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REGISTRATION OF 'ARKOT 518' UPLAND COTTON

'ARKOT 518' cotton (*Gossypium hirsutum* L.) (Reg. no. 91) (PI 510667) was developed at the Cotton Branch of the Arkansas Agricultural Experiment Station in Marianna, AR, and released 1 Apr. 1987. Arkot 518 originated as a single plant selection in the F_2 and F_3 generations of a cross between 'Rex 713' and 'Coker 304'. The resulting F_4 progeny row and subsequent generations were handled as a pure line and increased at Marianna.

Arkot 518 (tested as UArk 2402 or UArk 75182402) expresses excellent lint yield potential under Arkansas conditions and in certain other areas of the U.S. Rain Belt. Arkot 518 matures earlier than other cultivars currently available in Arkansas; reaching 60% open bolls from 2 to 9 d earlier than all other cultivars evaluated in the 1984 and 1985 Arkansas Cotton Cultivar Tests. Fiber of Arkot 518 usually is longer than other mid-South cultivars and is equal to that of 'Coker 315'. Fiber strength of Arkot 518 is similar to that of 'Stoneville 213'. Micronaire is usually within the premium range and is similar to that of other cultivars in production (1,2).

Arkot 518 has a more open-canopy growth habit than most 'Deltapine' and 'Stoneville' cultivars commonly produced in Arkansas because of longer main stem internodes. The large bolls and bracts of Arkot 518 most closely resemble 'Delcot 390' in the mature green boll stage. Pubescence of stems and leaves is similar to Stoneville 213 and Rex 713.

Based on 1986 results, Arkot 518 carries resistance to Fusarium wilt [caused by *Fusarium oxysporum* Schlect f. *vasinfectum* (Atr.) Snyd. & Hans.] similar to that of Coker 315 and 'Deltapine 50'. Its reaction to Verticillium wilt (caused by *Verticillium dahliae* Kleb.) has not been quantified, but it has yielded well at Clarkdale, AR under moderate levels of field infestation.

Seed of Arkot 518 may be obtained from the Arkansas Agricultural Experiment Station.

C. WAYNE SMITH (3)

Reference and Notes

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REGISTRATION OF 'PD-3' COTTON

'PD-3' cotton (*Gossypium hirsutum* L.) (Reg. no. 92) (PI 511353) was developed by USDA-ARS and the South Carolina Agricultural Experiment Station. It was tested experimentally at PD 6208.

PD-3 is from the bulked seed increase of an F_3 plant selected from the cross of PD 9363 × PD 9240 (1). It was released in 1987 as a replacement for 'PD-1', a cultivar with extra fiber-strength genes from triple hybrid origin that produced yields equal to that of commercial cultivars in South Carolina (2). The major advantages of PD-3 over PD-1 are wider adaptation, higher lint yield potential, stronger fiber, higher yarn tenacity, and fewer neps.

Compared with PD-1, PD-3 shows similar resistance to the fusarium wilt root-knot nematode complex, caused by *Fusarium oxysporum* Schlect. f. *vasinfectum* (Atk.) Snyd. & Hans. and *Meloidogyne incognita* (Kofoid & White) Chitwood. Preliminary observations suggest that it has greater resistance to verticillium wilt, caused by *Verticillium dahliae* Kleb.

PD-3, compared with PD-1, has shorter internodes, darker green leaves, and is equal or taller in plant height. Lint yield increases of PD-3 over PD-1 are attributed to more bolls per square meter because lint percentages, boll size, seed size, fiber length, and micronaire are similar (3).

Breeder seed will be maintained by the South Carolina Agric. Exp. Stn., Pee Dee Res. and Educ. Ctr., Rt. 1, Box 531, Florence, SC 29501-9603.

T. W. CULP,* R. F. MOORE, L. H. HARVEY, AND J. B. PITNER (4)

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REGISTRATION OF 'ACALA 1517-88' COTTON

'ACALA 1517-88' cotton (*Gossypium hirsutum* L.) (Reg. no. 93) (PI 511354) was released by the New Mexico Agricultural Experiment Station in 1987. It originated as a single plant selection from a cross between 'Acala 1517-77BR' (1) and 'Deltapine 70'. Plant-to-row selection for several generations resulted in strain B1788. This strain was released as Acala 1517-88 after 4 yr of testing.

Plants of Acala 1517-88 are about the same height as those of Acala 1517-75, averaging 98 cm. The plant shape is similar to that of Acala 1517-77BR. Maturity of Acala 1517-88 is similar to that of Acala 1517-75, as measured by percentage harvested at first picking. Acala 1517-88 averaged 11% higher lint yield than Acala 1517-75 in the Mesilla Valley and was 15% higher in the Pecos Valley of New Mexico in 4 yr of testing.

Acala 1517-88 is tolerant to *Verticillium dahliae* Kleb., and is resistant to races 1, 2, and 10 of *Xanthomonas campestris* pv. *malvacearum* (Smith) Dye (bacterial blight). The cultivar is also tolerant to Fusarium wilt caused by *Fusarium oxysporum* f. sp. *vasinfectum* (Atk.) Snyd. and Hans. The tolerance to Verticillium wilt is similar to that of Acala 1517-75.

Bolls of Acala 1517-88 are ovate, averaging 2.35 g of lint per boll compared to that of Acala 1517-75 with 2.32 g. Seed

are medium in size, with a fuzzy seed index of 11.2 g compared with 12.0 g for Acala 1517-75. Lint percentage of Acala 1517-88 averaged 40.3 over a 4-yr period compared with 38.4 for Acala 1517-75 for hand picked bolls.

