REGISTRATION OF GERMLASMS

Eight sugar beet (Beta vulgaris L.) breeding lines were developed by SEA, USDA, at Logan, Utah. These lines were evaluated in cooperation with the Beet Sugar Development Foundation and the Utah Agric. Exp. Stn. A limited quantity of breeder seed of these lines is available for pro-rata distribution to bona fide sugar beet breeders upon request to SEA, USDA, Sugarbeet Research, Crops Research Laboratory, UMC 63, Logan, UT.

L35 (Reg. No. GP 31) is an S₀, self-fertile, green hypocotyl, Type O monogram line derived from a heterogenous population composed for resistance to the curly top virus. The line was developed by three repeated selections for curly top resistance in an inoculated field nursery, with one selection for Type O. L35 has shown outstanding resistance to all presently known races of curly top having a reading of 1 (resistant) on the 1 to 9 scale. This line has been used to develop a multigerm, Type O line. It is derived from a cross between L35 with a complex pedigree that includes CT5 and CT9 which are curly-top-virus resistant selections; 'GW304', a cultivar of Great Western Sugar Company; SP6322-0, a line resistant to cercospora leaf spot. L35 has shown excellent general combining ability for root and gross sugar yield.

C718 CMS (Reg. No. GP 26) is a cytoplasmic male-sterile equivalent of C718 derived from the fifth backcross to the CMS source.

C705 (Reg. No. GP 27) is a self-fertile, red hypocotyl, monogerm line derived from a cross between C563 and a monogerm, Type O line with fair resistance to virus yellows. From six monogerm-type-0 S₀ plants, the line was advanced six times by bulk increases, including one cycle of mass selection for yellows resistance. C705 has moderate susceptibility to virus yellows and has moderate to good resistance to curly top and bolting. Field tests have shown that C705 has very good combining ability for root and gross sugar yield.

C706 CMS (Reg. No. GP 28) is a cytoplasmic male-sterile equivalent to C705, derived from the fifth backcross to the CMS source.

C706 (Reg. No. GP 29) is a breeding line selected from C705 for nonbolting tendency from an overwintered planting. Except for improved resistance to bolting, C706 is similar to C705.

C706 CMS (Reg. No. GP 30) is the cytoplasmic male-sterile equivalent of C706.

REGISTRATION OF TWO GERMLASMS

Lines of Sugarbeet

(Reg. Nos. GP 31 to 38)

J. C. Theurer

Two pollen-restorer breeding lines of sugarbeet (Beta vulgaris L.) were developed by SEA, USDA, at Logan, Utah. They were evaluated as parental lines in double-cross crosses with the beet Sugar Development Foundation Utah Agricultural Experiment Station. A limited quantity of breeder seed of these lines is available for pro-rata distribution to bona fide sugar beet breeders upon request to SEA, USDA, Sugarbeet Research, Crops Research Laboratory, UMC 63, Logan, UT.

L36 (Reg. No. GP 33) is an S₀, green hypocotyl, monogerm, Type O line derived from a C705 CMS line resulted from four repeated selections in the greenhouse and field for curly top resistance. L36 is equal to 'US41' in curly top resistance with a rating of 5 on the 1 to 9 scale for curly top, and it shows good resistance for beet yield.

C718 (Reg. No. GP 34) is a self-fertile, red hypocotyl, monogerm inbred selected from a cross of 'GW321' with the cultivar 'US35/2 ovana'. C718 has shown high general combining ability for root yield and sugar percentage. It has consistently been 1 to 3 percent higher for all other inbreds tested. It has excellent general combining ability for yield, and it has consistently increased sugar percentage for which it was used as a parent. This line is equal to cultivar 'US35' in curly top resistance. It has excellent pollen dehiscence. This inbred has good resistance to cercospora leaf spot.

C730 (Reg. No. GP 37) is a near Type O, green hypocotyl, S₀, self-fertile, pollen restorer inbred. It resulted from five generations of in-feeding and selection from a cross of SLC129, a parent line of 'US41', with a complex pedigree that includes C705 CMS (Reg. No. GP 29), which has excellent general combining ability for yield, and it has curly top resistance equivalent to that in cultivar US41.