worm [Heliothis zea (Boddie)] and the tobacco budworm [H. virescens (F.)]. Tamcot SP215 has given yields significantly higher than the pubescent Tamcot SP37 in the presence of flea beetles and Heliothis spp. (5, 6, 7). In addition, the earliness of Tamcot SP215 aids in evading late season damage from Heliothis spp. and the boll weevil (Anthonomus grandis Boh.).

Tamcot SP215 has the same degree of earliness as Tamcot SP21 and Tamcot SP37 (2,3, 5). The yield potential for Tamcot SP215 is significantly higher than that for Tamcot SP21, Tamcot SP37, and Stoneville 213, respectively. Bolls of Tamcot SP215 are storm resistant and the plant type and fruiting habit are suitable to both machine picking or stripping.

Average characteristics for Tamcot SP215 fiber are estimated to be: length 26.7 mm, strength 554 MPa, and micronaire 4.19. Average boll weight is 5.3 g; seed cotton and lint percent is 40.3.

The Foundation Seed Service of the Texas Agricultural Experiment Station will produce foundation seed which will be sold to producers of registered and certified seed. Application for plant variety protection with title V, which requires that Tamcot SP215 be sold only by cultivar name as a class of certified seed, has been made.

ACKNOWLEDGMENTS

I am indebted to research associates who participated in developing the germplasm and to numerous individuals who participated in evaluating the cultivar.

REFERENCES


REGISTRATION OF TAMCOT CAMD-E COTTON

(Reg. No. 74)

L. S. Bird*

* Tamcot CAMD-E' cotton (Gossypium hirsutum L.) was developed in the Texas A&M Multi-Adversity Resistance (TAMMAR) program of the Texas Agricultural Experiment Station and was released in October 1977 (1, 5). Parents were strains of the Tamcot SP21, 17M*, (Reg. No. 61), and Tamcot SP37, MDR-SP7, and SP46, (Reg No. 65) families (2). The cross (MDR-SP7-67/17M*,F, X SP46-67/17M*,F was made and individual plant selection began in the F1 of the double cross. Individual plant selection was based on seed coat resistance to mold and a reduced rate of germination when held for 8 days on 15% water agar at 13.5°C; this was followed by selection for seedling cotyledon resistance to a mixed inoculum of races 1, 2, 7, and 14 of the bacterial blight pathogen (Xanthomonas campestris pv. malvacearum (F. E. Sm.) Down.). An F2 progeny was given the strain designation HP-2-72 and was evaluated under the name TX-CAMD-E.

The following levels of resistance are used to describe departure from a susceptible type. Tolerance: tolerant cultivars may have the same damage symptoms as non-tolerant ones, but suffer less yield reduction. Partial Resistance: some resistance but not sufficient to prevent serious losses but require less input by management for protection than susceptible cultivars. Intermediate Resistance: better resistance than the partially resistant type and still not sufficient to prevent appreciable losses; but requires less input by management for protection than cultivars with partial resistance. Resistance: better than partial resistance and adequate to prevent appreciable losses unless infection or infestation levels are very high. High Resistance: provides adequate protection from an adversity and prevents economic losses from the production hazard.

CAMD-E has high resistance to bacterial blight (conditioned by the B6, B8, and B15 genes); resistance to the Fusarium root knot nematode complex (incited by Fusarium oxysporum f. sp. vasinfectum (AsaK.) Snyd. and Hans. and Meloidogyne incognita (Kofoid and White) Chitwood); demonstrates intermediate resistance to Verticillium wilt caused by Verticillium albo-aerum Reinke and Berth., MS. CAMD-E has shown intermediate resistance to the seedling disease complex and seedling resistance specific for Rhizoctonia solani (F. sp.) non-sterile Houston clay), one of the main pathogens of the complex; intermediate resistance to seed rot, seed deterioration, and early season cold conditions. CAMD-E also possesses a partial resistance to Phymatotrichum root rot caused by Phymatotrichum omnivorum (Shear) Dug. and resistance to a leaf spot caused by Alternaria macrospora Zimm.

Formal testing for actual damage revealed that Tamcot CAMD-E had 57.6% less square damage from oviposition by the boll weevil (Anthonomus grandis Boh.) compared with Tamcot SP37 (4, 7). During the same 3-year period in other tests CAMD-E consistently gave above average yields, which were 69% of the expected potential with no damage, where cotton fleahopper [Pseudatomoscelis seriatus (Reuter)] bollworm [Heliothis zea (Boddie)], and tobacco budworm [H. virescens (F.1)] populations were damaging singularly in some tests and in combinations for others. CAMD-E has tolerance to fleahoppers and Heliothis spp. (3, 5).

Tamcot CAMD-E is significantly earlier than Tamcot SP37. Earliness of CAMD-E is due in part to resistance to seedling disease pathogens, a fast vertical flowering rate with a high percentage of its plants having early blooms (6). Earliness helps evade losses caused by diseases which occur late in the season. The yield potential for CAMD-E is significantly higher than that for Tamcot SP37 and Stoneville 213 respectively. The bolls of CAMD-E are storm resistant and the plant type and fruiting habit are suitable to both machine picking or stripping. CAMD-E is a pubescent type with hair density the same as Tamcot SP37.

The average characteristics for CAMD-E fiber are estimated to be: length 25.4 mm, strength 492.5 MPa, and micronaire 4.36. Average boll weight is 5.4 g seed cotton and lint percent is 40.1.

The Foundation Seed Service of the Texas Agricultural Experiment Station will produce foundation seed which will be sold to producers of registered and certified seed. Application for plant variety protection with title V, which requires that CAMD-E be sold only by cultivar name as a class of certified seed, has been made.

ACKNOWLEDGMENTS

We are indebted to research associates who participated in developing the germplasm and to numerous individuals who participated in evaluating the cultivar.

REFERENCES