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REGISTRATION OF DELCOT 390 COTTON

'DELCOT 390' COTTON (*Gossypium hirsutum* L.) (Reg. no 84) was developed by the Missouri Agricultural Experiment Station. The experimental designation was MO 79-390.

Delcot 390 was selected as a BC_1F_2 plant from the cross (MO63-277BR2A × HYC74-283)F_1 × MO63-277BR2A. Current breeder seed of Delcot 390 is in the F_6 generation. MO63-277BR2A was derived from crosses among 'Delcot 277J', 'MoDel' and a bacterial blight resistant (B_2B_6) strain of 'Auburn 56'. HYC 74-283 was selected from a germplasm pool derived from multiple crosses among 'Half & Half', 'Quapaw', Arkansas selection Original 59-31, 'Paymaster 18', MO 59-1021, MO 56-311 and multiple disease resistant germplasm designated 71-CX18.

Delcot 390 is resistant to bacterial blight caused by *Xanthomonas campestris* pv *malvacearum* (Smith) Dye, Races 1, 2, 7, 10, 11, 12, and 18; to Fusarium wilt caused by *Fusarium oxysporum* Schlect f. sp. *vasinfectum* Synd. & Hans and to Verticillium wilt caused by *Verticillium dahliae* Kleb. Delcot 390 is susceptible to root-knot nematodes caused by *Meloidogyne incognita* (Kofoid and White) Chitwood.

Delcot 390 matures 4 to 10 days earlier than commercial cultivars grown in Missouri. Delcot 390 produces competitively with other cultivars in early plantings but lint yields often are superior when plantings are delayed. It is best adapted to medium textured soils in the northern area of the Missouri "Botheel". Fiber quality of Delcot 390 is equal or superior to that of most cultivars grown in the area.

Delcot 390, compared with 'Delcot 311', is a shorter, more determinate, more compact plant. It is faster fruiting, earlier maturing and is more susceptible to root-knot nematodes.

Compared with Delcot 311, Delcot 390 has slightly lower lint percentage, similar size bolls and seeds, similar 2.5% span length, coarser and slightly weaker fiber. In processing, yarns produced are slightly weaker than those of Delcot 311 but stronger than those for 'Stoneville 825' and 'Stoneville 506', major cultivars grown in Missouri.

Breeder seed will be maintained by the Missouri Agric. Exp. Stn., Delta Ctr., Portageville, MO 63873.

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References and Notes

1. Professor of agronomy, Univ. of Missouri-Columbia, Missouri Agric. Exp. Stn., Delta Ctr., Portageville, MO 63873. Registration by the Crop Sci. Soc. of Am. Journal Paper no. 9644 of the Missouri Agric. Exp. Stn. Accepted 30 July 1984.

REGISTRATION OF PD-1 COTTON

'PD-1' COTTON (*Gossypium hirsutum* L.) (Reg. no. 85) was developed by USDA-ARS and the South Carolina Agricultural Experiment Station. It was tested experimentally as PD 4548.

PD-1 is from the bulked seed increase of an F_5 plant selected from the cross of PD 4381 × PD 8623 (1). It was released in 1984 as a replacement of 'SC-1', the first cultivar with extra-fiber-strength genes from triple hybrid origin that produced yields equal to commercial cultivars in South Carolina (2). The major advantages of PD-1 over SC-1 are higher lint yield, stronger fiber, and better resistance to the fusarium wilt-rootknot nematode complex, caused by *Fusarium oxysporum* Schlect. f. *vasinfectum* (Atk.) Snyd. & Hans. and *Meloidogyne incognita* (Kofoid & White) Chitwood.

PD-1, compared with SC-1, has a more open plant type, less leafy, lighter green, and is equal or taller in plant height. It is slightly later maturing and produces its highest yields during long growing seasons. Lint yield increases of PD-1 over SC-1 are attributed to higher lint percentages because the number of bolls per meter^2 are similar for the two cultivars.

Compared with SC-1, PD-1 has a higher lint percentage, smaller bolls, smaller seed, stronger fiber, coarser fiber, and less fiber elongation. In spinning, PD-1 generally produces stronger yarns than SC-1.

Breeder seed will be maintained by the South Carolina Agric. Exp. Stn., Pee Dee Res. and Educ. Ctr., P. O. Box 271, Florence, SC 29503.

