP 77-1776 was 11% higher and 97% of that for CP 63-588 at early and late harvest, respectively. CP 77-1776 has a millability rating of 1.03 and a fiber content of 9.22% compared to 1.00 and 9.69%, respectively, for CP 63-588. CP 77-1776 has adequate resistance, for commercial production in Florida, to sugarcane mosaic virus, rust (caused by *Puccinia melanocephala* H. Syd. and P. Syd.), leaf scald [caused by *Xanthomonas albilineans* (Ashby) Dow], eye spot [caused by *Bipolaris sacchari* (Butler) Shoemaker], and smut (caused by *Ustilago scitaminea* Sydow).

Seedcane of CP 77-1776 will be maintained by USDA-ARS at the Sugarcane Field Station, Canal Point, FL.

P. Y. P. TAI, J. D. MILLER, B. GLAZ, J. L. DEAN,  
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3. P. Y. P. Tai, J.D. Miller, B. Glaz, and J.L. Dean (retired), USDA-ARS, Sugarcane Field Stn., Canal Point, FL 33438; M.S. Kang, Dep. of Agronomy, Louisiana State Univ., Baton Rouge, LA 70803; and J.R. Orsenigo, Florida Sugar Cane League, Inc., Clewiston, FL 33440. Registration by CSSA. Accepted 30 Nov. 1987. \*Corresponding author.

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