REGISTRATION OF 28 MIDGE RESISTANT
SORGHUM GERMPLASM LINES1
(Reg. Nos. GP98 to GP125)


The registration of twenty-eight sorghum [Sorghum bicolor (L.) Moench] germplasm lines was released in 1979 by the Texas Agricultural Experiment Station. They were selected during various generations from crosses of midge resistant cultivars and standard varieties (Table 1). Crosses and final selections were made at Lubbock, Tex.; evaluation for response to midge Contarinia sorghicola, (Coquillet) and diseases were made at Lubbock, Corpus Christi, and Beeville, Tex. and Tifton, Ga. Tx2754 to Tx2757 are susceptible to downy mildew caused by Peronosclerospora sorghi (Weston and Uppal) Shaw and head smut caused by Sphacelotheca reiliana (Kuhn) Clinton. Tx2758 and Tx2780 are susceptible to downy mildew. Tx2762, Tx2771, Tx2773, and Tx2778 are susceptible to head smut. All other lines are resistant to downy mildew and head smut.

All are resistant to midge and are agronomically more desirable than previously developed midge resistant sorghums. Tx2754 to Tx2761 do not restore, or only partially restore fertility in A, cytoplasm. Tx2762, Tx2780 and Tx2781 were derived from crosses of R-lines and should be fertility restorers. Tx2763 to Tx2779 were derived from crosses of fertility restorers and nonrestorers and may be useful in developing B or R-lines.

Seed will be maintained and distributed by the Texas Agricultural Experiment Station, Route 3, Lubbock, TX 79401.

1Registered by the Crop Sci. Soc. Am. Contribution (TA17156) of the Texas Agricultural Experiment Station. They were selected during various generations from crosses of midge resistant cultivars and standard varieties (Table 1). Crosses and final selections were made at Lubbock, Tex.; evaluation for response to midge Contarinia sorghicola, (Coquillet) and diseases were made at Lubbock, Corpus Christi, and Beeville, Tex. and Tifton, Ga. Tx2754 to Tx2757 are susceptible to downy mildew caused by Peronosclerospora sorghi (Weston and Uppal) Shaw and head smut caused by Sphacelotheca reiliana (Kuhn) Clinton. Tx2758 and Tx2780 are susceptible to downy mildew. Tx2762, Tx2771, Tx2773, and Tx2778 are susceptible to head smut. All other lines are resistant to downy mildew and head smut.

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2Professor, Texas Agricultural Experiment Station, Lubbock, TX 79401; and professor, Dep. of Entomology, Texas A&M University, College Station, TX 77843; and research associate, Texas Agricultural Experiment Station, Lubbock, TX 79401.

The pedigrees of each composite are presented in Table 1. PI264453, the greenbug resistant parent of TAM Bk 41, and KS30, the greenbug resistant parent of TAM Bk 42, were released in 1979 by the Texas Agricultural Experiment Station. TAM Bk 41 and TAM Bk 42 are agronomically desirable grain types that are resistant to greenbugs Schizaphis graminum (Weston and Uppal) Shaw and head smut caused by Sphacelotheca reiliana (Kuhn) Clinton. Tx2758 and Tx2780 are susceptible to downy mildew. Tx2762, Tx2771, Tx2773, and Tx2778 are susceptible to head smut. All other lines are resistant to downy mildew and head smut.

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