

Yields of the MHR-14 and MHR-16 were significantly less than ST 213 when grown without any insects. MHR-15 is the highest yielding of the three germplasms and produces similar yield to that of ST 213 when insects are controlled. Fiber length of these germplasm lines is 2 to 3 mm shorter than ST 213; however, strength, elongation, micronaire, and boll size are comparable to this cultivar. MHR-15 is equal to ST 213 in lint percentage, but MHR-14 and MHR-16 are about 1.5% lower.

These three germplasms tolerant to TBW and TPB should be useful in developing cultivars with increased tolerance to these major cotton pests.

Small amounts of seed of each of these lines are available for distribution to cotton breeders and other research workers upon written request to Johnnie N. Jenkins, Crop Science Research Laboratory, P.O. Box 5367, Mississippi State, MS 39762-5367.

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#### References and Notes

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3. USDA-ARS, Crop Sci. Res. Lab., P.O. Box 5367, Mississippi State, MS 39762. Mississippi Agric. and Forestry Exp. Stn. Publ. no. 6745, Mississippi State, MS. Registration by CSSA. Accepted 30 Mar 1988. \*Corresponding author.

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### REGISTRATION OF TWO NONCOMMERCIAL GERMPLASM LINES OF UPLAND COTTON TOLERANT TO TOBACCO BUDWORM

Two cotton, *Gossypium hirsutum* L., germplasm lines MHR-17 (Reg. no. GP-351) (PI 517945), MHR-18 (Reg. no. GP-352) (PI 517946) tolerant to the tobacco budworm (TBW), *Heliothis virescens* F., were released by the USDA-ARS and the Mississippi Agricultural and Forestry Experiment Station in 1987. Tolerance in these lines is expressed as the ability to produce harvestable bolls in the presence of an artificially induced infestation of TBW larvae. Tolerance was measured by comparing yield of cotton from plots infested with TBW with that from similar plots where all insects were controlled.

MHR-17 and MHR-18 were developed after extensive selection in JPM-781-69-3 (1) for tolerance to TBW. MHR-17 and MHR-18 are more tolerant to TBW than the susceptible check 'Stoneville 213' (ST 213). Under artificial infestations lint lost to TBW was 845 kg ha<sup>-1</sup> for ST 213 and 717 and 632 kg ha<sup>-1</sup> for MHR-17 and MHR-18 respectively. Yields were 1086, 1080, and 1235 kg ha<sup>-1</sup> for ST 213, MHR-17, and MHR-18 when insects were controlled and 241, 518, and 449 kg ha<sup>-1</sup>, respectively, when tobacco budworms were infested in the plots. Thus, these germplasms produced lint yields equal to ST 213 when insects were controlled and about twice as much lint as ST 213 when infested with TBW. Lint percent, fiber, and boll properties of these germplasm lines are similar to those of ST 213.

Since the original release of JPM-781-69-3 was highly resistant to fusarium wilt caused by *Fusarium oxysporum* (sp) Schlecht. *f. vasinfectum* (Atk) Snyder and Hans, we expect MHR-17 and MHR-18 are also resistant; however, they have not been tested. These germplasms should be useful for developing cultivars with increased tolerance to TBW.

Small amounts of seed of each of these lines are available for distribution to cotton breeders and other research workers upon written request to Johnnie N. Jenkins, Crop Science Research Laboratory, P.O. Box 5367, Mississippi State, MS 39762-5367.

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#### References and Notes

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2. USDA, ARS, Crop Sci. Res. Lab., P.O. Box 5367, Mississippi State, MS 39762. Mississippi Agric. and Forestry Exp. Stn. Publ. no. 6747, Mississippi State, MS. Registration by CSSA. Accepted 30 Mar. 1988. \*Corresponding author.

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### REGISTRATION OF DWARF TIFT N75 NAPIERGRASS GERMPLASM

TIFT N75 napiergrass (*Pennisetum purpureum* Schum.) (Reg. no. GP-55) (PI 517947) was developed cooperatively by USDA-ARS and the University of Georgia Coastal Plain Experiment Station at Tifton, GA. It was released by the two agencies in March 1986.

Tift N75 was selected in 1977 from among a selfed progeny of 'Merkeron' napiergrass, a tall hybrid selected from a dwarf × tall napiergrass cross made in 1941 by G.W. Burton. Tift N75 is heterozygous and does not breed true from seed so it has been vegetatively maintained in the field since 1977. Nondefoliated plants have survived each winter at Tifton, GA from 1977 to 1987. The lowest 1.5 m air temperature and 5 cm soil temperature were -22 °C and -2 °C, respectively, recorded in January 1985. Seventy-five percent of plants vegetatively propagated on 22 June 1984 and defoliated 9 Sept. 1984 survived the 1984 to 1985 winter. Survival of Tift N75 was equal to that of Merkeron, one of the most cold tolerant napiergrass cultivars.

Tift N75 will grow to an uncut vegetative height of 1.6 m compared to 4.0 m for Merkeron. Eight week forage regrowth from 26 August to 21 November had 74% leaf in Tift N75 compared to 46% leaf for Merkeron. Stem percent in vitro dry matter digestibility (IVDMD) of the 8-wk-old forage was 58% for Tift N75 and 50% for Merkeron while leaf percent IVDMDs were equal for the same forage from both cultivars. because of its dwarf growth habit, Tift N75 produced one-third as much total dry matter per unit area as Merkeron and some of the more vigorous tall cultivars in 1984 and 1985 yield trials.

Tift N75 is an excellent source of dwarfing genes controlling height in napiergrass and should be useful in breeding programs for producing high quality leafy napiergrass cultivars that are easy to manage. Tift N75 also has potential as a low-management cultivar that produces high quality forage. It has  $2n = 4x = 28$  chromosomes and is male and female fertile. It is short-day sensitive and will not flower at Tifton, GA before frost (usually mid-November) but will flower at Gainesville, FL and at points further south.