approximately 72 cm in height, has poor panicle exsertion (less that 5 cm), purple plant color, dry stalk, and is awnless. The grain is smaller than 'Tx2737', has a thick white pericarp and a nonpigmented testa. The line is heterogenous for fertility restoration in A₁ cytoplasm, while reaction in A₂ cytoplasm is not known.

Seed will be maintained and distributed by the Texas Agric. Exp. Stn., Route 3, Lubbock, TX 79401.


References and Notes
1. Assistant professor, Texas Agric. Exp. Stn., Lubbock, TX 79401; director of sorghum research, Northrup King Co., New Deal, TX 79550 (formerly professor, Texas Agric. Exp. Stn.); professor, Dep. of Entomology, Texas A&M Univ., College Station, TX 77845; professor, Texas Agric. Exp. Stn., Lubbock, TX 79401; and sorghum specialist, Inter-American Inst. for Agricultural Cooperation/EMBRAPA-CNPM/World Bank, Caixa Postal 151, Sete Lagoas, Minas Gerais, 35700, Brazil. Registration by Crop Sci. Soc. of Am. Contribution no. TA18410, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77845. This research was supported in part by grant AID/DSAN/XII/G-0149 from the U.S. Agency for International Development, Washington, D.C. 20523. Accepted 23 Sept. 1983.

REGISTRATION OF Tx2783 GREENBUG RESISTANT SORGHUM GERMPLASM LINE

'Tx2783' grain sorghum [Sorghum bicolor (L.) Moench] (Reg. No. GP137) was developed by the Texas Agricultural Experiment Station as a source of resistance to greenbug [Schizaphis graminum (Rondani)] biotypes C and E, derived from 'Capbam'. Capbam was an introduction from Russia received from DeKalb Agricultural Research Inc. in 1971. Tx2783 was released in 1981.

Tx2783 has a complex parentage. In 1971, the cross Tx424 X Capbam was made. Greenbug resistant F₂ selections were made in 1972. A resistant F₂ selection was crossed with a genetic male sterile (ms) from [(TX412 X SC0173-9) X SC0326-6] X SC0110-9. A greenbug resistant F₂ selection was then crossed with a genetic male sterile (ms) from [(ROKY8 X TX2536) X SC0110-9] X SC0599-6. Greenbug-resistant selections were made in the F₁ and F₂ generations. A resistant F₂ was crossed with a genetic male sterile (ms) from IS12610C (SC0110-4). Prior to 1980, selection was for biotype C resistance. In 1980 selection was for biotype E resistance. The release was a bulk of two F₂ rows derived from one F₂ plant.

Tx2783 exhibits a high level of resistance to greenbug biotype E in field screening and greenhouse seedling screening tests (Table 1). Tx2783 is heterogenous for height (86 to 102 cm) and awns, and has poor panicle exsertion. Grains have a thin red pericarp. Plant color is purple, and the plant stalk is juicy. Fifty percent anthesis occurs approximately 68 days after planting at Lubbock, Tex. Tx2783 has a low level of susceptibility to downy mildew, caused by Pseudoperonospora sorghi (Weston and Up palp) C.G. Shaw pathotype 1, and is susceptible to rust, caused by Puccinia purpurea Cke. and leaf blight, caused by Helminthosporium turcicum Pass. [Exserohilum turcicum (Pass.) Leon ard and Suggs]. Tx2783 is resistant to head smut, caused by Sphe sacchieta riei lano (Kuehn) Clin. in Texas and to anthracnose, caused by Colletotrichum graminicola (Ces.) G.W. Wils. in Georgia. The line is susceptible to insecticide phytotoxicity. In A₁ cytoplasm Tx2783 is a restorer. Fertility reaction in A₂ cytoplasm is not known.

Table 1. Reaction of three sorghum lines to biotype E greenbug infestations, 1980.

<table>
<thead>
<tr>
<th>Line†</th>
<th>Field at Halfway§</th>
<th>Greenhouse at Lubbock¶</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Early</td>
<td>Late</td>
</tr>
<tr>
<td></td>
<td>Rating</td>
<td>Rating</td>
</tr>
<tr>
<td>Tx2536</td>
<td>5.5</td>
<td>8</td>
</tr>
<tr>
<td>Tx2737</td>
<td>5.5</td>
<td>8</td>
</tr>
<tr>
<td>Tx2783</td>
<td>3.5</td>
<td>5</td>
</tr>
</tbody>
</table>

† Tx2536 susceptible to biotype C. Tx2737 resistant to biotype C.
‡ Rating system: 1 = No red spotting on leaves, 2 = Red spotting on leaves, 3 = Portion of one leaf killed by greenbugs, 4 = One leaf killed by greenbugs, 5 = Two leaves killed by greenbugs, 6 = Four entire leaves killed by greenbugs, 7 = Six leaves killed by greenbugs, 8 = Eight leaves killed by greenbugs, and 9 = Dead plant.
§ Seedling rating based on percent of plant tissue killed by greenbug feeding: 4% = 40%, 9% = 90%, 10% = 100%.

Seed will be maintained and distributed by the Texas Agric. Exp. Stn., Route 3, Lubbock, TX 79401.

G.C. Peterson, J.W. Johnson, G.L. Teetes, and D.T. Rosenow (2)

References and Notes
1. The IS numbers associated with the SC designations are as follows: SC0173-9 was a BCF₁ selection from 'IS12664', SC0326-6 was a BCF₂ selection from 'IS15758', SC0110-9 was a BCF₂ selection from 'IS12610', and SC0599-6 was a BCF₂ selection from 'IS12610', all from the Texas Agric. Exp. Stn. USDA sorghum conversion project.
2. Assistant professor, Texas Agric. Exp. Stn., Lubbock, TX 79401; director of sorghum research, Northrup King Co., New Deal, TX 79550 (formerly professor, Texas Agric. Exp. Stn.); professor, Dep. of Entomology, Texas A&M Univ., College Station, TX 77845; and professor, Texas Agric. Exp. Stn., Lubbock, TX 79401. Registration by Crop Sci. Soc. of Am. Contribution no. TA18444, Texas Agric. Exp. Stn., Texas A&M Univ., College Station, TX 77845. This research was supported in part by grant AID/DSAN/XII/G-0149 from the U.S. Agency for International Development, Washington, D.C. 20523. Accepted 23 Sept. 1985.

REGISTRATION OF A GERMPLASM LINE OF SOYBEAN, A7

The soybean [Glycine max (L.) Merr.] (Reg. no. GP50) germplasm line, A7, was developed cooperatively by the Iowa Agriculture and Home Economics Experiment Station and the Puerto Rico Agricultural Experiment Station. Its resistance to iron-deficiency chlorosis on calcareous soil is superior to any other genotype of soybean that has been evaluated for the character. The line was released for use as a parent stock in soybean breeding and genetics programs.

A7 was derived from an S₀ plant (equivalent to F₀) in the breeding population AP9 (5). The line was identified after three cycles of recurrent selection for improved resistance to iron-deficiency chlorosis on calcareous soil (2, 3). Each cycle, the S₀ progeny of 100 S₁ plants were evaluated for iron chlorosis when grown in replicated plots on calcareous soil in Iowa. The 10 lines with the least chlorosis were mated in a diallel during the same season. The S₁ plants from the crosses were grown during the winter at the Isabela Substation of the Puerto Rico Agricultural Experiment Station to obtain lines for the next cycle of selection.

S₀ seed was harvested in Iowa during 1981 from the 10 lines chosen as parents to form the cycle 4 population of AP9. The seeds were planted in Puerto Rico and S₁ plants (S₂-derived lines) were harvested individually. In 1982, the