REGISTRATION OF TAMEX WHEAT

(Reg. No. 653)

K. B. Porter, E. C. Gilmore, and R. E. Finkner

'TAMEX,' a short-stature, hard red winter wheat (Triticum aestivum L. em Thell.), was developed cooperatively by the Texas Agric. Exp. Stn., and ARS-USDA. Tamex was tested as TX694A450-1 and has been assigned CI 17889. TX69A450 was selected at the USDA Conservation and Production Research Laboratory in 1969 from a progeny of a composite bulk made up originally of F2 seed from crosses and backcrosses of several short experimental wheats to 'Scout.' This was the same composite from which 'TAM 105,' CI 17826, was selected.2 TX69A450-1 was selected as a single spike from TX69A450 in the F2 in 1969. The short wheat parents used to develop the composite bulk were primarily selections from crosses of a sib of 'Sturdy,' TX391-56-D8, with a number of normal height experimental lines and commercial cultivars. However, some crosses involved 'Norin-16' derivatives as the short parent, a fact which was inadvertently omitted in the description of TAM 105.3

Crosses of the composite, called short wheat/Scout, were made at the USDA Production and Conservation Research Laboratory in 1980. Tamex was jointly named and released by Texas and New Mexico Agric. Exp. Stns. in 1980.

Tamex averaged about 5 cm taller than 'Vona' and 8 to 10 cm shorter than Scout 66 in irrigated trials on the High Plains of New Mexico and Texas and is about the same maturity as 'Centurk.' Spikes are awned, fusiform, middense, and erect. Glumes are white, glabrous, midlong, and midwide. Glume shoulders are oblique and midwide. Beaks are narrow and attenuate, 3 mm in length at the base to 5 mm long at the spike apex. Awns are 6 to 9 cm long. The kernels are elliptical and have midsize germ. The crease is rounded, midwide, and shallow to middeep. The brush is midsize and mid-long.

In the Southern Regional Performance Nurseries,4 1974 and 1975, the 2-year average yield of Tamex equaled the yields of 'Sage,' TAM 106, and 'Lindon,' and was 108% of the yield of 'Scout 66.' In irrigated yield trials at the New Mexico Agric. Exp. Stn., Plains Branch Station, Clovis, its 5-year average yield equaled that of Centurk but was less than that of TAM 105.7 Tamex equaled or exceeded the yield of Centurk but was less than that of TAM 105 in irrigated trials at the USDA Conservation and Production Research Laboratory, Bushland, Texas. The test weight of Tamex has averaged about the same as that of Scout 66 but 1.3 kg/hl less than that of Centurk in irrigated trials at Clovis, New Mexico, and 1.4 kg/hl less than that of Scout 66 in regional trials.8

Tamex is recommended only for high soil moisture and fertility levels. It has performed poorly on dryland on the High Plains of Texas and New Mexico. Tamex is resistant to lodging, moderately resistant to leaf rust (incited by Puccinia graminis f. sp. Puccina tritici), and research entomologist, ARS, USDA, and associate professor, Dep. of Entomology; respectively.

'AUERBACH' (CI 17898) soft red winter wheat (Triticum aestivum L. em Thell.), was developed at the Purdue Univ. Agric. Exp. Stn. in cooperation with ARS, USDA, was released in 1981. It was tested in Indiana and regionally as Purdue 69195C9-4-1-1 before it was named.

The abbreviated parentage of Auburn is: 'Siete Cerros/Arthur/ Purdue 6850 sel./Afghanistan sel./Purdue 5374 sel./Knox 86/2/ 'Frontana' Exchange/3X/Riley sib/5/Arthur 52/2/Arthur sib/Agatha 5/ Purdue 6729 F1, Purdue 6850 sel. and Purdue 6729F1, are similar to 'Oasis' and Purdue 5374 sel. is similar to 'Knox 86.' Auburn was developed by the pedigree method of breeding with plant selection in the F1, F2, F3, and F4 generations. Progeny of the F1 plant were grown without selection during the F2 to F4 generations. In the F5 generation 52 to 100 plant progeny rows homoyzous for moderate resistance to Septoria leaf blotch (incited by Septoria tritici Rob. ex. Desm.) and resistant to leaf rust (incited by Puccinia recondita Rob. ex. Desm.) in the adult plant stage in the field in 1978 were bulked to form breeder seed. In 1980 breeder seed was in the F1 generation.


Auburn is outstanding for winterhardiness in Indiana. It is moderately early, heading about 3 days later than Arthur. It averages 91 cm tall, about 5 cm shorter than Arthur. The young plant is semi-erect and may express anthocyanin pigmentation. The sheath of the first leaf is glabrous. The plant is medium green at booting and the flag leaf is generally erect and not twisted. The flag leaf sheath shows a light bloom. The leaf below the flag leaf averages 11 mm wide and 16 cm long. Auricles are glabrous and may show anthocyanin pigmentation. The culms are glabrous, strong, erect, hollow, and characteristically express anthocyanin pigmentation and a light bloom. Four nodes usually occur above ground and the distance between the flag leaf and the next leaf below averages 18 cm. The peduncle has a very light expression of nakiness.

Spikes are lax to mid-dense, tapers, awnletted, and a light brownish-white to white at maturity. Spikes average 9 cm long and 13 mm wide. Glumes are glabrous, midlong, and midwide. Kernels are red, ovate, and average 6 mm long, 3 mm wide, and 29 mg in weight. The phenol reaction is brown. Anthers are yellow.

Auburn has been resistant to moderately susceptible to Puccinia graminis Pers. sp. tritici Erik & E. Henne. in field nursery tests. It has been resistant in the adult plant field tests to P. recondita races

1 Registered by the Crop Sci. Soc. Am. Cooperative investigations of the Texas Agric. Exp. Stn. and ARS-USDA. Approved for publication as Technical Article No. 16750 by the Director of the Texas Agric. Exp. Stn., College Station. Accepted 2 Sept. 1981.
2 Professors, Texas A&M Univ. Agric. Research and Extension Centers at Amarillo (Bushland), Chillicothe-Vernon, and professor, New Mexico State Univ., Plains Branch Station, Clovis.
4 Joint progress reports for years indicated of cooperative investigations in the State Experiment Stations and of USDA, V. A. Johnson, research agronomist and technical advisor, hard red winter wheat, ARS-USDA, Univ. of Nebraska, Lincoln.
6 Quality data were provided by K. F. Finney, research chemist, U.S. Grain Marketing Research Center, ARS-USDA, Manhattan, Kansas.

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