Registation of Parental Lines

REGISTRATION OF ND240 AND ND241
PARENTAL LINES OF MAIZE
(Reg. No. PL 40 and PL 41)

H. Z. Cross and William Wiidakas

'ND240' and 'ND241' are yellow dent (Zea mays L.) inbred lines developed at the Agric. Exp. Stn., North Dakota State Univ. The lines were evaluated for yield and agronomic performance and in hybrid combinations. They were released because of their potential for use by the hybrid corn seed industry in producing early, superior hybrids and for further use in breeding programs. Breeder seed of these lines, produced by self-pollination in ear-to-row progenies, is maintained by the North Dakota Agric. Exp. Stn.

ND240 (Reg. No. PL 40) was selected from ("ND408" × 'ND230') in a program designed to transfer the early maturity and vigor of ND230 into the more desirable agronomic type of ND408. This line was developed by self-pollination and selection for early silk date and agronomic type for several generations. At Fargo, North Dakota ND240 flowers about 4 days later than ND230 and 8 days earlier than ND408. ND240 has a medium tall plant with an upper ear placement slightly above the midpoint of the stalk. The plants are usually single stalked, and semiprolific. ND240 produces medium long, thick ears with 18 to 20 rows of deep kernels. In 1974 NCR-2 tests of inbred evaluation, ND240 exhibited above average resistance to yellow leaf blight and root-pulling resistance. It was susceptible to maize chlorotic dwarf virus. ND240 has more resistance to root lodging than does ND230. In tests in central North Dakota, ND240 has displayed high general combining ability for yield, shelling percentage, and low ear moisture at harvest, but below average general combining ability for stalk strength. Maturity classification is AES200.

ND241 (Reg. No. PL 41) is a sister line to ND240. ND241 is slightly taller than ND240 with a higher ear placement. It has about the same number of leaves which are slightly longer and wider. At Fargo, ND241 flowers 2 days later than ND240. It produces single stalked plants and is semiprolific. Ears of ND241 are shorter and thinner than those of ND240 with 16 to 18 rows of kernels which tend to be deeper. In 1974 regional tests, ND241 had above average root-pulling resistance and resistance to yellow leaf blight, but it had more resistance to maize dwarf mosaic virus and maize chlorotic dwarf virus than ND240. It was susceptible to first brood European corn borer (Ostrinia nubilalis) feeding. ND241 exhibits general combining ability effects similar to ND240 for yield, ear moisture, and stalk strength but it has lower general combining ability effects for shelling percentage. ND241 is also AES200 maturity classification.

Registation of Parental Lines

REGISTRATION OF B79 PARENTAL LINE
OF MAIZE (ZEA MAYS)
(Reg. No. PL 42)

W. A. Russell and A. R. Hallauer

B79 is a dent line selected from Iowa Two-ear Synthetic 1 (BSTE), a synthetic developed by intermating U.S. North Central Corn Belt maturity synthetic to potential to develop two ears/plant. The line was full-sib selection program described by B. L. and self pollination in the ear-to-row test populations has given a genotype that produces a harvestable second ear at moderate plant density. Silk of silk emergence is 3 to 4 days later than inbred production is satisfactory; silks emerge about 3 weeks after first shedding of pollen; and seed set is good. The seed has intermediate size with a reddish color. The plant is relatively high. The line has intermediate northern corn leaf blight, first and second brood European corn borer, but it is susceptible to sorghum downy mildew. Data from single-cross evaluations for yield show that B79 had the highest average yield of the lines tested in single cross and hybrid combinations. Although the ear emergence is 3 to 4 days later than inbred, yield data on grain moisture at harvest. The individual ear has strong root system to hybrids; its contribution for stalk strength is adequate, but not outstanding. Extensive evaluation has shown that B79 is adapted to southern and central North Dakota. Maturity classification is late AES800. Breeder seed is maintained by the Iowa Agric. and Home Economics Exp. Stn.

1 Registered by the Crop Science Society of America in 1975 as Journal Article No. 608. Accepted 15 Nov. 1975.
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CORRECTIONS

In Vol. 15, page 317, Fig. 4, the vertical increments of 10 rather than 5. The values are correctly placed.

In Vol. 15, page 810, l. 13, Chinese; new Materials and Methods, insert left parentheses as in the following sentence...

Footnote 2 should be designated \( S_d \), \( S_d \), GP 48-52 should be designated \( S_d \), \( S_d \).