REGISTRATION OF TAM 105 WHEAT†
(Reg. No. 624)
K. B. Porter, E. C. Gilmore, and N. A. Tuleen†

'TAM 105,' a short stature hard red winter wheat (Triticum aestivum L. em. Thell.), was developed cooperatively by the Texas Agric. Exp. Stn. and AR-SEA-USDA. TAM 105 was tested as TX89A569-1 and has been assigned CI 17826. TX89A569 was selected at the USDA Southwestern Great Plains Research Center, in 1969 from the progeny of a composite bulk made up originally of F₂ seed from crosses and backcrosses of several short experimental wheats to 'Scout'. TX89A569-1 was selected from TX89A569 in the F₂ in 1969. The short wheat parent used to develop the composite bulk were several selections from crosses of a sib of 'Sturdy', TX391-56-D8, with a number of normal height experimental lines and commercial cultivars. Crosses of the composite, called Short Wheat/Scout, were made up at the USDA Southwestern Great Plains Research Center in 1966. TAM 105 was distributed to certified seed growers in 1979.

TAM 105 averaged about 5 cm taller than 'TAM W-101' and 8 cm shorter than 'Scout 66' in irrigated trials at Bushland and is about one day earlier in date of heading. Spikes are awned, fusiform, middense, and inclined to erect. Glumes are brown, glabrous, midlong, narrow to midwide. Glume shoulders are narrow, wanting to oblique at the base, and square at the apex. Beaks are narrow, acuminate, and 4 to 8 mm long. The kernels are elliptical to ovate and have small to midsize germ. The kernel crease is rounded, midwide, and middeep. The brush is midized and midlong.

TAM 105 has an outstanding yield record. In the Southern Regional Performance Nurseries from 1976 through 1978, it ranked no lower than second among all entries in average yield. The 3-year average yield of TAM 105 was 15% greater than the yield of Scout 66.

TAM 105 averaged 1% higher yield than TAM W-101, a popular semidwarf cultivar and 1% higher yield than TAM 106, in irrigated trials on the High Plains of Texas from 1974 to 1978. It averaged 16% higher yield than TAM W-101 and TAM 106, and 41% higher than Sturdy in dryland trials on the Rolling Plains of Texas from 1974 to 1978. The test weight of TAM 105 is about 0.8 kg/hl less than that of Scout 66 and about the same as that of Sturdy.

TAM 105 is about as winterhardy as Scout 66. It is susceptible to powdery mildew (incited by Erysiphe graminis DC. ex. Merat f. sp. tritici). Reaction to leaf rust (incited by Puccinia recondita Rob. ex. Desm. f. sp. tritici) has varied from moderately susceptible to moderately resistant. It is neither highly susceptible nor highly resistant to stem rust (caused by Puccinia graminis Pers. f. sp. tritici Eriks. and E. Henn.).

Quality characteristics of TAM 105 arc equal to or slightly better than those of Scout 66 except for lower percent protein. It has averaged about 0.6 to 1 percentage point lower in protein than Scout 66 in Texas and in regional trials. The lower percent protein of TAM 105 is in part associated with its high yield.

Breeder seed will be maintained by the Texas Agric. Exp. Stn. at the USDA Southwestern Great Plains Research Center, Bushland, TX 79012. Foundation seed will be available from the Foundation Seed Service, Texas A&M Univ., College Station, TX 77843.

REGISTRATION OF TAM 106 WHEAT†
(Reg. No. 625)
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'TAM 106,' a short stature hard red winter wheat (Triticum aestivum L. em. Thell.), was developed cooperatively by the Texas Agric. Exp. Stn. and AR-SEA-USDA. TAM 106 was tested as TX71A801 and has been assigned CI 17827. TAM 106 was selected as an F₂ plant at the USDA Southwestern Great Plains Research Center, Bushland, Texas. The pedigree is 'Sturdy' × 'Tascosa'/'Tascosa' (TX62A2712-7) × 'Centurk'. TAM 106 was distributed to certified seed growers in 1978.

TAM 106 averaged 76 cm in height, 4 cm taller than 'TAM W-105' and 4 cm shorter than Sturdy, in irrigated trials at Bushland. It has been 2 cm shorter than Sturdy at Vernon but taller by the same height as Sturdy at Dallas. It has headed about 1 day earlier than Sturdy on the High and Rolling Plains of Texas but 6 days later than Sturdy at Dallas. Spikes are awned, fusiform, middense, and inclined to erect. Glumes are midwide and glabrous. Shoulders are narrow, wanting to oblique at the base and square at the apex of the spike. Beaks are midized 10 to 25 mm long. Awns are white and 4 to 8 cm long. The kernels are midlong and elliptical to ovate. The germ is midized, the crease midwide, rounded and middeep, and the brush midized and midlong.

TAM 106 has produced only slightly higher yields than 'TAM W-101' in irrigated trials on the High Plains and on dryland in the Rolling Plains of Texas. It has performed well at Dallas, where its average yield has equaled that of the soft red winter cultivar 'Coker 68-15.'. The average yields of TAM 106 in regional trials in 1974 to 1976, were equal to those of 'Sage' and Centurk. Its weight per bushel is slightly greater than that of Centurk.

TAM 106 is moderately resistant to powdery mildew (caused by Erysiphe graminis DC. ex. Merat f. sp. tritici). Reaction to leaf rust (caused by Puccinia recondita Rob. ex. Desm. f. sp. tritici) has usually been resistant to moderately resistant; however, susceptible reactions have been observed in the field. Seedlings in the greenhouse were moderately resistant to a race that is virulent on 'Blueboy II'.

Quality evaluations of TAM 106 were conducted on Texas samples at the Cereal Quality Laboratory, Texas A&M Univ., College Station. and on composites from the 1974-76 Southern Regional Performance Nurseries.