REGISTRATION OF PARENTAL LINES

Registration of a Food Quality Sorghum Restorer Parent, Tx2907

Tx2907 (Reg. no. PL-253, PI 585295), an inbred sorghum [Sorghum bicolor (L.) Moench] restorer line, was released in 1994 by the Texas Agricultural Experiment Station, Department of Soil & Crop Sciences, Texas A&M University, College Station, TX. Tx2907 is an agronomically acceptable elite parental line with white translucent pericarp, waxy endosperm grain, and tan plant color.

Tx2907 was developed from an intentional cross and has a pedigree of (Tx435* R3338wx)-C1-C1-T3-CBK. The original cross was made in the greenhouse in 1986. Segregating progenies were selected in College Station in 1987 and 1988, then in Isabela, Puerto Rico, in 1989. Final selection was made in Lubbock in 1992 from 92L50 and has been maintained as a pure line since. R3338wx was a waxy endosperm breeding line derived from [(Dryland F2 Composite/72L21229-2*Greenbug resistant SC110-6 derivative)*SC748-5]-H17-B2-BH5-P2-LBK-LBK-LBK. 72L21229-2 is a red, homozygous waxy endosperm selection from a mixture of F2's involving Caprock, Darset, Combine White Feterita, Double Dwarf Feterita, and Texioca-54 that had been selected under drought stress for three cycles. SC110-6 is a partially converted IS12610 zerazenia from Ethiopia. SC748-5 is a partially converted IS3552 zerazenia from Sudan. Fieldbook notes indicate that R3338wx sibs were weathering resistant with harder than normal waxy endosperm types, such as Texioca-54. RTx435 is a tan plant color, white or colorless epicarp, and yellow endosperm restorer line released by Texas A&M University in 1985.

Tx2907 is genetically 3-dwarf (dw1 Dw2 dwv3 dwv4) and is approximately equal to RTx435 in height. The panicle is semiopen, with erect rachis branches at maturity. Tx2907 has a genotype of $iiZZB_1B_1b_2b_2wxwx$ for caryopsis traits. Caryopses are slightly elliptical and glumes cover approximately 1/3 of the caryopsis. Glumes are straw color, florets are awnless, and spikelets are normally neuter. Plant color is tan, midrib is juicy. Anthesis date is approximately 3 d earlier than RTx430. Tx2907 produces 0 to 3 tillers, which are synchronous with the main culm. Tx2907 restorers fertility to cytoplasmic-genetic male sterility, and restoration of $A_2$ and $A_3$ systems is not known.

Tx2907 has resistance to anthracnose caused by Colletotrichum graminicola (Ces.) G.W. Wils. for pathotypes in Georgia, Texas, and Puerto Rico. The line has additional resistances to head blight caused by Fusarium spp., rust caused by Pucciniarrella, and leaf blight caused by Exserohilum turcicum. Leonard & E.G. Suggs.

The line was developed for and was released to provide a tan plant with straw color glumes and white waxy endosperm grain for use in production of waxy endosperm food quality hybrids made with available waxy endosperm females. FI hybrids made with available waxy endosperm females have favorable yield potentials, resistances to prevalent biotic and abiotic stresses, and desirable food processing qualities. Breeder seed will be maintained at Texas A&M University, Department of Soil & Crop Sciences, College Station, TX.


References and Notes


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