

## Registration of Crop Cultivars

### REGISTRATION OF TAMCOT SP21, TAMCOT SP23 AND TAMCOT SP37 COTTONS<sup>1</sup>

(Reg. Nos. 61, 62, and 63)

L. S. Bird<sup>2</sup>

THE TAMCOT SP varieties (*Gossypium hirsutum* L.) were developed by the Texas Agric. Exp. Stn. and released December 1971. Certificates of protection [PVP07200047 for 'Tamcot SP21' (Reg. No. 61); PVP07200045 for 'Tamcot SP23' (Reg. No. 62); and PVP07200046 for 'Tamcot SP37' (Reg. No. 63)], have been issued under the Plant Variety Protection Act and requires that these varieties be sold only by variety name as a class of certified seed. However, the right to exclude others from selling the varieties, or offering for sale, or reproducing, or importing, or exporting, or using in producing a hybrid or different variety therefrom was waived.

The TAMCOT SP cultivars were selected from the hybrid pool {K4808-5 (1&2)D × [Blightmaster × 39-11-20]} × [K4808-5 (1&2)A × PayM54-M-105-3]. K4808 was derived by transferring the B<sub>2</sub>B<sub>3</sub> genes for bacterial blight [*Xanthomonas malvacearum* (E.F.Sm.) Dows.] resistance from R. L. Knight's BAR 4/16 Sakel (*Gossypium barbadense* L.) strain to an "Empire WR" background. "Blightmaster" is a storm resistant cultivar, having the B<sub>7</sub> gene for bacterial blight resistance, that was developed at the Texas Agricultural Experiment Station, Lubbock, Texas. 39-11-20 was a glandless genetic stock, having the gl<sub>1</sub>, gl<sub>2</sub> genes, that came from the Cotton Research Center, Shafter, California. PayM54-M-105-3 was a Paymaster 54 breeding stock which was obtained from the ACCO Seed Company, Aiken, Texas. The TAMCOT SP cultivars are the first ones developed with the Texas A&M Multi-Adversity Resistance (TAM-MAR) program for genetic improvement in which selection for seed and seedling traits is done in the laboratory under controlled cold (13.3 C) conditions.<sup>3,4</sup> Individual plant selection, followed by progeny and advanced strain evaluations, was practiced for four to five generations. Superior advanced strains within cultivar types were bulked to form each variety.

The cultivars are highly resistant to the known 18 races of the bacterial blight pathogen. They are the first cultivars developed by selecting for traits giving preservation of planting-seed quality, cool soil performance and escape from seedling disease pathogens.

SP21 has high resistance and SP23 high to moderate resistance to the *Fusarium* wilt-root knot nematode complex [*Fusarium oxysporum* f.sp. *vasinfectum* (Atk.) Snyder & Hans. and *Meloidogyne incognita* (Kofoid & White) Chitwood] and *Verticillium* wilt [*Verticillium albo-atrum* Reinke and Berth., MS]. SP37 has low to moderate resistance to both wilt diseases.

The SP cultivars are rapid maturing types and may be harvested 2 to 3 weeks earlier than 'Deltapine 16,' 'Stoneville 7A' and 'Stoneville 213' varieties and 1 to 2 weeks earlier than many

stripper varieties such as 'Lankart 57,' 'Western Stormproof' and 'Paymaster 111'. Their earliness provides escape from late season diseases such as *Phymatotrichum* root rot [*Phymatotrichum omnivorum* (Shear) Dug.] and boll rot, and from late season insect damage. They perform well in short season management programs.

The bolls are storm resistant and may be harvested by machine picking or stripping. SP21 is glabrous and SP23 and SP37 are pubescent types.

In 1968-70 yield tests the SP varieties produced 18 to 39% more lint in comparison with Lankart 57, Lankart 611, Lankart 3840, Stoneville 7A, Stoneville 213, Deltapine 16, 'Lockett 4789', 'Lockett BxL', 'Paymaster 101' and Paymaster 111 varieties. Fiber length is 25.4 to 26.9 mm, strength 593 to 634 MPa, and Micronaire 3.8 to 4.2. Lint percent ranges from 36 to 38. Breeder seed is maintained by the Texas Agric. Exp. Stn. Foundation seed is produced by the Texas Agric. Exp. Stn. and sold to producers of registered and certified seed.

### REGISTRATION OF MINCO PROSO MILLET<sup>1</sup>

(Reg. No. 39)

R. G. Robinson<sup>2</sup>

'MINCO' proso millet (*Panicum miliaceum* L.) was released by the Minnesota Agric. Exp. Stn. on 1 April 1976. Minco originated from a single plant selected in a breeding nursery at Rosemount, Minn. in 1968. The nursery consisted of white seed selections from common white proso millet.

Minco (Minn. 499) was tested from 1970 through 1975 at Rosemount and from 1973 through 1975 at Elk River, Minn. It was the highest yielding millet cultivar in these trials. Compared with other white proso cultivars, it lodged less and had high test weight, medium seed weight, medium height, and late maturity.

Minco is uniform in appearance and has a one-sided contractum panicle. The seeds (florets) are of creamy white color and weigh about 0.65 g per 100 and 70 kg per hectoliter. The plants are pubescent, and height ranges from 0.7 m on sand to 1.1 m on silt loam soil. The plants head about 52 days after planting and are mature about 89 days after planting.

The seed is used primarily for caged and wild bird feeding but is also useful as a food grain and livestock feed grain. The cultivar is tolerant of atrazine [2-chloro-4-(ethylamino)-6-(isopropylamino)-s-triazine] herbicide. Consequently in crop rotations, it can be planted on land previously treated with atrazine. The cultivar is adapted to a large area and has performed well in both Minnesota and Colorado.

Seed classes of Minco will include breeder, foundation, registered, and certified. The Dep. of Agronomy and Plant Genetics, Univ. of Minnesota, St. Paul, MN 55108 will maintain breeder seed by removing off-type plants from breeder seed plots or by growing head selections in individual head-rows and discarding off-type rows.

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<sup>2</sup> Professor, Texas Agric. Exp. Stn., Dep. of Plant Sciences, College Station, TX 77843.

<sup>3</sup> Bird, L. S. 1975. Genetic improvement of cotton for multi-adversity resistance. Beltwide Cotton Prod. Res. Conf., Proc. Cotton Disease Council, 35:150-152.

<sup>4</sup> Bird, L. S., D. L. Bush, F. M. Bourland, and R. G. Percy. 1976. Performance of multi-adversity resistant cottons in the presence of adversity-progress for insect resistance. Beltwide Cotton Prod. Res. Conf., Proc. Cotton Disease Council, 36:28-30.

<sup>1</sup> Registered by the Crop Science Society of America. Contribution from the Minnesota Agricultural Experiment Station, St. Paul 55108. Paper No. 9413 of the Scientific Journal Series, Minnesota Agric. Exp. Stn. Accepted 8 July 1976.

<sup>2</sup> Professor, Dep. of Agronomy and Plant Genetics, Univ. of Minnesota, St. Paul.