Registration of ‘Holladay’ Soybean

‘Holladay’ soybean [Glycine max (L.) Merr.] (Reg. no. CV-341, PI 572239) was developed by the USDA-ARS, in cooperation with the North Carolina Agricultural Research Service, the Arkansas Agricultural Experiment Station, and the Virginia Agricultural Experiment Station. It was released in 1993 to provide a cultivar of early Group V maturity with high productivity and resistance to lodging. Holladay is most adapted to soybean production areas between 34° and 39° N lat.

Holladay is the bulked increase of an F₆ line from the cross N77-179 x ‘Johnston’ (1). The parents of N77-179 were N70-1549 and N72-3213. Parents of N70-1549 were the cultivar Dare and D65-6765 (2). The parents of D65-6765 were D58-3358, a ‘Jackson’ backcross derivative [Jackson x D49-2491], and D59-9289 (3,4). Parents of D59-9289 were D51-4877 (a sib of the cultivar Hood and D55-4168, derived from ‘Ogden’ x ‘Biloxi’ (4,5). The paternal parent of N77-179, N72-3213, was derived from a cross between D67-B5, genetically similar to ‘Lee’, and N64-2451, a sib of the cultivar Ransom (3,6). Johnston and N77-179 were crossed in 1983 at Clayton, NC, and the F₁ was grown in the USDA winter nursery at Isabela, PR, the following winter. The F₁ progenies were inbred in North Carolina and Puerto Rico to the F₅ generation using single-seed descent. Initial testing of the line occurred in North Carolina in 1985 and 1986. Prior to release, the breeding line was designated N85-578. Holladay was tested in the Uniform Preliminary V Nursery in 1987 and in the Uniform Group V Nursery from 1988 to 1990 (7).

Compared with Essex, Holladay matures 1 d earlier in a full-season planting and produced 10% higher seed yield (7,8). The average seed protein and oil concentrations for Holladay are 377 and 217 g kg⁻¹ seed, compared with 416 and 206 g kg⁻¹ seed, respectively, for Essex. Holladay has yellow seed with shiny luster and imperfect black hilum, tan pod walls, purple flowers, gray pubescence, and determinate growth habit. In the Uniform Nurseries, seed size averaged 14.8 g 100 seeds⁻¹, 1.2 g 100 seeds⁻¹ greater than Essex, and plant height averaged 67 cm, 8 cm less than Essex (7). Holladay is resistant to soybean mosaic virus, to frogeye leaf spot caused by Cercospora sojina K. Hara (syn. C. daizu Miura), and tolerates high levels of soil chloride. It is susceptible to stem canker caused by Diaporthe phaseolorum (Cooke & Ellis) Sacc. f. sp. meridionalis Morgan-Jones.

In 1990, breeder seed was provided to the North Carolina Foundation Seed Producers for increase. Foundation seed was distributed to other states by request and according to seed supply. The North Carolina Agricultural Research Service will be responsible for maintaining breeder seed. Small samples (500 seeds) of Holladay can be obtained from the corresponding author for at least five years.

References and Notes


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Registration of ‘Russell’ Bermudagrass

‘Russell’ bermudagrass [Cynodon dactylon (L.) Pers. (Marignoni) Shoemaker] has not been observed to be prevalent in Alabama. This ecotype of bermudagrass that had been sprigged in 1977 with the cultivar Callie was jointly released 18 Apr. 1994 by the Alabama Agricultural Experiment Station and the Louisiana Agricultural Experiment Station.

Russell is believed to be derived from a strain that resulted from natural hybridization. Overall appearance is similar to that of a robust common bermudagrass ecotype. Although it has many of the agronomic traits exhibited by the cultivar Callie, it is lighter in color, slightly darker, leaves are narrower, and internodes are shorter. Russell is a spreading, winterhardy grass that produces more dense, thus allowing excellent forage yields. It has a higher winter growth height at harvest time.

Compared with Coastal, spring greenup is earlier, leaf color is faster, and winterhardiness is greater for Russell. Leaf spot caused by Helminthosporium cynodontis (Marignoni) Shoemaker has not been observed in Russell. In a 3-yr replicated clipping trial planted in 1986 at Tallassee, AL, Russell produced 20% (1672 kg ha⁻¹) more dry matter than Coastal (1). In another 3-yr clipping trial planted in 1989 at Shorter, AL, Russell produced 17% (2834 kg ha⁻¹) more dry matter than Coastal, ‘Tifton 78’. In a 4-yr clipping trial planted in 1991, Russell produced 17% (2834 kg ha⁻¹) more dry matter than Coastal (1). In another 3-yr clipping trial planted in 1991, Russell produced 5, 10, and 29% (1010, 2121, and 5124 kg ha⁻¹) more dry matter than Coastal, ‘Tifton 44’ respectively. Three- or 4-yr average yields of Russell were equal to, or greater than, the other bermudagrasses genotypes tested. In most cases, yield for the first harvest of the Russell season was higher for Russell than for other bermudagrasses. Three- or 4-yr average yields of Russell were equal to, or greater than, the other bermudagrasses genotypes tested. In most cases, yield for the first harvest of the Russell season was higher for Russell than for other bermudagrasses.

Russell produces a few viable seed; however, vegetative propagation is feasible for large-scale establishment. Three propagation classes are recognized: foundation and certified. A breeder propagator will be maintained by the Alabama Crop Improvement Association, Auburn, AL 36849.

References and Notes


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