in which to inbreed. IAP4R(S1)C3 is decidedly later maturing than IAP1R(M)C4. Most panicles are broader and more compact, and plants generally are shorter. The population is highly variable for plant and seed characteristics, because selection for panicle type, maturity, and seed type and color was not practiced during the developmental cycles. Short to medium height plants were saved in each cycle, but there were tall plants in the C3 isolation block due to recombination of different height genes. The population provides a reservoir of genetic recombinations for grain yield and other traits markedly different from those available in IAP1R(M)C4. It should be useful for R line selection to the A1 cytoplasm system. Breeders' quantities (50, 100, or 200 g) of seed composed from either the fertile or male-sterile panicles may be obtained from the Committee for Agricultural Development, 112 Agronomy Building, Iowa State University, Ames, IA 50011.

R. E. ATKINS (2)

References and Notes

REGISTRATION OF TETRAPLOID CERCOSPORA RESISTANT SUGARBEET GERMPLASM

Four germplasm lines of sugarbeet (Beta vulgaris L.) (Reg. no. GP-98 to GP-101) were released in 1985 by USDA-ARS in cooperation with the Beet Sugar Development Foundation, and the Colorado Agricultural Experiment Station. These germplasms combine high resistance to cercospora leaf spot (incited by Cercospora beticola Sacc.), with moderate resistance to curly top virus.

FC 606 (4x) (GP-98) and FC 607 (4x) (GP-99) are the C3 colchicine-induced autotetraploids (2N = 4x = 36) of FC 606 (1) and FC 607 (2), and have not been subjected to additional selection. FC 606 CMS (4x) (GP-100) and FC 607 CMS (4x) (GP-101) are the cytoplasmic male-sterile equivalents of FC 606 (4x) and FC 607 (4x), respectively, and are also in the C3 generation following colchicine induction. These lines are monogerm. FC 606 (4x) and FC 607 (4x) are pollen-fertile nonrestorer (maintainer) lines (O-types) of FC 606 CMS (4x) and FC 607 CMS (4x), respectively.

In 3 yrs of field testing under artificially-induced epiphytotics, FC 606 (4x) had mean disease ratings for cercospora leaf spot of 3.9 compared with 3.3 and 6.3 for the resistant and susceptible checks, respectively (0 = no symptoms and 10 = complete defoliation). FC 607 (4x) averaged 3.4 for leaf spot under the same severe disease exposure. Disease ratings for FC 606 CMS (4x) and FC 607 CMS (4x) were similar to their respective O-types in our disease tests. All of these tetraploid lines were equal to or better than the resistant check (U.S. 41) under severe curly top infection. These germplasms were developed and released for use as breeder in quantities adequate for reproduction upon written request. It is requested that recognition be made of the source when this germplasm contributes to the development of a new cultivar or cultivar component. Seed requests should be made to USDA-ARS, Crops Research Laboratory, Colorado State University, Ft. Collins, CO 80523. A joint contribution of USDA-ARS, the Beet Sugar Development Foundation, and the Colorado Agric. Exp. Stn. Registration by the Crop Sci. Soc. of Am. Accepted 3 Oct. 1985.

G. A. SMITH AND E. G. RUPPEL (3)

REFERENCES


REGISTRATION OF NY6432-18 AND NY6708-18 WHEAT GERMPLASM LINES

NY6432-18 (Reg. no. GP-268) and NY6708-18 (Reg. no. GP-269) are two soft white winter wheat (Triticum aestivum L.) lines possessing resistance to preharvest sprouting, developed and released by the Cornell Agricultural Experiment Station. The parentage of NY6432-18 (PI 499282) is 'Heines VII'/5/ P5752cl-7 ('Arthur' sib)/ 'Talbot'. The parentage of NY6708-18 (PI 499283) is 'Redcoat'/5/ Heines VII/4/ 'Genese'/3/ 'Yorkwin'/4/ Norin 10/5/ (5726A-BB-23)/ 6/ 'Yorkstar'/4/ Transc/Genese/3/ Avon/3/ Yorkstar. The results of several tests show that both NY6432-18 and NY6708-18 sustain substantially less sprouting damage than check cultivars 'Houser' and 'Fredrick'. Spikes harvested at physiological maturity from four locations near Ithaca, NY in 1981, 1983, and 1984 were rated for extent of sprouting (1) after 6 days in a rainfall simulator. Main effects of genotype and year were highly significant (P<0.01) as was the interaction between year and location; although the location main effect was not significant. No other interactions were significant (P<0.05). Single degree of freedom contrasts estimating the difference in sprouting scores of resistant genotypes vs. the check cultivars, Houser and Fredrick, were significant for both NY6432-18 and NY6708-18 in each year and at each location. Mean sprouting scores ranged from 2.06±0.48 to 3.65±0.17 units (scores 1 to 11) lower for NY6432-18 and NY6708-18 than the mean of the checks.

In order to locate the original source of the resistance to sprouting, all parents in the NY6432-18 pedigree were tested. Both P5752cl-1 and Talbot are white wheats and were highly susceptible to sprouting. The only red wheat genotype in the pedigree of NY6432-18 is Heines VII and it was highly resistant, suggesting that Heines VII could be the resistance source. Although there are other red wheat lines in the pedigree of NY6708-18, the presence of Heines VII in the NY6708-18 pedigree also suggests that Heines VII may be the resistance source. Heines VII is more resistant than either NY6432-18 or NY6708-18, probably because of dormancy associated with its red seedcoat as well as a possible non-seedcoat dormancy.

Preharvest sprouting is a major risk in white wheat production regions where rain is common at harvest time. Soft white winter wheat regions such as New York, Michigan, Ontario, and the Pacific Northwest frequently incur reduc-