stem rust present. It has genes for resistance to stem rust isolates 72-00-1370C and 69-21-399 of Race 151; 71-21-584E, 72-25-639C, and 72-00-53a of Race 11-32-113; and 72-01-4A and 74-21-1409A of Race 15B-2. It is susceptible to soil-borne mosaic virus and to Septoria spp. Its 1987 average winter survival in northern locations was 70%, compared with 67, 34 and 73% for TAM 105, 'Vona', and 'Scout 66', respectively.

TXGH10989, TAM W-101*4/*Amigo*4*Largo, has white to light brown chaff and resembles TAM W-101 in appearance, plant height, and maturity. It is photoperiod sensitive. Its average yield and volume weight in Texas trials have been approximately the same as those of TAM W-101. It ranked 35th and 42nd in average yield in the 1987 and 1988 SRPN respectively, yielding less than TAM 105, but more than Scout 66 both years. It possesses genes for resistance to the same stem rust isolates as TXGH10563B. It is susceptible to soil-borne mosaic virus and to Septoria spp. Its average winter survival in 1987 was 38%, indicating about the same level of winterhardiness as TAM W-101.

TXGH13622, TX71A562-6*/Amigo*4*Largo, has white chaff and resembles 'TAM 108', which is a selection from TX71A562-6. However, it heads 3 to 4 d earlier than TAM 108 at Bushland, TX, and as much as 10 d earlier than TAM 108 at Dallas and Temple, TX, suggesting that it is photoperiod insensitive. It is about the same height as TAM 108. Its yield in Texas trials has equaled or exceeded the yield of TAM 108, and it ranked sixth and first in average yield in the 1987 and 1988 SRPN respectively. In Texas trials, the average volume weight of TXGH13622 was 74.6, compared with 69.1 kg/ha for TAM 108. It possesses all the genes for resistance to stem rust that the other two germplasm lines have; in addition, it has the Sr71 gene. It is resistant to soil-borne mosaic virus and susceptible to Septoria spp. Its winter survival in 1987 was 58%, compared with 70 and 38% for TXGH10563B and TXGH10989, respectively.

These germplasm lines were released to plant breeders of public institutions under the Experiment Station Committee on Seed Release Policy entitled “A Statement of Responsibilities of Policies Relating to Development, Release and Multiplication of Publicly Developed Varieties of Seed Propagated Crops.” Release to private plant breeding firms is limited by a specific memorandum of agreement with the Texas Agricultural Experiment Station restricting use of the lines to testing or breeding purposes only. Requests for small amounts of seed should be sent to the Foundation Seed Service, Texas A&M University, College Station, TX 77843. Seed will be maintained at the Texas A&M University Research and Extension Center, Amarillo, TX.

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Reference and Notes
1. K.B. Porter and G.L. Peterson, Texas Agric. Exp. Sta., Amarillo, TX 79106; W.D. Worrell, Texas Agric. Exp. Sta., Vernon, TX 76384; M.E. McDaniel and N.A. Tuleen, Dept. of Soil and Crop Sciences, Texas A&M Univ., College Station, TX 77843; D.S. Marshall, Texas Agric. Exp. Sta., Dallas, TX 75252; and L.R. Nelson, Texas Agric. Exp. Sta., Overton, TX 75684. Technical Article no. 24136 from the Texas Agric. Exp. Station. Registration by CSSA. Accepted 30 Apr. 1989. *Corresponding author.

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REGISTRATION OF PARENTAL LINES


Three yellow dent maize (Zea mays L.) inbreds R225 (Reg. no. PL-127, PI 531509), R226 (Reg. no. PL-128, PI 531510), and R227 (Reg. no. PL-129, PI 531511) were developed by the Illinois Agriculture Experiment Station, Urbana, IL 61801. The three inbreds were released in March 1986 as sources of resistance to multiple leaf diseases: northern corn leaf blight, caused by Exserohilum turcicum (Pass.) Leonard and Sugis.; southern corn leaf blight, caused by Bipolaris maydis, (Nisikado and Miyake); and anthracnose leaf blight, caused by Colletotrichum graminicola, (Ces.) Wilson. The three inbreds could serve as sources for improving leaf disease resistance of commercial inbreds.

Inbred R225 and R226 were selected from BS10C4 (1,3) synthetic based on one generation of early testing for grain yield of S families per se plus testcrosses of the S families with the inbred tester B37. Subsequent development included selfing for seven generations with ear-to-row selection under artificial inoculation for multiple leaf disease resistance. R225 was formerly designated RBS10-676-3 and R226 was RBS10-844-1. The percentage of leaf area infected (average of two ratings in 1985) with multiple leaf diseases was 26, 26, 45 and 36% for R225, R226, FRB73 and FRMol17, respectively. Days from planting to mid-pollen-shed was 76, 75, and 72 for R225, R226 and B73, respectively. R225 reaches midsilk in 78 d, R226 in 75 d and B73 in 74 d. Both R225 and R226 would be in the AES 900 maturity group. R225 and R226 have dent-type kernels with R225 having a hard-texture endosperm and R226 a soft-texture endosperm. R225 and R226 have red cobs with 14 to 16 kernel rows.

R225 and R226 are vigorous inbreds with 2-yr average yields of 4.9 and 5.5 t ha⁻¹, respectively, compared to 6.7 t ha⁻¹ for FRB73. Both R225 and R226 combine well with FRB73, but have problems with stalk quality.

Inbred R227 was selected from RSCSC (2) by early-generation testing for one generation using both S families per se and testcross performance with B79. Subsequent development included selfing for seven generations with ear-to-row selection and artificial inoculation for multiple leaf disease resistance as cited above. R227 was formerly designated as RSC-110. The percentage of leaf area infected (average of two dates in 1985) with multiple leaf diseases was 34, vs. 45% for FRB73. R227 reaches mid-pollen-shed...