Fiber length of Acala 1517-88 is similar to that of Acala 1517-75, averaging 30.2 mm in 2.5% span length, generally classifying as 1 5/32 in. staple. Fiber uniformity averages 48% for Acala 1517-88. Similar values for Acala 1517-75 are 30.5 mm and 50%. Micronaire for Acala 1517-88 averaged 0.2 units higher than for Acala 1517-75. Fiber strength, as measured on the 3.18-mm gauge stelometer, averaged 214 kN m Kg^{-1} (nM/tex) compared with 221 for Acala 1517-75.

Breeder seed will be maintained by the New Mexico Agricultural Experiment Station, Las Cruces.

C. L. ROBERTS, N. R. MALM,* D. D. DAVIS, AND C. E. BARNES (2)

References and Notes

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REGISTRATION OF 'ADVENTURE' TALL FESCUE

'ADVENTURE' tall fescue (*Festuca arundinacea* Schreb) (Reg. no. 32) (PI 511351) was developed by Pure-Seed Testing, of Hubbard, OR, and is being marketed by Warrens Turf Nursery of Crystal Lake, IL. Adventure is a 145-clone synthetic cultivar. Seventeen plants selected from old turf areas of the northeastern USA provided the original germplasm source used in the development of Adventure. The 145 parental clones of Adventure were selected from this germplasm source after two cycles of phenotypic selection in large spaced-plant nurseries, each followed by single-plant progeny tests in mowed turf trials. Selection within spaced-plant nurseries was based on resistance to net blotch caused by *Helminthosporiun dictyoides* Drechs, and crown rust caused by *Puccinia coronata* Corda and high flag leaf position. Selections from turf trials showing improved performance under low soil fertility were chosen for the next cycle of selection in spaced-plant nurseries. Adventure's experimental designation was Pure Seed 5LL.

Breeder seed of Adventure is produced by Pure-Seed Testing. Propagation is limited to two generations of increase from breeder seed, one generation each of foundation, and certified. Adventure was released and first available for sale in August 1982.

Adventure tall fescue is an attractive, vigorous, leafy, turf-type cultivar with a medium dark-green color, medium texture, moderately low growth habit, and very good density. It has shown greater vigor and color at low fertility levels than other commercially available tall fescues. In close comparisons, Adventure has a heading date 3 d later than 'Rebel' and 1 d earlier than 'Jaguar'. At maturity, Adventure is 4 cm taller than Rebel or Jaguar. A unique characteristic of Adventure is the height of flag leaves from ground level. Adventure has a flag leaf height of 5 cm or more higher than Rebel or 'Olympic'. Adventure has a darker blue-green color than Rebel. In turf trials, it has shown good turf performance at both high and low fertility when compared to other tall fescues. Adventure has shown good shade adaptation, and good heat and cold tolerance. It has also shown good resistance to net blotch, brown patch (*Rhizoctonia solani* Kuhn), and crown rust.

United States Plant Variety Protection Certificate no. 8300079 has been issued for Adventure tall fescue.

W. A. MEYER,* C. ROSE-FRICKER, B. L. ROSE, AND F. BERNS (1)

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REGISTRATION OF 'JAGUAR' TALL FESCUE

'JAGUAR' tall fescue (*Festuca arundinacea* schreb.) (Reg. no. 33) (PI 511352) was developed by Pure-Seed Testing of Hubbard, OR, and is being marketed by Garfield Williamson Co. of Fairfield, NJ. Jaguar is an advanced generation synthetic cultivar derived from the progenies of 12 clones. Plants collected from old turf areas in Alabama, North Carolina, Pennsylvania, and New Jersey contributed to the parental germplasm. Clones were selected from space-planted nurseries based on late maturity, reduced vertical growth, disease resistance, dark color, and seed yield. Single plant progenies were evaluated for turf performance. Fifty clones were chosen as the parents of Jaguar after three cycles of phenotypic recurrent selection and 2 yr of evaluation as clones for resistance to crown rust caused by *Puccinia coronata* Corda F. sp. *festucae*, late maturity, and seed yield. Turf trials in New Jersey were used to evaluate summer performance and resistance to brown patch disease caused by *Rhizoctonia solani* Kuhn. The experimental designation of Jaguar was Pure-Seed 572. Jaguar was released by Garfield Williamson Co. and first available for sale in August 1983.

Jaguar is an attractive, leafy, turf-type tall fescue with good turf density, medium dark-green color, and moderately low growth habit. Jaguar has a heading date 3 to 4 d later than 'Rebel'. In evaluation trials, Jaguar has shown good heat tolerance, drought adaptation, good shade tolerance, and very good low temperature color retention in late fall. In turf trials throughout the USA it has shown very good turf performance with excellent turf density compared with most other tall fescues. Jaguar has shown good resistance to netblotch caused by *Helminthosporium dictyoides* Drechs, brown patch, and crown rust.

Breeder seed of Jaguar is produced by Pure-Seed Testing. Propagation is limited to two generations of increase from breeder seed, one generation each of foundation, and certified.

United States Plant Variety Protection Certificate no. 8200167 has been issued for Jaguar tall fescue.

W. A. MEYER, C. ROSE-FRICKER, B. L. ROSE, AND J. ZAJAC (1)

References and Notes

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