The nematode resistance was derived from a resistant alien monosomic addition line (2n = 19) of H. Savitsky’s B. vulgaris L. × B. procumbens Chr. Sm. interspecific hybrid. In meiosis one intercalary and one terminal chromatid loop at the pachytene stage and up to two dicentric bridges at anaphase I or II occasionally occurred in the microsporocytes of 3584. Approximately 90% of the pollen grains of 3584 had normal appearance when acetocarmine stained. Leaves of H770 plants are slightly smaller and darker green than typical for other sugarbeets. This line shows considerable inbreeding depression. It segregates for annual and biennial bolting characteristics. From greenhouse observations more than 95% of the H770 plants were resistant and 40 to 60% of the F2 progeny derived from its resistant heterozygous F1 were resistant. Line H770 will be of value as a nematode-resistant germplasm source for conducting sugarbeet breeding and nematode resistance research.

Breeder seed will be maintained at the U. S. Agric. Res. Stn., P. O. Box 5098, Salinas, CA 93915. H770 seed may be obtained in small quantities by domestic sugarbeet breeders upon written request.

M. H. Yu

References and Notes


SOFT RED WINTER WHEAT GERMPLASM SEGREGATING FOR A DOMINANT MALE STERILE GENE

A soft red winter wheat (Triticum aestivum L. em, Thell.) (Reg. No. GP219) germplasm segregating for a dominant male sterile gene has been released by USDA-ARS and Maryland Agricultural Experiment Station.

The germplasm was developed using a dominant male sterile gene (called FS6) first reported by Franckowiak et al. (1976) in a chemically mutated hard red spring wheat line having T. tauschii (Coss.) Schmal. cytoplasm. Seed of a population segregating for male sterility was received from N. D. Williams and R. H. Busch in 1977. In 1978, male sterile segregants (approximately 10 plants) were crossed (22 crosses) with soft red winter wheat cultivars in the greenhouse. In 1979 through 1981, male sterile segregant plants from crosses made the previous year, were crossed made in 1981 was bulked and grown at 1981-1982. The population had a winter growth habit and showed excellent winter survival. The release is expected to have predominantly soft wheat characteristics, although it may still segregate for hard wheat characters. The gene will be of value as a germplasm source for developing the released population, a population segregating for a male sterile gene.

The main use of the germplasm will be as a reservoir of new traits, particularly for a wide range of agronomic characters. From greenhouse observations more than 95% of the H770 plants were resistant and 40 to 60% of the F2 progeny derived from its resistant heterozygous F1 were resistant. Line H770 will be of value as a nematode-resistant germplasm source for conducting sugarbeet breeding and nematode resistance research.

Seed in 50 g quantities can be obtained from Dr. P. S. Baenziger, USDA-ARS, Field Crops Lab. and Germplasm Inst., Beltsville Agric. Res. Ctr., Beltsville, MD 20705, USA, who maintains the germplasm. For agronomic improvement, seed in 50 g quantities can be obtained from Dr. D. H. Smith, Jr., Curator, USDA Small Grains Collection, USDA-ARS also at the Beltsville Research Center.

P. S. BAENZIGER, D. J. SAMMONS, AND D. H. SMITH, JR.

References and Notes

3. P.S.B., research geneticist, Plant Genetics and Genomics Lab., USDA-ARS Beltsville, MD 20705. Dr. D. H. Smith, Jr., Curator, USDA Small Grains Collection, USDA-ARS also at the Beltsville Research Center.