REGISTRATION OF T163 GERMPLASM LINE OF MAIZE

T163 (Reg. no. GP-143) is an inbred line of white dent maize (Zea mays L.) developed by the Tennessee Agricultural Experiment Station.

T163 was developed from the Virus Resistant Dent Synthetic-Waverly (TVRDW) (1) by ear-to-row selection and self-fertilization for seven generations. The line has intermediate tolerance to the maize dwarf mosaic virus-strain A/maize chlorotic dwarf virus complex found in johnsongrass (Sorghum halepense (L.) Pers.) infested areas of southern USA. T163 was evaluated in hybrid yield trials with K55xC.1.66 as the female parent from 1981 to 1984 in Tennessee and other white corn producing areas. This hybrid was similar in performance to the white hybrid (K55xC.1.66) × FR802W.

The maturity classification of T163 is AES1200. The line produces a large plant with few or no brace roots. The ear is borne midway on the stalk with five leaves above the top ear leaf. The tassel is large and open with 10 to 12 branches and sheds ample pollen over a 4- to 5-day interval. Silks usually emerge 2 days after the initiation of pollen shed, but may be delayed under stress conditions. The line is semi-prolific with approximately one-half of the plants producing two ears under favorable conditions. The ear is protected by a husk that extends 3 cm or more past the ear tip. T163 produces a medium-sized, tapered ear with 12 rows of kernels on a white cob. The kernel is a medium dent with an off-white cast.

T163 could be used as a parent in hybrid seed production, but due to its late maturity it will probably be more useful in white maize breeding programs as a source of germplasm not closely related to other white lines.

Germplasm quantities (50 seeds) of T163 may be obtained from the Department of Plant and Soil Science, University of Tennessee, Knoxville TN 37901.

D. R. WEST, D. R. KINCER, H. C. KINCER, AND L. M. JOSEPHSON

References and Notes

2. Associate professor, senior research assistant, assistant professor (retired), and emeritus professor, Tennessee Agric. Exp. Sta., Knoxville, TN 37901. This research was supported in part by a grant from the Am. Corn Millers Federation. Registration by the Crop Sci. Soc. of Am. Accepted 10 June 1985.

REGISTRATION OF NDSB(MS)C6 MAIZE GERMPLASM

NDSB(MS)C6 (Reg. no. GP-144) is a yellow-dent endosperm maize (Zea mays L.) synthetic developed from NDSB, which was described in 1980 (1). NDSB was mass selected for yield and standability at high planting densities (approximately 200 000 plants ha⁻¹) to produce the improved synthetic. In each of the six cycles of mass selection of NDSB, all seed was composited from approximately 100 selected ears (half-sib families) to give an improved population. Selection intensity was approximately 1% among competitive plants. Selection was for large ears on unlodged plants. This synthetic has plants similar to NDSB for plant and ear height, shelling percent, test weight, and lodging resistance. In tests over nine environments at normal planting densities in North Dakota, NDSB(MS)C6 outyielded NDSB by 27.5%. It produced yields similar to NDSB, a consistently high yielding synthetic (2), but had higher test weights than NDSAB. NDSB(MS)C6 is AES200 maturity.

Breeder seedstocks are maintained by the North Dakota Agricultural Experiment Station and can be obtained in germplasm quantities (200 kernels) from H. Z. Cross, Agronomy Department, North Dakota State University, Fargo, ND 58105.

H. Z. CROSS

References

3. Professor of agronomy, North Dakota State Univ., Fargo, ND 58105. Published with approval of the director of the North Dakota Agric. Exp. Sta. as Journal Article no. 1416. Registration by the Crop Sci. Soc. of Am. Accepted 9 Aug. 1985.

REGISTRATION OF SIX BULKS OF DOWNY MILDEW RESISTANT SORGHUM GERMPLASM

With the appearance of two new pathotypes of Peronosclerospora sorghi (Weston & Uppal) C.G. Shaw, agronomically superior sources of resistance to the new pathotypes are needed by the sorghum seed industry for development of resistant hybrids. Six bulks of Sorghum bicolor (L.) Moench (Reg. no. GP-172 to GP-177) were released in 1984 by the Texas Agricultural Experiment Station as resistant to pathotypes 1 and 3 of P. sorghi. These bulks are variable for maturity, height, seed color, and sources of resistance to P. sorghi. TAM Bks-55 to 57 consist of F₁ generation selections and TAM Bks-56, 57, and 58 are F₂ selections (Table 1).

Testing of F₁ plants and their progeny for downy mildew resistance was done in the greenhouse using the conidial technique of Craig and Frederiksen (1) at College Station, TX during 1983. All progenies of TAM Bks-53, 54, and 55 were homozygous resistant to pathotypes 1 and 3 of P. sorghi. Selections in TAM Bks-53 to 55 have moderately good tropical adaptation and resistance to anthracnose,

<table>
<thead>
<tr>
<th>Designation</th>
<th>No. of individual panicles bulked</th>
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<tbody>
<tr>
<td>Tam Bks-53</td>
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</tr>
<tr>
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<td>Tam Bks-55</td>
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</tr>
<tr>
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<tr>
<td>Tam Bks-57</td>
<td>57</td>
</tr>
<tr>
<td>Tam Bks-58</td>
<td>59</td>
</tr>
</tbody>
</table>

Table 1. Pedigrees of TAM Bks-53, 54, 55, 56, 57, and 58 Sorghum Germplasm.

† SC414-12E = IS2605 der. (Caudatum/Kafir), SC326-6 = IS3758 der. (Nigricans), SC170-6-17 = IS32661 der. (Zerazera).