Registration of ‘H1215’ Cotton

‘H1215’ cotton (Gossypium hirsutum L.) (Reg. no. CV-112, PI 578225) was developed by the Louisiana Agricultural Experiment Station (LAES). In 1991, marketing rights to H1215 were licensed exclusively, through a competitive bid process, to Jacob Hartz Seed Co., Inc., of Stuttgart, AR. This cultivar, along with sister cultivars H1220 (2) and H1244 (3), is unique in commercial upland cotton in that it possesses a high frequency of gossypol glands on the calyx crowns of flower buds, a trait that confers considerable resistance to the cotton bollworm (Helicoverpa zea (Boddie)) and tobacco budworm (Heliothis virescens (F.)) (5). In addition, this cultivar has been consistently high yielding and has produced good to excellent quality fiber.

H1215 was tested from 1989 through 1991 by the LAES under the designation LA870206. In 1992, H1215 was entered in state cultivar trials by Jacob Hartz Seed Co., Inc., under the designation HX 1406.

H1215 originated from a cross between Miscot T8-27 (1) and La. HG-063 (4), made in 1985 by J.E. Jones of the LAES. The F1 of Miscot T8-27/La. HG-063 was grown in Tecoman, Mexico, in the winter of 1985–1986 and seed were bulk harvested. In 1986, the F2 was grown at Baton Rouge, LA, and seed from plants exhibiting gossypol glands on their calyx crowns were harvested in bulk. The F3 was again grown in Mexico in 1986–1987 and was harvested as an unselected, selfed bulk. The F4 was grown at St. Joseph, LA, and plants exhibiting gossypol glands on calyx crowns were harvested individually. Progeny rows from the selected plants were grown again at St. Joseph in 1988; the F5 progeny row from F4 plant selection LA870206 was bulk harvested and later designated H1215. Seed was increased without further selection, except to remove obvious offtypes.

Averaged over 13 location-years in Louisiana from 1989 to 1992, H1215 produced 25 and 20% higher lint yields than ‘Deltapine 41’ and ‘DES 119’, respectively. In state cultivar trials in Arkansas in 1992 (mean of six locations), H1215 produced 16% higher lint yields than ‘Deltapine 30’ (DP 50) and 9% higher than DES 119. In Mississippi cultivar trials in 1992 (mean of four Delta locations), H1215 produced 11% more lint than DP 50 and 8% more than DES 119. In state tests in 1993, H1215 outyielded both DP 50 and DES 119 in Arkansas by 10% (mean of six locations), in Louisiana by 5% (mean of five locations), and in Mississippi by 16% (mean of four locations).

Seed gossypol content in H1215 is somewhat higher than in most cultivars currently available. Total seed gossypol content of H1215 from Mississippi state cultivar trials was 0.81%, compared with 0.77% for DP50, 0.63% for ‘Suregrow 125’, and 0.89% for ‘Stoneville 474’.

Micronaire reading and fiber length of H1215 were slightly higher than DES 119, while fiber strength and elongation were similar. Seed index and boll weight were 10 to 15% higher than DES 119.

The sister cultivars H1215, H1220, and H1244 are similar in many respects; e.g., all have normal-shaped leaves with sparse pubescence and predominantly glabrous stems. However, H1215 has a lower lint index than H1220 or H1244, it is earlier maturing than H1220, and it fruits at a higher node and has greater fiber length, tensile strength, and elongation than H1244.

Breeder seed of H1215 will be maintained by and small samples (25 g) of seed can be obtained from Jacob Hartz Seed Co., Inc., P.O. Box 946, Stuttgart, AR 72160. Application for cultivar protection has been made by LAES under the U.S. Plant Variety Protection Act, Pub. Law 91-557 (Application no. 9400118).

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Registration of ‘H1220’ Cotton

‘H1220’ cotton (Gossypium hirsutum L.) (Reg. no. CV-113, PI 578226) was developed by the Louisiana Agricultural Experiment Station (LAES). In 1991, marketing rights to H1220 were licensed exclusively, through a competitive bid process, to Jacob Hartz Seed Co., Inc., of Stuttgart, AR. This cultivar, along with sister cultivars H1125 (2) and H1124 (3), is unique in commercial upland cotton in that it possesses a high frequency of gossypol glands on the calyx crowns of flower buds, a trait that confers considerable resistance to the cotton bollworm (Helicoverpa zea (Boddie)) and tobacco budworm (Heliothis virescens (F.)) (5). In addition, this cultivar has been consistently high yielding and has produced good to excellent quality fiber.

H1220 originated from a cross between Miscot T8-27 (1) and La. HG-063 (4), made in 1985 by J.E. Jones of the LAES. The F1 of Miscot T8-27/La. HG-063 was grown in Tecoman, Mexico, in the winter of 1985–1986 and seed were bulk harvested. In 1986, the F2 was grown at Baton Rouge, LA, and seed from plants exhibiting gossypol glands on their calyx crowns were harvested in bulk. The F3 was again grown in Mexico in 1986–1987 and was harvested as an unselected, selfed bulk. The F4 was grown at St. Joseph, LA, and plants exhibiting gossypol glands on calyx crowns were harvested individually. Progeny rows from the selected plants were grown again at St. Joseph in 1988; the F5 progeny row from F4 plant selection LA870210 was bulk harvested and later designated H1220. Seed was increased without further selection, except to remove obvious offtypes. H1220 was tested from 1989 through 1991 by the LAES under the designation LA870210.

Averaged over 13 location-years in Louisiana from 1989 to 1992, H1220 produced 25 and 19% higher lint yields than ‘Deltapine 41’ and ‘DES 119’, respectively. In the RBBT, H1220 averaged 3% higher lint yields than ‘Deltapine 41’ and ‘DES 119’, respectively. In state cultivar trials in Arkansas in 1992 (mean of four Delta locations), and in Mississippi by 19% (mean of four locations).

Insect resistance was determined in trials in Louisiana and in the 1990 Bollworm–Tobacco Budworm Test (RBBT) (6). In Louisiana, H1220 had 25 to 34% fewer worm-damaged squares than Deltapine 41. In the RBBT, H1220 averaged 3% higher lint yield than DES 119 at six locations with conventional insect control, but 24% higher lint yield than DES 119 in four locations.

References and Notes

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