T.W. CULP, R.F. MOORE, AND J.B. PITNER (3)

References and Notes

1. Culp, T.W. 1981. Registration of Pee Dee 4548 germplasm line of cotton. Crop Sci. 21: 992.
2. ----, and D.C. Harrell. 1979. Registration of SC-1 cotton. Crop Sci. 19: 410.
3. Research agronomist and supervisory research entomologist, USDA-ARS, and resident director, Clemson Univ. Pee Dee Res. and Educ. Ctr., Florence, SC 29503. Registration by the Crop Sci. Soc. of Am. Cooperative investigations of the USDA-ARS and the South Carolina Agric. Exp. Stn. Journal paper no. 2290 of the South Carolina Agric. Exp. Stn. Accepted 30 July 1984.

REGISTRATION OF PD-2 COTTON

'PD-2' COTTON (*Gossypium hirsutum* L.) (Reg. no. 86) was developed by USDA-ARS and the South Carolina Agricultural Experiment Station. It was tested experimentally as PD 6520.

PD-2 is from the bulked seed increase of an F_5 plant selected from the composite cross of two F_1 hybrids (FTA 266 × 'Altas') × (AC 235 × 'Dixie King') (2). It was released in 1984 as an early maturing high-fiber-strength cultivar for specialty uses. Over a 3-year period, PD-2 planted late on 1 and 15 June produced a average of 7.6 and 20.2%, respectively, more lint than 'Coker 304', the most popular early maturing cultivar grown in South Carolina. PD-2 should be adapted to double cropping with small grains, a promising new production practice in the Southeast.

PD-2 produced yields equal to those of 'Coker 310', the most popular cultivar grown in South Carolina, except when the growing season is long and favors a full-season cultivar. PD-2 has a yield advantage during short growing seasons and has produced significantly higher yields than Coker 310 in tests where boll weevil (*Anthonomus grandis grandis* Boheman) and bollworm (*Heliothis zea* Boddie) damage is a factor in determining yield. Its performance must be due to rapid fruiting and a shorter exposure period of fruiting parts to insect attacks.

PD-2 is intermediate in fiber strength and yarn tenacity between Coker 310 and 'SC-1', the first cultivar with extra-fiber-strength genes from triple hybrid origin that produced yields equal to Coker 310 in South Carolina (1).

PD-2, compared with SC-1, has a more open plant type, is less leafy, and shorter in plant height. It has a lower lint percentage, larger bolls, larger seed, similar fiber length, and micronaire. PD-2 is more resistant than SC-1 to the fusarium wilt-rootknot nematode complex caused by *Fusarium oxysporum* Schlect. f. *vasinfectum* (Atk.) Snyd. and Hans. and *Meloidogyne incognita* (Kofoid and White) Chitwood (3).

Breeder seed will be maintained by the South Carolina Agric. Exp. Stn., Pee Dee Res. and Education Center, P. O. Box 271, Florence, SC 29503.

T.W. CULP, R.F. MOORE, AND J.B. PITNER (4)

References and Notes

1. Culp, T.W., and D.C. Harrell. 1979a. Registration of SC-1 cotton. Crop Sci. 19: 410.
2. ----, and ----. 1979b. Registration of Pee Dee 6520 germplasm line of cotton. Crop Sci. 19: 752.
3. Kappelman, A.J., Jr. 1969. Regional cotton fusarium wilt screening test. USDA-ARS CR-59-69.
4. Research agronomist and supervisory research entomologist, USDA-ARS, and resident director, Clemson Univ. Pee Dee Res. and Educ. Ctr., Florence, SC 29503. Registration by the Crop Sci. Soc. of Am. Cooperative investigations of USDA-ARS and the South Carolina Agric. Exp. Stn. Journal paper no. 2289 of the South Carolina Agric. Exp. Stn. Accepted 30 July 1984.

REGISTRATION OF HOUNDOG TALL FESCUE

'HOUNDOG' tall fescue (*Festuca arundinacea* Schreb.) (Reg. no. 28) was developed and released by International Seeds, Inc. of Halsey, OR. The New Jersey Agricultural Experiment Station provided some of the germplasm used in the development of this cultivar. Houndog is an advanced generation synthetic cultivar selected from the progenies of seven clones. The progeny of one clone designated as LPK-1, selected from a shaded lawn in Lexington, KY, provided approximately 50% of the parental germplasm of Houndog. This clone received pollen from a diverse group of turf-type tall fescue plants selected from 'Rebel' and from old turfs located in Alabama, Georgia, Kentucky, New Jersey, North Carolina, Pennsylvania, and Texas. The remaining one-half of the parental germplasm was derived from tillers selected from six attractive turf plots chosen from a closely mowed lawn trial located near Halsey. These six turf plots were each established from the progeny of single spaced-plants selected for dark green color, good density, fine leaves, and freedom from disease. Four of the above spaced-plant selections were derived from the germplasm source Rutgers T-1, pollinated with selections from 'Missouri 96'. The other two clones were selected from the progeny of a plant selected from an old turf in Knoxville, Tennessee, pollinated with Rutgers T-1. Interplant competition in closely-mowed turf trials was used to eliminate poorly adapted segregates and help identify germplasm with improved turf performance. ISI-791 was the experimental designation of Houndog. The first certified seed was produced in western Oregon in 1982.

