REGISTRATION OF PARENTAL LINES

Seventy-three $S_3$ lines were selected based on their combining ability for grain yield, agronomic traits, lodging, and disease resistance, and on their line performance per se at six locations in Nigeria. The selected lines were subgrouped into six sets according to ecological adaptation, grain color, and maturity, and were advanced to $S_4$ generation. In 1982–1983 dry season, a total of 450 single-cross hybrids were formed for all sets and tested in the 1983 rainy season at three to seven different locations throughout Nigeria.

Initially, 24 single cross hybrids were selected for their high yield, good agronomic traits, and disease resistance. After retesting in 1984, only 10 hybrids were released for commercial production in Nigeria. The 16 inbred lines (presently at the $S_6$ stage of inbreeding) are the parents of those commercial single cross hybrids developed by IITA. Their main characters and parentage are presented in Table 1. The best selected hybrids involved crosses between the tropical and the converted temperate lines (1).

Breeder seeds of these Tzi (Tropical zea inbred) lines are maintained by the Maize Research Program, IITA, P.M.B. 5320, Ibadan, Nigeria, and can be supplied to interested national programs and other institutions. For each line, 30 to 50 kernels are provided depending on availability of seeds.

S. K. Kim, Y. Efron, F. Khadr, J. Fajemisin, and M. H. Lee (2)

References and Notes

2. Maize breeder (leader of IITA hybrid maize project); director; maize breeder; maize pathologist/breeder; and maize breeder, respectively. Maize Res. Program, IITA, P.M.B. 5320, Ibadan, Nigeria. Since 1982, IITA hybrid maize project has been partially financed by the Federal Government of Nigeria through the Ministry of Science and Technology. Another financial source is the Consultative Group of Int. Agric. Res. (CGIAR), Washington, DC. IITA Journal Series no. 326. Registration by the Crop Sci. Soc. of Am. Accepted 30 Jan. 1987.


REGISTRATION OF HA 850, HA 851, HA 852, AND HA 853 OILSEED SUNFLOWER PARENTAL LINES

HA 850 (Reg. no. PL-43), HA 851 (Reg. no. PL-44), HA 852 (Reg. no. PL-45), and HA 853 (Reg. no. PL-46) sunflower (Helianthus annuus L.) maintainer lines and their corresponding cytoplasmic male-sterile lines are advanced selections with improved combining ability and high oil content.

HA 89 (1) is a selection from CM 303 (2). HA 89 is a selection from the North Dakota 1975 high yield composite. It possesses normal cytoplasm. The male-sterile counterparts were released by USDA-ARS in 1975 (1). RHA 855 (PL-48) is a F$_2$ selection from the cross cmsHA 89/RHA 273. CmsHA 89 is a F$_1$ selection from the cross cmsHA 852, and cmsHA 853 crossed with RHA 274 and RHA 801 during 1983 and 1984. These hybrids had about equal flower and physiological maturity dates as the check hybrids. Hybrid 894 (cmsHA 821/RHA 274) while the two hybrids with cmsHA 851 were 15 to 30 cm taller than the check hybrids. Yield of hybrid combinations of all four parental lines averaged 550 kg ha$^{-1}$ more than the two check hybrids. Oil content of the seed from these hybrids were 3 to 6 percentage points greater than Hybrid 894 or Hybrid cmsHA 821/RHA 274. All hybrid combinations exhibited satisfactory resistance.

Limited quantities of seed of each of these lines is available from the Seedstocks Project, Agronomy Department, North Dakota State University, Fargo, ND 58105.

W. W. Roath and J. F. Miller (3)

References and Notes

1. HA 89 is a 1971 unregistered release by M.L. Kinman, USDA-ARS, Am. & M Univ., College Station, TX 77840.
2. CM 303 was released by the Agric. Canada Res. Stn., M. W. R., and J. A. G., Ottawa, Ont. 1975.

Published in Crop Sci. 27:825 (1987).