and general combining abilities, and each population has demonstrated improvements over the parent synthetics, they should be more productive source populations for future early corn inbreds.

H. Z. CROSS (7)

References and Notes

7. H.Z. Cross, North Dakota State Univ., Fargo, ND 58105. Published with the approval of the director of the North Dakota Agric. Exp. Stn. as Journal Article no. 1594. Registration by CSSA. Accepted 30 July 1987.

Published in Crop Sci. 28:201-202 (1988).

REGISTRATION OF SIX CORN EARWORM RESISTANT GERMLASM LINES OF MAIZE

Six germplasm lines of yellow-dent maize (Zea mays L.) (Reg. no. GP-164 to GP-169) (PI 511313 to PI 511318) were cooperatively developed by USDA-ARS and the Georgia Coastal Plain Experiment Station. These lines were released in 1987 as GT113, GT114, and GT115, developed by self-pollination in DDSynA (C3) and GT117, GT118, and GT119, developed by self-pollination in DDSynB (C3). DDSynA and DDSynB are breeding populations synthesized from single crosses within two sets of southern inbred lines and used in reciprocal recurrent selection for resistance to corn earworm (Heliothis zea Boddie) ear-feeding. The DDSynA set involved inbreds Ab18, GE72, and GT112; the DDSynB set involved inbreds F6, L501, and SC235, and inbred F44 was common to both sets.

Lines GT113 and GT114 (Reg. no. GP-164 [PI 511313] and GP-165 [PI 511314] respectively) are 10 to 12 d earlier in relative maturity than GT115 (Reg. no. GP-166) (PI 511315) and have maturity classification AES1000; GT115 has maturity classification AES1200. GT114 produces ears slightly lower on the stalk than GT113 or GT115, and is also a poor pollen producer, although GT115 has a slightly smaller tassel than GT113 or GT114. Plants of GT113 and GT114 have a darker color and more general vigor than those of GT115.

GT117 and GT118 (Reg. no. GP-167 [PI 511316] and GP-168 [PI 511317] respectively) are sister lines of maturity classification AES1200 that have been maintained under separate inbreeding programs. These lines are also more vigorous than GT113 and GT114.

Seed of these lines can be obtained from the Crop Science Department, University of Georgia, College of Agricultural and Environmental Sciences, Athens, GA 30602. The above-mentioned lines were developed at the University of Georgia, Athens, GA, from 1985 to 1987.

Insect resistance was obtained through backcrossing (resistant) and PI 383856 (susceptible) as the male parent. The plant breeder's guide (3) was used to obtain the F1's were selfed and the progeny selected in the F2 generation. Additional generations, from which the lines were selected, were maintained within each generation.

Table 1. Agronomic characteristics of SGIRL-MR-3 and SGIRL-MR-4

<table>
<thead>
<tr>
<th>Character</th>
<th>SGIRL-MR-3</th>
<th>SGIRL-MR-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days to anthesis</td>
<td>105</td>
<td>107</td>
</tr>
<tr>
<td>Seed color (appearance)</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>Testa</td>
<td>Smooth</td>
<td>Smooth</td>
</tr>
<tr>
<td>Panicle length</td>
<td>150 cm</td>
<td>150 cm</td>
</tr>
<tr>
<td>Panicle type</td>
<td>Loose</td>
<td>Loose</td>
</tr>
<tr>
<td>Panicle exertion</td>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>Glume color</td>
<td>Light brown</td>
<td>Light brown</td>
</tr>
</tbody>
</table>

REGISTRATION OF SGIRL-MR-3 AND SGIRL-MR-4 AS COLD TOLERANT GERMLASM LINES OF MAIZE

SGIRL-MR-3 (PI 510688) and SGIRL-MR-4 (PI 510687) are two cold tolerant maize germplasm lines of sorghum (Sorghum bicolor [L.] Moench) [Contarinia sorghicola (Cook)] that were developed at USDA-ARS and the University of Georgia, Athens, GA, from 1976 to 1987. Insect resistance was obtained through backcrossing (resistant) and PI 383856 (susceptible) as the male parent. The plant breeder's guide (3) was used to obtain the F1's were selfed and the progeny selected in the F2 generation. Additional generations, from which the lines were selected, were maintained within each generation.

SGIRL-MR-3, the more tolerant line, is similar to PI 383856 in most agronomic characteristics except for days to flowering, which is 10 d earlier than PI 383856. SGIRL-MR-3 has a lighter green leaf color than PI 383856. SGIRL-MR-4, the less tolerant line, is similar to PI 383856 in most agronomic characteristics except for days to flowering, which is 10 d later than PI 383856. SGIRL-MR-4 has a darker green leaf color than PI 383856.

Seed of these lines can be obtained from the Crop Science Department, University of Georgia, College of Agricultural and Environmental Sciences, Athens, GA 30602.