Evaluation of these lines for fall armyworm damage was conducted under natural infestation in 1979 with scores of 4.0, 4.0, 5.0, and 7.0, respectively, using the 0 to 9 rating scale.

Mp704 is a medium-tall line which has not been evaluated for combining ability. Maturity classification is AES1200.

Breeder seed is maintained and distributed in small quantities by the Agronomy Dep., Mississippi State Univ., P. O. Box 5248, Mississippi State, MS 39762.

REGISTRATION OF MAIZE GERMPLASM1
(Reg. No. GP117 and GP118)

H. Z. Cross2

Two maize (Zea mays L.) breeding populations developed at the Agriculture Experiment Station, North Dakota State University were released in 1982 for breeding programs for short growing season areas. Breeder seedstocks are maintained by the North Dakota Agriculture Experiment Station and can be obtained in germplasm quantities from H. Z. Cross, Agronomy Dep., North Dakota State Univ., Fargo, ND 58105.

The curved backs from which Mp701 and Mp702 were derived were released as MpSWCB-1 and MpSWCB-2, respectively. Mp701 and Mp702 were derived from the cross between an S.~ selected from Antigua Gpo. 1 and an S.~ selected from Antigua Gpo. 2. Mp701 is a selection from a bulk of two closely related S.~'s developed from a cross between an S.~ selected from Antigua Gpo. 1 and an S.~ selected from Antigua Gpo. 2. Mp702 is a selection from a bulk of two closely related S.~'s from a cross between an S.~ selection from Antigua Gpo. 2 and an S.~ selection from Republica Dominicana Gpo. 1. Both lines have resistance to southwestern corn borer leaf feeding. On a rating scale of 0 (no damage) to 9 (extensive damage), Mp701 and Mp702 rated 5.7 and 5.8, respectively, compared to 6.2 for Mp496 (a previously released resistant line) and 7.8 for the susceptible check. In addition both genotypes have resistance to fall armyworm, Spodoptera frugiperda (J. E. Smith), and southern corn rust caused by Puccinia polysora (H. Z. Cross). Inbred Mp701 and Mp702 were later in maturity (AES 1200) and silk from 2 to 4 days later than Mp496. Neither line has been evaluated for combining ability, but both have poor root and stalk strength. The S.~ bulks from which Mp701 and Mp702 were derived were released as MpSWCB-1 and MpSWCB-2, respectively.

Breeder seed is maintained and distributed in small quantities by the Geo E. Scott, Agronomy Dep., North Dakota State Univ., Fargo, ND 58105.

NDSC (Reg. No. GP117) is a yellow endosperm maize synthetic developed by intercrossing 11 elite lines of approximate AES200-300 maturity. The lines, chosen for good general combining ability (GCA) for yield, were, with one exception, not closely related. This population was then random mated for four generations. The 11 parental lines were CO303, ND474, ND476, ND480, ND481, A536, CG1, CG5, W153R, and MS93. NDSC plants are medium tall with ears attached slightly below mid-plant. Thick, medium-long ears usually have 18 or 20 kernel rows. NDSC has demonstrated good yielding ability and lodging resistance. Maturity is AES300.

NDSD (Reg. No. GP118) is a yellow endosperm maize synthetic originating from intercrosses among 16 elite inbreds of approximate AES200-300 maturity. Parental lines were chosen for having good GCA for stalk lodging resistance. This synthetic has been intermated for three generations. Parental lines were SH112, SDF21, SDF236M, SDF254, ND53, ND93, A50, A536, A556, ND376, MS141, W153R, A554, SD5, ND474, and ND203. NDSD plants are usually slightly shorter than NDSC plants and produce ears with lower ear moisture at harvest. Ears tend to be smaller in diameter and have fewer kernel rows than NDSC ears. NDSD tends to have higher yields and test weights as a synthetic than NDSC. It also appears to have more resistance to root and stalk lodging than NDSC. Maturity is AES300.

REGISTRATION OF MP701 AND MP702 GERMPLASM1
(Reg. No. GP119 and GP120)

Gene E. Scott, Frank M. Davis, and W. Paul Williams2

Both genetic stocks, Mp701 and Mp702, were developed specifically for resistance to leaf-feeding damage by southwestern corn borer (Diaterea grandiosella (Dyar)) by making selections under conditions of artificial infestation with egg masses. Mp701 is a selection from a bulk of three closely related S.~'s developed from a cross between an S.~ selected from Antigua Gpo. 1 and an S.~ selected from Antigua Gpo. 2. Mp702 is a selection from a bulk of two closely related S.~'s from a cross between an S.~ selected from Antigua Gpo. 2 and an S.~ selection from Republica Dominicana Gpo. 1. Both lines have resistance to southwestern corn borer leaf feeding. On a rating scale of 0 (no damage) to 9 (extensive damage), Mp701 and Mp702 rated 5.7 and 5.8, respectively, compared to 6.2 for Mp496 (a previously released resistant line) and 7.8 for the susceptible check. In addition both genotypes have resistance to fall armyworm, Spodoptera frugiperda (J. E. Smith), and southern corn rust caused by Puccinia polysora (H. Z. Cross). Inbred Mp701 and Mp702 were later in maturity (AES 1200) and silk from 2 to 4 days later than Mp496. Neither line has been evaluated for combining ability, but both have poor root and stalk strength. The S.~ bulks from which Mp701 and Mp702 were derived were released as MpSWCB-1 and MpSWCB-2, respectively.

Breeder seed is maintained and distributed in small quantities by the Agronomy Dep., Mississippi State Univ., P. O. Box 5248, Mississippi State, MS 39762.

REGISTRATION OF H110 AND H111 MAIZE GERMPLASM1
(Reg. Nos. GP 121 and GP 122)

H. L. Warren2

H110 and H111 are yellow dent maize (Zea mays L.) inbreds developed cooperatively by the Agriculture Experiment Station, Purdue University (Indiana) West Lafayette and USDA-ARS. H110 and H111 are resistant to several major diseases of corn in the United States. This resistance is derived from PI 209135 selections. PI 209135 (Mayorebla) is a synthetic of tropical origin. Forty phenotypically different homozygous lines obtained from PI 209135 were evaluated for resistance to Races 1 and 2 of Exserohilum turcicum (Pas.) Leonard and Suggs = Helminthosporium turcicum (Pas.) (=), (northern leaf blight), Colletotrichum graminicola (Ces.) G. W. Wils. (anthracnose), Bipolaris maydis (Nisik) Shoemaker = Helminthosporium maydis Nisik and Miyake, (southern leaf blight), Exserohilum turcicum (E. F. Smith)Dye, (Sewarts wilt) Diplodia maydis (Berk.) Sacc. (=Diplodia stalk rot), maize dwarf mosaic virus (MDMV) and maize chlorotic dwarf virus (MCDV). These are the major pathogens of maize in the U.S.A. Twenty PI 209135 selections resistant to some or all of these pathogens were crossed with corn belt inbreds and their progeny were selected for disease resistance and agronomic traits including ear height, maturity, plant height, standability, etc. Inbred H110 (Reg. No. GP121) is a yellow-kernel dent maize developed from the cross of Oh514 × PI 209135, selection Mb.27-12. This inbred was developed by selfing for 10 generations with selection for multidisease resistance and agronomic type during each generation. H110 is as resistant to MDMV and MCDV as Oh514. In addition, it is resistant to E. turcicum Races.

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