REGISTRATION OF CULTIVARS

Registration of 'Tamcot Sphinx' Cotton

'Tamcot Sphinx' cotton (Gossypium hirsutum L.) (Reg. no. CV-109, P1 592801) was developed in the Texas Multi-Adversity Resistance (MAR) Genetic Improvement Program and released in 1995 by the Texas Agricultural Experiment Station. The MAR program uses techniques and selection procedures for the simultaneous genetic improvement of resistance to pests (insects and plant pathogens) and abiotic stresses, in addition to improving yield, earliness, and fiber and seed quality (2,4).

'Tamcot Sphinx' was developed from a cross between the strain MAR-CDP37HP1-1-1-86 and a selection from 'Paymaster 145'. Individual F2 plants were selected using the MAR procedures and an F3 progeny row therefrom was given the strain designation MAR-CDP3HP45H-2-89.

Based on seedling disease evaluations and field stand counts, 'Tamcot Sphinx' shows higher stand ability and seedling vigor than earlier Tamcot cultivar releases. 'Tamcot Sphinx' has the BbBbBy major genes that together confer high levels of resistance to the 19 designated U.S. races of the bacterial blight pathogen [Xanthomonas campestris pv. malvacearum (Smith) Dye].

'Tamcot Sphinx' has higher levels of resistance to reniform nematode (Rotylenchulus reniformis Linford & Oliveira) than 'Tamcot CAB-CS' (3) and 'Tamcot HQ95' (5). It has the same levels of resistance as Tamcot HQ95 to root pathogens causing verticillium wilt (Verticillium dahliae Kleb.), the fusarium wilt-root (Verticillium dahliae) complex [Fusarium oxysporum Kleb.), the fusarium wilt-root (Verticillium dahliae) and crotalaria growth habit, flowers with cream pollen color, and storm-resistant cotton and is as hirsute as Tamcot HQ95. It has a cylinder-like stem, normal leaf, normal bract, and increased yield potential compared with previously released cultivars. 'Tamcot Sphinx' has the BbBbBy major genes that together confer high levels of resistance to the 19 designated U.S. races of the bacterial blight pathogen [Xanthomonas campestris pv. malvacearum (Smith) Dye].

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'Tamcot Sphinx' has higher levels of resistance than 'Tamcot CAMD-E' (1) to thrips (Thrips spp. and Franklinellia sp.), flea-hopper [Pseudatomoscelis seriata (Reuter)], boll weevil (Anthomorpha grandis Boheman), tobacco budworm [Helicoverpa virescens (F.), syn. Heliothis virescens F.], and bullworm [Helicoverpa zea (Boddie)], and the same levels of resistance to those insects as Tamcot HQ95.

'Tamcot Sphinx' is a glanded, normal leaf, normal bract, nectarated cotton and is as hirsute as Tamcot HQ95. It has a cylindrical growth habit, flowers with cream pollen color, and storm-resistant bolls. Plants of 'Tamcot Sphinx' average 4 cm taller and are less determinate than Tamcot HQ95. A major improvement in 'Tamcot Sphinx' is that it produces significantly higher fiber quality and increased yield potential compared with previously released Tamcot cultivars. 'Tamcot Sphinx' fiber is a 22.6 kN m kg⁻¹ stronger and 0.8 micronaire units higher than the fiber of Tamcot HQ95.

The Foundation Seed Service of the Texas Agricultural Experiment Station will produce, maintain, and sell foundation seed of 'Tamcot Sphinx' to the Texas Cotton Breeders Association (TCBA). Certified seed of 'Tamcot Sphinx' will be produced and sold by licensed member seed companies of TCBA. 'Tamcot Sphinx' has U.S. plant variety protection, requiring that it be sold by cultivar name only as a class of certified seed.

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References and Notes


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Registration of 'Jackson' Wheat

'Jackson' (Reg. no. CV-828, P1 591479) is an awnleted, soft red winter wheat (Triticum aestivum L.) released in June 1993 by the Virginia Agricultural Experiment Station. Jackson, formerly designated as VA 88-54-479, was selected by T.M. Starling as an F₆ headrow from the cross 'Saluda'/Coker 762'. The original cross was made in 1982, and the population was advanced using a modified bulk breeding method. Jackson is a high-yielding, moderately winter-hardy, midseason wheat with high grain volume weight. Jackson has satisfactory milling and baking properties, based on quality evaluations conducted from 1988 to 1992 at the USDA-ARS Soft Wheat Quality Laboratory in Wooster, OH.

Coleoptiles of Jackson are predominantly red, and anthers are yellow, with some anthocyanin along the margins and base. Spikes are tapering to strap (fusiform), medium, and apically awnleted. Glumes are cream to yellow in color, medium in width and length, and have oblique to square shoulders with acute beaks. Kernels of Jackson are red, soft, midlong, and oval, with a narrow and middeep crease, rounded cheeks, and a midlong brush. The phenol reaction is light brown to brown.

Jackson is moderately resistant to powdery mildew (caused by Puccinia graminis Pers. f. sp. tritici Em. Marchal; syn. Buergeria graminis); it had an average mildew severity rating of 12%, compared with 48% for Saluda, in tests conducted during 1990-1992 in 12 Virginia environments. While resistance to leaf rust (caused by Puccinia recondita Roberge ex Desmaz.) of Jackson (Lr11 plus an unidentified gene or genes) is higher than that of Saluda (Lr11), Jackson is moderately susceptible to the races of leaf rust prevalent in the mid-Atlantic region. Jackson is superior to Saluda in resistance to stem rust (caused by Puccinia graminis Pers. Pers), but is susceptible to the most common race (TNR). Jackson does not possess any known resistance to Helminth (Mayetiola destructor (Say)), and is moderately susceptible to wheat spindle streak virus. Jackson has a moderate level of tolerance to septoria leaf blotch (caused by Septoria tritici Roberge in Desmaz.) and to glume blotch (caused by Stagonospora nodorum (Berka.) Castellani & E.G. Germano).

In yield trials conducted across 15 environments in Virginia from 1990 to 1992, Jackson was the highest yielding entry, with an average yield of 3200 kg ha⁻¹. Average grain yields of Jackson