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REGISTRATION OF GERMPLASMS

REGISTRATION OF RED CLOVER GERMPLASM LINE CCNR-1

THE BREEDING line of red clover (*Trifolium pratense* L.) (Reg. no. GP-16) (PI 509546) was developed cooperatively by USDA-ARS and the agricultural experiment stations of The Pennsylvania State University and the University of Wisconsin, and was released in 1986. This germplasm provides resistance and/or tolerance to stunting by the clover cyst nematode (CCN) (*Heterodera trifolii* Goff.)

The germplasm resulted from two cycles of intercrossing plants that came from 15 plants each of 'Arlington', 'Florie', 'Kenstar', 'Pennscott', and 'Redland' cultivars. The original plants were selected for lack of stunting while growing in a field at Rock Springs, PA, that was heavily infested with CCN. The original plants were hand-crossed so that each served as the female parent in crosses with plants from each cultivar. Subsequent selection was done in the greenhouse using nematodes cultured from those obtained originally from the Rock Springs field.

The germplasm line was developed using phenotypic recurrent selection with the elimination of all stunted plants at 0.5 yr of age. From the 2000 plants resulting from the original crosses, 200 plants were selected in the greenhouse that showed no stunting, virus, nor mildew symptoms. These plants were intercrossed by natural pollinators under controlled isolation outdoors. Polycross seed was bulked to continue the next selection cycle. Again 2000 plants were grown in nematode-infested soil, and 100 plants were selected and crossed by natural pollinators as in Cycle 1. Cycle 2 seed constitutes CCNR-1 germplasm.

CCNR-1 was compared, along with two cultivars not selected for resistance to CCN, for dry matter production of roots and herbage when grown with and without CCN feeding stress. After 16 weeks, CCNR-1 yielded 58% of its unstressed control. The yield of CCNR-1 was significantly greater than yields of the unselected cultivars that yielded 31 and 42% of their controls.

Limited quantities of seed of CCNR-1 are available from the USDA-ARS, U.S. Regional Pasture Research Laboratory, University Park, PA 16802. It is requested that appropriate recognition of the source be given when this germplasm contributes to research or the development of new cultivars.

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References and Notes

1. Research plant pathologist, USDA-ARS; professor, Dep. of Plant Pathology, The Pennsylvania State Univ.; research geneticists, USDA-ARS. Authorized for publication as Journal Series Paper no. 7614 and Contribution no. 8617 of the U.S. Regional Pasture Res., USDA-ARS, University Park, PA 16802, and the U.S. Dairy Forage Res. Ctr., Madison, WI 53706. Registration by the Crop Sci. Soc. of Am. Accepted 30 June 1987.

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REGISTRATION OF DES 237-7 COTTON GERMPLASM

A GERMPLASM line of cotton (*Gossypium hirsutum* L.), DES 237-7 (GP-308) (PI 509545) was developed at the Delta Branch, Mississippi Agricultural and Forestry Experiment Station and released in March 1987.

DES 237-7 originated from a single plant selection in the F_2 generation and a subsequent reselection in the F_8 generation of a cross between DES 2134-018 and Deltapine 5916-65. DES 2134-018 is a sister line of 'DES 56' (Reg. no. 70 and PV no. 7800041). Deltapine 5916-65 is a selection out of 'Deltapine 16'.

In 43 Mississippi tests (1982 to 1986), DES 237-7 produced 9% higher lint yields than 'DES 422' (Reg. no. 80 and PV no. 8011070). The lint percentage of DES 237-7 is about 1% higher than that of DES 422 but the fiber is shorter and weaker, and micronaire is higher. In cultivar tests at six Mississippi locations over a 2-yr period (1985 and 1986), DES 237-7 produced the highest average lint yield but the fiber was shorter and weaker than most commercial cultivars tested.

DES 237-7 has a wide range of adaptability. The 1984 Regional Short Season Cotton Test was grown at 12 locations in 10 states. In those tests DES 237-7 ranked first in yield in seven tests and ranked below fourth in only one test. In 34 tests (1984 and 1985) from North Carolina to Arizona, DES 237-7 ranked first in yield in 17 tests and ranked below fourth in only 4 tests. These data show that DES 237-7 averaged 17.6% higher yields than the average of the check cultivars (DES 422, 'Stoneville 825', and 'Stoneville 213').

DES 237-7 has also shown less Fusarium wilt symptoms [caused by *Fusarium oxysporum* Schlect F. vasinfectum (Atk.) Snyd. and Hans.] than DES 422 in the Regional Fusarium Wilt Nursery at Tallassee, AL.

The yielding ability of DES 237-7 over a wide range of environments demonstrates its value as a breeding line in the development of conventional and hybrid cultivars.

Seed (25 g) of DES 237-7 may be obtained from R.R. Bridge, Delta Branch Experiment Station, P.O. Box 197, Stoneville, MS 38776.

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References and Notes

1. Plant breeder, Delta Branch, Mississippi Agric. and Forestry Exp. Stn., Stoneville, MS. Published as Journal Article no. 6662 of Mississippi Agric. and Forestry Exp. Stn. Registration by the Crop Sci. Soc. of Am. Accepted 30 June 1987.

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REGISTRATION OF PENNORCHARD A, C, AND D ORCHARDGRASS GERMPLASM

THREE orchardgrass (*Dactylis glomerata* L.) germplasm populations (Pennorchard A, C, and D; Reg. no. GP-52, GP-53, and GP-54; PI 509047, PI 509048, and PI 509049, respectively) were developed at the Pennsylvania State University Agricultural Experiment Station and released in March 1986. Eighteen families were selected from these populations to be late in maturity, high in forage yield, protein and digesti-