Resistance to the sorghum midge appears to be controlled by recessive gene(s) because hybrids from crosses of resistant × susceptible plants are susceptible.

Seed of MR88 will be maintained and distributed by USDA-ARS, Coastal Plain Experiment Station, Tifton, GA 31793. Small quantities of seed will be made available to individuals who wish to evaluate and/or use the germplasm. Recipients of seed are asked to make appropriate recognition of the source of the germplasm if it should contribute to the development of a new germplasm, parental line, or cultivar.

W. W. Hanna, B. R. Wiseman, R. R. Duncan, and K. F. Schertz

References and Notes

1. W. W. Hanna and B. R. Wiseman, USDA-ARS, Coastal Plain Exp. Stn., Tifton, GA 31793; R. R. Duncan, Georgia Station, Griffin, GA 30223–1797; and K. F. Schertz, USDA-ARS, Texas A&M University, College Station, TX 77843. Contribution of USDA-ARS in cooperation with the University of Georgia Agric. Exp. Stn. Appreciation is expressed to Bobby Moss at the SW Georgia Exp. Stn. at Plains, GA for his cooperation in testing the germplasm at Plains. Registration by the CSSA. *Corresponding author. Accepted 30 June 1988.


REGISTRATION OF CYTOPLASMIC MALE-STERILE SUGARBEET GERMPLASM C600CMS

SUGARBEET (Beta vulgaris L.) germplasm C600CMS (Reg. no. GP-129) (PI 520748), released in 1988, is the cytoplasmic male-sterile equivalent of C6500 released in 1965 (1). Also known as C600, C6500 is an annual (BB), homozygous (autotetraploid) line that is closely related to NB1 (2). Genotypically, C5600 and C600CMS are BB, rr, MM, and Sf Sf (tandemly duplicated) and have excellent O-type characteristics. They are resistant to the curly top virus and are bolting resistant annuals; i.e., in the absence of vernalization, C5600 and C600CMS require an exceptionally long period of exposure to long-day conditions to initiate seed stalks.

C5600 has already proven useful in genetic studies of sugarbeet (3,4,5). However, because of its highly self-fertile nature, F, hybrids have been difficult to produce. The male sterility of C600CMS should enhance the value of this germplasm in future genetic and plant breeding programs. Recently, it has been shown (R. T. Lewellen, 1988, unpublished) that the combination of high nonbolting tendency and male sterility in this annual also may make it useful as a tester to discriminate and sort biennial (bb) genotypes for bolting tendency in short season greenhouse or field tests under warm, long-day conditions.

C600CMS was developed by crossing the MS of NB1 (2) to C5600. From the BC1, two families homozygous for BB were selected and two additional backcrosses were completed. In field and greenhouse tests, C5600 and C600CMS appear to be identical for plant type and bolting tendency.

Seed for research and breeding purposes will be maintained and small quantities distributed upon written request by the U.S. Agricultural Research Station, Salinas, CA 93905.

R. T. LEWELLEN* (6)

References and Notes


REGISTRATION OF FIVE PREHARVEST SPROUTING-RESISTANT HARD WHITE WINTER WHEAT GERMPLASM LINES

Five germplasm lines (Reg. no. GP-288 to GP-292) (PI 520756 to PI 520760) of preharvest sprouting-resistant hard white winter wheat (Triticum aestivum L.) were developed and released by the Kansas Agricultural Experiment Station in 1988. These advanced generation lines incorporate pre-harvest sprouting resistance into desirable hard white wheat plant types for breeding improved cultivars in the central and southern U.S. Great Plains.

The male parent, 'Clark's Cream' (PI 476305), is exceptionally resistant to preharvest sprouting, a frequent problem of white wheats in humid environments (1). It is also tall, late maturing, and low in combining ability for desirable plant type, making it unsuitable as parental material for cultivar development. Five preharvest sprouting-susceptible hard white winter wheat genotypes were the female parents (Table 1); they have improved plant type and, in some cases, high grain protein potential.

Sixty-five F1-derived lines from each cross were maintained as bulks until the F2 generation; this material is described elsewhere (3). The 325 lines were grown at two locations, and 76 lines were selected for sprouting resistance on the basis of several laboratory tests on the F2 and F3 progenies (2). Six to 24 plants of each of the 76 lines plus Clark's Cream and KS75216 as sprouting-resistant and susceptible checks, respectively, were grown in a glasshouse. Spikes from plants that flowered within 35 d of the earliest plant were harvested 50 d after anthesis and stored at −20 °C until the grain was tested for dormancy. All the seeds (ca. 30) from the main culm were after-ripened at room temperature for 12 d and germinated on moistened filter papers

Table 1. Pedigrees, preharvest sprouting resistance, and phenotypic traits of Clark's Cream and five other hard white winter wheat genotypes used to develop sprouting-resistant germplasm lines.

<table>
<thead>
<tr>
<th>Genotype</th>
<th>Pedigree</th>
<th>Sprouting resistance</th>
<th>Plant height</th>
<th>Inflorescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark's Cream</td>
<td>KanKings/Golden</td>
<td>High</td>
<td>Tall</td>
<td>AWG</td>
</tr>
<tr>
<td>KS75216</td>
<td>KS75216</td>
<td>Low</td>
<td>Semi-dwarf</td>
<td>AWG</td>
</tr>
<tr>
<td>K682445</td>
<td>KS600MS/Plainsman</td>
<td>Low</td>
<td>Semi-dwarf</td>
<td>AWG</td>
</tr>
<tr>
<td>K682439</td>
<td>KS600MS/Plainsman</td>
<td>Low</td>
<td>Semi-dwarf</td>
<td>AWG</td>
</tr>
<tr>
<td>KS682450</td>
<td>KS600MS/Plainsman</td>
<td>Low</td>
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