REGISTRATION PARTENTAL LINES

Plants of SD47 are approximately 180-cm tall with ear placement approximately 80-cm above the ground. Plants are dark green in appearance and have small tassels and red cobs. Ears are about 18.0-cm long and are borne on 8.0-cm shanks. There are from 14 to 16 rows of medium-sized kernels on each cob. The line has good vigor, ear fill, root strength, husk looseness, and excellent stalk strength.

All three lines are resistant to Northern Corn Leaf Blight, [incited by Exserohilum turcicum (Pass.) Leonard and Suggs] and Diplodia stalk rot [incited by Diplodia maydis (Berk.) Sacc.].

SD45 and SD48 have good combining ability with A632, while SD47 has good combining ability with A619. SD45 × A632, SD47 × A619, and SD48 × A632 produced 5-yr average yields of 8.36 Mg ha⁻¹, 7.53 Mg ha⁻¹, and 7.56 Mg ha⁻¹, respectively as compared to 8.04 Mg ha⁻¹ and 7.86 Mg ha⁻¹ for Pioneer brand hybrids 3901 and 3732, respectively when tested at Brookings, SD. They produced a 3-yr average yield of 11.00, 8.16 and 8.72 Mg ha⁻¹, respectively, as compared to 8.66 and 8.44 Mg ha⁻¹ for Pioneer brand hybrids 3901 and 3732 when tested at Beresford, SD. Complete location and year data are available upon request.

Breeder seedstocks are maintained by South Dakota Foundation Seeds and can be obtained in germplasm quantities (50 kernels) from South Dakota State University Foundation Seed, Box 2125, Brookings, SD 57007.

REGISTRATION OF SD45, SD47, AND SD48 PARENTAL LINES OF MAIZE

SD45 (Reg. no. PL-133, PI 533661), SD47 (Reg. no. PL-134, PI 533662), and SD48 (Reg. no. PL-135, PI 533663) are parental lines of maize developed at the Agricultural Experiment Station, South Dakota State University, Brookings. These lines were evaluated for agronomic performance and in hybrid combinations for yield and moisture. SD45, SD47, and SD48 were released in March 1987 because of their potential to produce competitive hybrids for central and southern South Dakota.

SD45, SD47, and SD48 were derived by selfing individual plants from the crosses SDp232 × H96, SDp309 × SD30, and the hybrid Pioneer brand 3710, respectively. All three inbreds were selfed for 7 generations with selection for desirable plant, ear, and root traits. All three inbreds are AES400. The lines were evaluated for 5 yr at Brookings. SD45 flowered 4 d after A632, 6 d after A619, 11 d after CM105, and 8 d after A654. SD47 flowered the same day as A632, 2 d after A619, 7 d after CM105, and 4 d after CM105. SD49 flowered 2 d before A632, the same day as A619, 5 d after CM105, and 2 d after A654. Moisture for each was about 20%, 60 d after pollination.

Plants of SD45 are approximately 198-cm tall with ear placement approximately 65-cm above the ground. Plants are dark green in appearance and have medium-sized tassels and a red cob. Ears are about 18-cm long and are borne on 9.0-cm shanks. There are 14 rows of medium-sized kernels on each cob. The line has good vigor, stalk and root strength, husk looseness, and average ear fill.

Plants of SD47 are approximately 180-cm tall with ear placement approximately 80-cm above the ground. Plants are dark green in appearance and have small tassels and red cobs. Ears are about 18.0-cm long and are borne on 8.0-cm shanks. There are from 14 to 16 rows of medium-sized kernels on each cob. The line has good vigor, ear fill, root strength, husk looseness, and excellent stalk strength.

Plants of SD48 are approximately 180-cm tall with ear placement approximately 80-cm above the ground. Plants are dark green in appearance and have medium-sized kernels and red cobs. Ears are about 18.0-cm long and are borne on 8.0-cm shanks. There are 14 rows of medium-sized kernels on each cob. The line has good vigor, ear fill, root strength, husk looseness, and excellent stalk strength.

REGISTRATION OF 18 SORGHUM PARENTAL LINES

The Iowa Agriculture and Home Economics Experiment Station released 18 sorghum [Sorghum bicolor (L.) Moench] inbreds (Reg. no. PL-189 to PL-206) (PI 533606 to PI 533623) as germplasm in March 1989. All inbreds restored pollen fertility in crosses of the A1 cytoplasm system, and their hybrids were morphologically suitable for combine grain production. The inbreds have not been evaluated for fertility restoration in crosses involving other male-sterility inducing cytoplasm.

Inbreds IA59 through IA72 were developed by pedigree breeding and controlled selfpollination within hybrid populations that combine the parentage of a number of adapted, widely used A-lines with a diversity of more recently developed R-line parents. IA73 through IA76 were selected from advanced cycles of random-mating populations developed at Ames, IA, and then selfpollinated for several generations. The lines are agronomically desirable and should have value for population development, the production of new inbreds, and potential use as parents of hybrids.

REGISTRATION PARTENTAL LINES

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REFERENCES


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