REGISTRATION OF FC 702/6 SUGARBEET GERMPLASM
(Reg. No. GP 65)
R. J. Hecker and E. G. Ruppel

The sugarbeet (*Beta vulgaris* L.) breeding line FC 702/6 was developed by ARS, USDA, in cooperation with the Beet Sugar Development Foundation and the Colorado State Univ. Exp. Stn., and jointly released in 1981.

FC 702/6 (Reg. No. GP 65) was bred for resistance to root rot caused by *Rhizoctonia solani* Kühn. This germplasm is multigerm, diploid (2x = 18), self-sterile, moderately resistant to leaf spot caused by *Cercospora beticola* Sacc., and is relatively easy bolting. FC 702/6 has resulted from four cycles of preflowering mass selection and one cycle of recurrent selection from FC 702 (Reg. No. GP 2) for resistance to root rotting strains of *R. solani*. Under very severe artificially created rhizoctonia root rot epiphytotics in 1980 and 1981, FC 702/6 had an average of 60% harvestable roots, 26% symptomless roots, and a disease index of 3.1 (0 = no symptoms; 7 = dead), compared to 32%, 10%, and 4.3 for FC 702 (source population), 47%, 14%, and 3.6 for FC 703 (Reg. No. GP 9) and 7%, 1%, and 6.1 for FC 901 (susceptible) with a diverse set of male sterile testers, FC 702/6 combining ability for root yield, sucrose content, and the absence of rhizoctonia root rot, the sugar below that of commercial varieties; therefore, it is intended for grower use. FC 702/6 is recommended as a parental line for the development of rhizoctonia root-rot resistant hybrids, or as a source of resistant germplasm of parents of hybrid varieties.

Breeder seed is maintained by ARS, USDA, to sugarbeet breeders in quantities adequate for ten requests for seed should be made to Sugarbeet Research, ARS, USDA, Crops Research Laboratory, Colorado State Univ., Fort Collins, CO 80523.


REGISTRATION OF B87 PARENTAL LINE OF MAIZE
(Reg. No. PL 59)

W. A. Russell

B87 is a yellow dent maize (*Zea mays* L.) inbred line developed in the research program conducted cooperatively by the Iowa Agric. and Home Economics Exp. Stn. and ARS-USDA. The line was evaluated extensively for hybrid performance and released because of its potential value to the seed industry and for further use in breeding programs. Breeder seed is maintained by the Iowa Agric. and Home Economics Exp. Stn., and the distribution of seed is by the Committee for Agricultural Development, Dep. of Agronomy, Iowa State Univ., Ames, IA 50011.

B87 was selected from BS22, which is a synthetic variety that is similar to A619 × A632 for maturity. The line was developed by selection and self pollination in the ear-to-row system at high plant densities (approximately 59,000 plants/ha) for five generations. The first hybrid evaluation was a S<sub>2</sub> plant × H99 testcross in a recurrent selection program, and evaluations with H99 were continued in successive selfing generations. Data obtained in 11 experiments conducted from 1976 to 1980 in northern Iowa show that B87 is comparable to A632 for hybrid yield performance and superior for resistance to root and stalk lodging. Silk emergence for the line is 1 day earlier than for A632 (Iowa Exp. Stn. strain). The top ear node is approximately 10 cm lower than that of A632. With artificial infestations of first-brood, European corn borer, B87 seems to be a line that can be used as male or female in single-cross seed production. Maturity classification is AES600.

REGISTRATION OF TWO SUGARBEET PARENTAL LINES
(Reg. No. PL 17 and PL 18)

J. S. McFarlane

The parental sugarbeet lines (*Beta vulgaris* L.) were developed by ARS-USDA in cooperation with the Beet Sugar Development Foundation. Breeder seed will be available from U.S. Agricultural Research Station, P.O. Box 93915, California 93915.

C566 (Reg. No. PL 17) is a selection for stalk lodging resistance of the previously released C563 (Reg. No. PL 10). C566 is monogerm, self-fertile, with moderate resistance to top and bolting. These desirable characters were maintained in C566. Stalk blight is a disease of sugarbeet caused by *Fusarium oxysporum* Schlecht. f. sp. *fusarioides* Snyder and Hansen and is widespread in the western States. In 3 years of field testing in Oregon, the major sugarbeet seed producing area, C566 has shown a high level of stalk blight resistance and has suffered no economic loss from stalk blight.