REGISTRATION OF 'TAM 108' WHEAT

'TAM 108' (Reg. no. 719) (PI 495595) a white chaff, awned, semidwarf hard red winter wheat (Triticum aestivum L.) was developed cooperatively by the Texas Agricultural Experiment Station and USDA-ARS, and was released to producers in August 1984. TAM 108 was evaluated as TX71A562-6-28 and was a single head selection in the F3 from the line TX71A562-6, which had the pedigree 'Sturdy' sib, 391-56D8/'Triumph'/Centurk'. Crosses, selections, and early evaluations were made at the USDA Conservation and Production Research Laboratory, Bushland, TX.

TAM 108 is 5 cm taller than 'TAM 105' in irrigated trials, but about the same height as TAM 105 in Texas dryland trials. It averaged 15 cm shorter than 'Scout 66' in the Southern Regional Performance Nurseries (1), 1982-1984. The average heading date of TAM 108 in regional trials during 1982-1984 was the same as Scout 66. TAM 108 averaged 1 day later than Scout 66 in South Dakota, but 4 days earlier than Scout 66 at Dallas. Compared to TAM 105 in Texas, TAM 108 was 3 days later at Bushland, 1 day later at Chillicothe, and 3 days earlier at Dallas. Although TAM 108 is not insensitive to daylength, it appears to be less sensitive than Scout 66 or TAM 105.

Spikes are white, awned, fusiform, and inclined to erect. Glumes are white, glabrous, midlong, and narrow to midwide. Glume shoulders are narrow, wanting to oblique at the base to square at the apex. Beaks are narrow, acuminate and 4 to 8 mm long. The kernels are ovate to elliptical, have midsized germ, and medium brush. The kernel crease is rounded, midwide, and middeep.

TAM 108 has equaled or exceeded the yield of TAM 105 in dryland trials on the High Plains of Texas from 1982 through 1985. Its average yield in irrigated trials at Bushland during this period was 114% of TAM 105. TAM 108 was one of the higher yielding entries in tests in the Rolling Plains of Texas from 1982 through 1984 where its average yield equaled TAM 105. The 1982-1984 average yield of TAM 108 in central Texas trials was 88% of the early, leaf rust (incited by Puccinia recondita Rob. ex. Desm. Eriks.) resistant 'Mit'. Its average yield in central Texas was only 51% of Mit in 1985 when leaf rust caused a substantial reduction in the yield of susceptible cultivars of Texas. TAM 108 had an outstanding yield in the Southern Regional Performance Nurseries (1) with no lower than fifth. Its 3-yr average yield in regional trials (1) was 119% of Scout 66.

The 3-yr average grain volume weight of TAM 108 in regional trials (1) was 73.7 kg/hL compared to 76.7 kg/hL for Scout 66. Low volume weight is the most serious fault of TAM 108. TAM 108 is sufficiently winter hardy for all of Texas, but is less winter hardy than Scout 105. It has slightly weaker straw than TAM 105 and is more resistant to lodging than Scout 66.

TAM 108 is resistant to soil-borne wheat mosaic virus, moderately resistant to powdery mildew (incited by Puccinia graminis DC. f. sp. tritici E. Marchal) and stem rust (caused by Puccinia graminis Pers. f. sp. tritici Eriks.) but is susceptible to leaf rust. TAM 108 is a mellow gluten wheat. In evaluations of grain composites of 1982-1984 regional trials, the bake mix time and flour water absorption were rated questionable to satisfactory (1). Wheat protein of these composites averaged 12.0 and 12.8% for TAM 108 and Scout 66 respectively.

Application for Plant Variety Protection has been made for TAM 108, but certification will not be required. Breeders seed will be maintained by the Texas Agricultural Experiment Station at the USDA Conservation and Production Research Laboratory, Bushland, TX. Requests for foundation seed should be sent to the Foundation Seed Service, Texas A&M University, College Station, TX 77843.


References and Notes

1. From joint progress reports for years indicated of cooperations in the state experiment stations and USDA-ARS. Reports of W. D. Johnson, formerly research agronomist and technical advisor for winter wheat, USDA-ARS, Univ. of Nebraska, Lincoln, NE, were provided by K.F. Finney, formerly research chemist, market research food technologist, and Y. Pomeranz, director, U.S. Wheat Res. Lab., USDA-ARS, Manhattan, KS.

2. Professor, associate professor, former professor, and professor, Exp. Stn., Amarillo (Bushland), Chillicothe-Vernon, Dallas, and Chillicothe-Vernon; and associate professors, Texas Agric. Exp. Stn. and Soil and Crop Sciences, Texas A&M Univ., College Station, respectively. Cooperative investigations of the Texas Agric. Exp. Stn., Approved for publication as Technical Article no. 2176 of the Texas Agric. Exp. Stn., College Station, TX. Published in Crop Sci. Soc. of Am. Accepted 28 Feb. 1987.

Published in Crop Sci. 27:818-819 (1987).