REGISTRATION OF KS41, KS42, KS43, AND KS44 GREENBUG-RESISTANT GRAIN SORGHUM GERMPLASM
(Reg. Nos. GP 2 to GP 5)

H. L. Hackerott, T. L. Harvey, and W. M. Ross

Four grain sorghum [Sorghum bicolor (L.) Moench] germplasm lines, ‘KS41’ to ‘KS44,’ were released in 1972 by the Kansas Agricultural Experiment Station and the Plant Science Research Division, Agricultural Research Service, U. S. Department of Agriculture. KS41 to KS44 are phenotypically desirable grain types that are resistant to greenbugs, Schizaphis graminum (Rondani). They were selected in the F₃ generation following the fourth backcross to grain sorghums (Table 1). The KS41 to KS44 lines were released before being evaluated agronomically to expedite developing greenbug-resistant commercial grain sorghums. They are combine height; seed size, head type, and maturity are similar to that of ‘Combine Kafir-60’ (CK-60) or ‘Martin.’ All four lines have sterile cytoplasms and may segregate to restore fertility. They should be most useful for developing R or fertility-restoring types, but also may be good greenbug-resistant sources for developing B lines.

Sorghum virgatum (Hack.) Stapf. (T.S. 1636), the nonrecurrent parent of the KS41 to KS44 lines, was the greenbug-resistant source in ‘KS30,’ a grassy sorghum released in 1969. The resistance of the KS41 to KS44 lines appeared similar to that of KS30 in seedling survival trials. KS30’s resistance results mainly from tolerance, although other resistance mechanisms also are present.

Germplasm amounts of seed stocks can be obtained from the Ft. Hays Branch Experiment Station, Hays, Kans. 67601.

<table>
<thead>
<tr>
<th>Reg. no.</th>
<th>Line</th>
<th>Pedigree*</th>
<th>Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP 2</td>
<td>KS41</td>
<td>[H69-8 × B CK-60] × R CK-60³</td>
<td>White</td>
</tr>
<tr>
<td>GP 3</td>
<td>KS42</td>
<td>[(H69-43 × B CK-60) × Pioneer 446] × R CK-60</td>
<td>White</td>
</tr>
<tr>
<td>GP 4</td>
<td>KS43</td>
<td>[(H69-7 × B CK-60) × Pioneer 446] × R CK-60</td>
<td>White</td>
</tr>
<tr>
<td>GP 5</td>
<td>KS44</td>
<td>A Martin × [H69-7 × B CK-60] × Pioneer 446</td>
<td>Red</td>
</tr>
</tbody>
</table>

* H69 denotes a large-seeded, greenbug-resistant BC₃ selection derived as follows: A CK-60 × 18, virgatum (T.S. 1636) × B CK-60. A CK-60 is an isogenic fertility restoring CK-60.

¹ Registered by the Crop Science Society of America. Cooperative investigations of the Kansas Agricultural Experiment Station and the Plant Science Research Division, ARS, USDA. Contribution No. 269, Ft. Hays Branch Station and No. 1077, Department of Entomology, Kansas State University. Received May 19, 1972.

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REGISTRATION OF KS31, KS32, AND KS33 SORGHUM GERMPLASM
(Reg. Nos. GP 6, 7, and 8)

A. J. Casady and L. K. Edmunds

The Kansas and Nebraska Agricultural Experiment Stations and the Plant Science Research Division, Agricultural Research Service, U. S. Department of Agriculture, in cooperation with the U. S. Department of Agriculture.

KS31 to KS39 are cytoplasmic male-sterile types (A lines) with the CK-60 genome (Table 1). They were developed in the cooperative Kansas-USDA sorghum breeding program at the Ft. Hays (Kansas) and Producers Assn., Amarillo, Texas.

All lines are white seeded, combine height; bloom a few days later than the cultivar, ‘Combine Kafir-60’ (CK-60), from which they were derived by backcrossing. All nonrecurrent cytoplasm sources were obtained by crossing. All nonrecurrent cytoplasm source in noncultivated grass sorghums may make them differ.

Small amounts of seed (200 seeds or less) of these germplasm releases are available from the Department of Agronomy, Kansas State University, Manhattan, Kans. 66502.

REGISTRATION OF SEVEN ISOCYTOPLASMA SORGHUM GERMPLASM
(Reg. Nos. GP 9 to GP 15)

W. M. Ross and H. L. Hackerott

The Kansas and Nebraska Agricultural Experiment Stations and the Plant Science Research Division, Agricultural Research Service, U. S. Department of Agriculture, in cooperation with the U. S. Department of Agriculture.

KS34 to KS39 are cytoplasmic male-sterile types (A lines) with the CK-60 genome (Table 1). They were developed by crossing. All nonrecurrent cytoplasm source in noncultivated grass sorghums may make them differ.

Small amounts of seed (200 seeds or less) of these germplasm releases are available from the Department of Agronomy, Kansas State University, Manhattan, Kans. 66502.

1 Registered by the Crop Science Society of America. Cooperative investigations of the Kansas Agricultural Experiment Station and the Plant Science Research Division, ARS, USDA. Contribution No. 1254 and 558 Department of Plant Pathology, respectively, Kansas Agricultural Experiment Station, Manhattan, Kans., in cooperation with the U.S. Department of Agriculture.