REGISTRATION OF NDSAB(MS)C8(LM)C3, NDSD(FS)C1(LM)C4, AND NDSM MAIZE GERMPLASMS

THREE MAIZE (Zea mays L.) (Reg. no. GP-227, PI 542099; GP-228, PI 542100; and GP-229, PI 542101) breeding populations developed at the Agricultural Experiment Station, North Dakota State University, Fargo, were released in February 1990 for breeding programs developing germplasm for short-growing-season areas. Breeder seedstocks are maintained by the North Dakota Agric. Exp. Stn. and can be obtained in germplasm quantities (200 kernels) from H.Z. Cross, Crop and Weed Sciences Dep., North Dakota State University, Fargo, ND 58105.

NDSAB(MS)C8(LM)C3 (Reg. no. GP-227) is a yellow dent synthetic developed from NDSAB(MS)C8 (GP-208, PI 533626) by three cycles of selection for low ear moisture at approximate physiological maturity using the selection procedure described by Cross et al. (7). Equal numbers of seeds from 30 ears (half-sib families) were composited to give an improved population each cycle. Selection intensity was \( \approx 10\% \) from among plants evaluated for ear moisture content at \( \approx 40 \text{ d post pollination} \). NDSAB(MS)C8(LM)C3 averaged 51.7 g kg\(^{-1}\) lower ear moisture at harvest and 10.4% less root lodging than the previously released version, NDSAB(MS)C8, but maintained similar yield and stalk lodging resistance in tests averaged across nine environments in 1988 and 1989. NDSAB(MS)C8 was developed from NDSAB by eight cycles of mass selection based on dried grain yield per unlodged plant (6). NDSAB was derived from 20 full-sib families between NDSA and NDSB, synthetics released in 1979 (1,2). NDSB(MS)C8(LM)C3 was improved versions should be capable of producing very early, high-yielding hybrids. NDSM had lower lodging than other synthetics and the commercial check hybrid, yet had high yields and low ear moisture, indicating it may be a new source population with a high potential for developing very early inbreds with exceptional lodging resistance. All three synthetics appear to be early AES200 maturity.

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References and Notes

8. Dep. of Crop and Weed Sciences, 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. 1862. Registration by CSSA. Accepted 30 June 1990. *Corresponding author.


REGISTRATION OF B96 GERMPLASM LINE OF MAIZE

INBRED B96 (Reg. no. GP-223, PI 270297) is a golden flint maize (Zea mays L.) inbred line known for more than 45 years as 41:2504B. It originated from J.A. Andre's breeding program at the Institute of Genetics, Buenos Aires, Argentina. H.K. Hayes, University of Minnesota, obtained seed in 1942 and gave a sample to USDA-ARS. The line was released by the Iowa Agricultural and Home Economics Experiment Station in January, 1990. In the 1940's, B96 was said to be highly resistant to grasshoppers in Argentina (unpublished data). In 1944, F.F. Dickey, USDA-ARS Research Unit, Toledo, OH, evaluated this line for resistance to leaf feeding by first-generation European corn borers, Ostrinia nubilalis Hübner. Succeeding progeny tests showed that the selection was highly resistant (almost immune) to leaf feeding by first-generation European corn borers (1). In 1950, breeding was started by the USDA-ARS—Iowa State University Maize Breeding Project to transfer resistance from B96 to several susceptible inbreds with good agronomic characteristics. This effort succeeded in the development and release of several resistant inbred lines (B49, B64, B65, B68), with B96 as the nonparental parent. Recently, it has been determined that B96 also is highly resistant to the two-spotted spider mite, Tetranychus urticae Koch. (2), and to a complex of three species of thrips [Frank...