Table 1. Description and major traits of AR2001 and AR2002 sudangrass parental lines.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Pericarp and testa genotypes</th>
<th>Glume color</th>
<th>Endosperm color</th>
<th>Panicle exsertion†</th>
<th>Panicle type‡</th>
<th>Plant height†</th>
<th>Plant color</th>
<th>Midrib color</th>
<th>Maturity type</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR2001</td>
<td>B,B,B,B,SSRRyyizzTpt</td>
<td>Straw</td>
<td>White</td>
<td>3</td>
<td>Open</td>
<td>150</td>
<td>Tan</td>
<td>Green</td>
<td>75</td>
</tr>
<tr>
<td>AR2002</td>
<td>B,B,B,B,SSRRyyizzTpt</td>
<td>Straw</td>
<td>White</td>
<td>4</td>
<td>Open</td>
<td>160</td>
<td>Tan</td>
<td>Green</td>
<td>75</td>
</tr>
</tbody>
</table>

† Average in Fayetteville, AR.
‡ Basal tillering.
§ Average in Fayetteville, AR (plot basis).

REGISTRATION OF AR2001 AND AR2002 SUDANGRASS PARENTAL LINES

AR2001 (Reg. no. PLO-3, PI 542405) and AR2002 (Reg. no. PL-4, PI 542406) are coarse sudangrass [Sorghum bicolor (L.) Moench] parental sib-lines developed at the Arkansas Agricultural Experiment Station, University of Arkansas, Fayetteville. These lines restore pollen production to hybrids with A1 cytoplasm. Both lines, released in 1976 (1), are in the S2 generation.

Both AR2001 and AR2002 were selected, using the pedigree method, from ‘Stoneville Synthetic’ sudangrass, which was developed for its resistance to leaf blight [Exserohilum turcicum (Pass.) K.J. Leonard & E.G. Suggs] (syn. Helminthosporium turcicum Pass.) and bacterial streak [Xanthomonas holcicola (Elliot) Starr & Burk.]. Three leaf blight and bacterial streak resistant sudangrass lines were crossed with a sorgo introduction, designated MN1054, which was resistant to rust (Puccinia purpurea Cooke) and zonate leaf spot (Gloeocercospora sorghi D. Bain & Edgerton ex Dayton). Selections comprising Stoneville Synthetic were for resistance to leaf blight and bacterial streak.

Both lines have small round seed (approximate size of ‘Shallu’ seed) that thresh free of the glumes.

REGISTRATION OF THREE POPCORN (MAIZE) PARENTAL LINES HP62-02, HP72-11, AND HP68-07

POP CORN (Zea mays L.) parental inbred lines HP62-02 (Reg. no. PL-155, PI 542776), HP72-11 (Reg. no. PL-156, PI 542777), and HP68-07 (Reg. no. PL-157, PI 542778) were developed by the Indiana Agricultural Experiment Station popcorn breeding and testing project at Purdue University. They are component inbreds of yellow popcorn hybrids P405, P608, and P203, respectively.

HP62-02 was derived by pedigree selection from a single cross between lines developed from the cultivars Supergold (Sg 1533) and Early Yellow (4619-31). Top crosses were made in the S4 and S5 generations on a single cross of inbreds from the cultivars Supergold and Amber Pearl and selection was based primarily on popping expansion volume. Plant and ear characteristics are given in Table 1. Kernel size of HP62-02 is large enough to make a satisfactory seed parent; pollen production is fair, and sensitive to plant stress. In nursery observations HP62-02 showed some resistance to leaf blight [incited by Colletotrichum graminicola Wils.] but was susceptible to northern corn leaf blight [caused by Exserohilum turcicum (Pass.) K.J. Leonard & E.G. Suggs] and southern corn leaf blight [caused by Cochliobolus larsis maydis (Nisikado & Miyake) Shoemaker].

HP72-11 was derived from a cross of inbred line C103 and a popcorn double cross. Top crosses performed best in crosses with lines from American and Amber Pearl, contributing yield potential in hybrid combinations. HP72-11 showed good pollen production; it has only fair stalk quality and produces large amounts of pollen and makes an excellent pollen parent. Selections comprising Stoneville Synthetic were for resistance to leaf blight and bacterial streak.

References and Notes

2. Dep. of Agronomy, Univ. of Arkansas, Fayetteville, AR. Approved by the director of the Arkansas Agricultural Experiment Station by CSSA. Accepted 31 Jan. 1991. *Corresponding author.