REGISTRATION OF Mp313E PARENTAL LINE OF MAIZE

Mp313E (Reg. no. PL-150, PI 539859) is a white dent maize (Zea mays L.) inbred released jointly by the USDA-ARS and the Mississippi Agricultural and Forestry Experiment Station in 1988. It was released primarily as a source of resistance to kernel infection by Aspergillus flavus Link ex Fr.

Mp313E was developed by direct selfing for eight generations in 'Tuxpan'. Mp313E was identified as resistant to kernel infection by the fungus A. flavus, which produces aflatoxin in corn. During a 3-yr period of testing, using a pinbar inoculation technique (1) to enhance kernel infection by A. flavus, Mp313E averaged 7% kernel infection compared with an average of 31% for five susceptible inbreds (2).

Mp313E is resistant to maize chlorotic dwarf virus and has a low to intermediate level of resistance to maize dwarf mosaic virus. This inbred also has resistance to Race O of Bipolaris maydis.

Mp313E is a tall inbred with relatively high ear placement on the stalk. It is late in maturity, AES1200 or later. Mp313E has white kernels and white cobs. This inbred has long, tight husks, which undoubtedly contributes to corn earworm, Heliothis zea. Based on crosses, Mp313E has good general combining ability for yield.

Seeds are available to plant breeders in the Agronomy Department, P.O. Box 5248, State, MS 39762. The USDA has no seed.

References and Notes


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REGISTRATION OF ICMA 841 AND ICMB 841 PEARL MILLET PARENTAL LINES WITH A1 CYTOPLASMIC-GENIC MALE STERILITY SYSTEM

One pair of A (male sterile) and B (maintainer) lines of pearl millet [Pennisetum glaucum (L.) R. Br.], with the A1 cytoplasmic-genic male sterility system, was made available in 1987 as seed parents for the production of hybrids throughout India. The lines are designated as ICMA 841 and ICMB 841 (Reg. no. PL-18; PI 537587); they were previously tested as 841A and 841B. They carry high levels of resistance throughout India. The lines are designated as ICMA 841 and ICMB 841.

ICMA 841 and ICMB 841 were developed from 5141A and 5141B, which were bred and released by the Indian Agricultural Research Institute (IARI), New Delhi, India (1). These lines later succumbed to downy mildew caused by Sclerospora graminicola (Sacc.) Schroet. The A line, being medium in height, can give medium to tall hybrids, depending on the height of the pollinator.

ICMA 841 and ICMB 841 were developed from 5141A and 5141B, which were bred and released by the Indian Agricultural Research Institute (IARI), New Delhi, India (1). These lines later succumbed to downy mildew in India. The original 5141A and 5141B stocks showed genetic variability for several traits, including resistance to downy mildew, when planted in the downy mildew screening nursery (3) at the ICRISAT Center. Vigorous, downy mildew-free 5141B plants were selected and crossed to downy mildew-free plants of 5141A. This process of selection, selfing, and backcrossing was repeated twice a year in the downy-mildew nursery, using an inoculation technique (1) to enhance kernel infection by the fungus A. flavus, which produces aflatoxin in corn. During a 3-yr period of testing, using a pinbar inoculation technique (1) to enhance kernel infection by A. flavus, Mp313E averaged 7% kernel infection compared with an average of 31% for five susceptible inbreds (2).

Mp313E was a tall inbred with relatively high ear placement on the stalk. It is late in maturity, AES1200 or later. Mp313E has white kernels and white cobs. This inbred has long, tight husks, which undoubtedly contributes to corn earworm, Heliothis zea. Based on crosses, Mp313E has good general combining ability for yield.

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