tapioca 41 when evaluated 60 d after planting in a RN-infested field at Baton Rouge in 1986. Three of the lines (La. RN 909, La. RN 910, La. RN 1032) were compared with Delapine 41 for degree of root galling after growing in highly infested RKN soil in the greenhouse. Their average root-bust scores were 2.6, 2.8, and 2.6, respectively, compared with 5.0 for Delapine 41.

These germplasm lines, except La. RN 4-4, were compared with Delapine 41 and Stonewall 825 cultivars for agronomic performance at multiple year-location environments (8 tests) in Louisiana on soils relatively free from the nematode-wilt disease complex. All germplasm lines produced mean lint yields equal to or greater than the check cultivars and with fiber superior to Delapine 41 in strength and fineness and equal or superior to this check in length. Lint percentages of the three germplasm lines were similar to Stonewall 825; boll size of all RN germplasm lines was significantly larger than either check cultivar. The RN lines are full-season cotton germplasm lines that are similar to their Delapine 16 parent in crop maturity and plant size. La. RN 4-4 is expected to perform similarly to La. RN 909 and La. RN 910 since all are sister lines.

These agronomically enhanced breeding lines represent the first germplasm releases of cotton with known resistance to the cotton nematode. They could be of value in improving the level of pest resistance in cotton cultivars (25 g) of these lines are available for distribution to cotton breeders and other scientists upon written request to Jack E. Jones, Department of Agronomy, Louisiana Agricultural Experiment Station, M. B. Sturgis Hall, Baton Rouge, LA 70803.

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References and Notes

REGISTRATION OF THREE INSECT RESISTANT COTTON GERMPLASM LINES

Three cotton (Gossypium hirsutum L.) germplasm lines [La. HG-063 (Reg. no. GP-313) (PI 511345), La. HG-065 (Reg. no. GP-314) (PI 511346), and La. HG-660 (Reg. no. GP-315) (PI 511347)] were released by the Louisiana Agricultural Experiment Station in 1987. These lines combine resistance to the cotton bollworm—tobacco budworm complex, Heliothis zea (Boddie) and H. virescens, good crop maturity, good yield ability, acceptable fiber, and reduced plant populations. Heliothis spp. is attributed to gossypol-like compounds found in a high frequency of normal-size glands of the calyx (including lobes), ovary wall, and other parts (1,2).

The La. HG-063, La. HG-065, and La. HG-660 lines were developed from a cross between La. HG 83-1-1546 X La. HG 1838-1497. The strains were selected from an intercrossed population involving Louisiana advanced breeding strains, S4 and GT5A-10-15-XG15. The strain GT5A-1 obtained from M.J. Lukeriah was the original HG trait. Primary selection for resistance was by frequency of glands on the calyx lobes (3) and then to natural Heliothis spp. infestations.

Three of the La. HG germplasm lines average the worm-damaged fruit 0 to 1% of the that were observed on Stonewall 213. The lines three-test yield averaged that exceeded Stonewall to 31% when Heliothis spp. were above the economic level (3 damaged squares). Five-test mean of these germplasm lines range from 9 to 11% when damage levels from Heliothis spp. reached economic threshold levels. The HG germplasm lines similar to Stonewall 213 in lint percentage, fiber length, and fiber fineness. They were earlier in crop maturity; higher fiber tensile strength than this check. Germplasm lines have reduced plant pubescence and seed size than Stonewall 213. They are susceptible to Fusarium oxysporum (Schlect, f. sp. (Aik.) Hanks.)

Seed (25 g) of these lines are available for distribution to cotton breeders and other scientists upon written request to Jack E. Jones, Department of Agronomy, Louisiana Agricultural Experiment Station, M. B. Sturgis Hall, Baton Rouge, LA 70803.


References and Notes

REGISTRATION OF MISCOT 7913-51, 7913-83, AND MISCOT 7913-84 GERmplasM LINES OF COTTON

Three germplasm lines of cotton (Gossypium hirsutum L.) were released by the Louisiana Agricultural Experiment Station in 1987.

Three germplasm lines of cotton (Gossypium hirsutum L.) were released by the Louisiana Agricultural Experiment Station in 1987.