Houndog is a leafy, persistent, turf-type tall fescue capable of producing an attractive, moderately dense turf with excellent tolerance of heat, drought and moderate shade. The turf is darker green, finer in texture, and has a slower rate of vertical growth compared with 'Kentucky 31' tall fescue. Houndog has shown good winterhardiness and good summer performance in New Jersey turf trials. This cultivar has exhibited improved resistance to the large brown patch disease caused by *Rhizoctonia solani* Kuhn, and many races of crown rust incited by *Puccinia coronata* Corda. It has very good resistance to the netblotch disease caused by *Helminthosporium dictyoides* Drechs. Houndog is well adapted to a wide range of soil types. Fertility requirements are substantially lower than the amounts needed for good performance of Kentucky bluegrass (*Poa pratensis* L.) and the improved turf-type perennial ryegrasses (*Lolium perenne* L.). Houndog should be useful for the production of a medium low maintenance turf in either full sun or in light to moderate shade in most regions where tall fescue is well adapted for turf use. It has medium maturity in seed production and a high seed yield potential.

Breeder seed is produced by International Seeds, Inc. Propagation of seed should be limited to two generations of increase from breeder seed, one generation each of foundation and certified.

United States Plant Variety Protection Certificate no. 8300011 has been issued for Houndog tall fescue.

G. W. PEPIN, K. J. MCVEIGH, AND C. R. FUNK (1)

References and Notes

1. Research director, Pickseed West, P.O. Box 888, Tangent, OR 97389 (former research director, Int. Seeds, P.O. Box 168, Halsey, OR, 97348); research director, Int. Seeds; and professor, Soils and Crops Dep., New Jersey Agric. Exp. Stn. Publication no. D-15166-3-84, New Jersey Agric. Exp. Stn., Cook College, Rutgers Univ., New Brunswick, NJ 08903. Some of this work was conducted as part of NJAES Project no. 15166, supported by New Jersey Agric. Exp. Stn. funds, other grants, and gifts. Additional support was received from the united States Golf Assoc. Green Section Res. and Educ. Fund. Registration by the Crop Sci. Soc. of Am. Accepted 25 June 1984.

REGISTRATION OF WC-C75 PEARL MILLET

'WC-C75' GRAIN cultivar of pearl millet [*Pennisetum americanum* (L.) Leeke] (Reg. no. 95) was developed through recurrent selection using the 'World Composite' at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). It was tested in India by the Ministry of Agriculture, Government of India and was released by them as WC-C75 on 29 May 1982. WC-C75, also named as ICMV-1 by ICRISAT, averaged 98% of the grain yield of the widely grown hybrid 'BJ104' in 140 replicated tests conducted by the All India Millets Improvement Project from 1977 to 1981(1). A semi-early cultivar, WC-C75 matures about 4 days later than BJ 104 but gives 20% more dry fodder, valued as animal feed after grain harvest. WC-C75 has good resistance to downy mildew caused by *Sclerospora graminicola* (Sacc.) Schroet (2.4% incidence in the 1977-1981 trials compared to 9.7% for BJ 104), and while still moderately susceptible to ergot caused by *Claviceps fusiformis* Loveless, it is much less vulnerable than any existing hybrid to epidemics of this disease. WC-C75 is medium height (185-210 cm) with robust stems, flowering in 48 to 51 days, maturing in 80 to 85 days. Anther color is mixed, cream and purple, heads are medium long (22-28 cm), cylindrical to slightly tapering, compact, non-bristled, with short pale glumes. Grain is bold, 7 to 8 g/1000 seeds, obovate, slate gray in color with a vitreous endosperm. Grain protein is average for pearl millet (9.3% in 32 tests). Seed dormancy and tolerance to mold damage when ripening in humid conditions is superior to BJ 104.

The World Composite random mating parental population of WC-C75 was constituted in Nigeria in 1971 at the Institute for Agricultural Research, Ahmadu Bello University, from derivatives of numerous crosses between world wide sources of pearl millet germplasm and Nigerian early maturing landraces locally known as "gero". Bulk seed of the World Composite was supplied to ICRISAT in 1973.

Full-sib recurrent selection was conducted on the World Composite. In 1975 441 full-sib families derived from selected, heterozygous plants in the previous generation, were tested at Coimbatore, (South India), Hissar, north India