hybrids short enough to suggest that they may be four-dwarf. None of the lines carries known resistance genes to biotype E greenbug [Schizaphis graminum (Rondani)], although the breeding histories suggest several may have genes for biotype-C resistance. Pathological examinations of the hybrids were made from the seedling stages to several weeks past frost. Stalk rot pathogens were found at all stages of development, but no significant stalk rot pathogen differences were detected. Test hybrids ranged from 6 d earlier to 4 d later than the hybrid RS626. Some agronomic data are provided in Table 1.

The lines have been numbered serially from N49 to N67. Germplasm amounts of seed are available from P.T. Nordquist, West Central Research and Extension Center, Rte 4, Box 46A, North Platte, NE 69101.

P. T. NORDQUIST* AND J. E. PARTRIDGE (1)

References and Notes

1. P.T. Nordquist, West Central Res. Ext. Ctr., North Platte, NE 69101; and J.E. Partridge, Dep. of Plant Pathology, Univ. of Nebraska, Lincoln, NE 68583. The development of this germplasm has been partially funded by a grant from the Nebraska Grain Sorghum Development, Utilization and Marketing Board. Published as Paper no. 8332 Journal Series, Nebraska Agric. Res. Div. Registration by the CSSA. *Corresponding author. Accepted 30 Aug. 1987.

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REGISTRATION OF GERMPLASM LINES OF SOYBEAN, A11, A12, A13, A14, AND A15

The soybean [Glycine max (L.) Merr.] (Reg. no. GP-100 through GP-104) germplasm lines A11 through A15 (PI 510679 through PI 510683) were developed cooperatively by the Iowa Agriculture and Home Economics Experiment Station and the Puerto Rico Agricultural Experiment Station. Their resistance to Fe-deficiency chlorosis on calcareous soil is superior to any other genotype of soybean that has been evaluated for the character. The lines were released for use as parent stocks in soybean breeding and genetics programs in 1987. A11 through A15 were selected to represent different maturities from Maturity Group 0 to III.

A11 through A15 were derived from S1 plants in the breeding population AP9 (1). The lines were identified after seven cycles of recurrent selection for improved resistance to Fe-deficiency chlorosis on calcareous soil in the field. The S1 progeny of 100 S1 plants were evaluated each cycle for chlorosis resistance when grown in replicated plots on Harps soil (fine-loamy, mesic Typic Calciaquoll) in Iowa with a pH of 7.4 to 7.9. The 10 lines with the least chlorosis were mated in a diallel during the same season. The S1 plants from the crosses were grown during the winter at the Isabela Substation of the Puerto Rico Agricultural Experiment Station to obtain S1-derived lines for the next cycle of selection.

The S1 seed was harvested in Iowa during 1985 from the

level of resistance to Fe-deficiency

(2). The lines designate chlorosis ratings in the field compared with a nutrient solution of 2.3, 2.5, and a mean score of 3.9 for a range from 1 = no yellow. A13, A14, and A15 were grown in seed yield, and all lines to A7 in field resistance to A11 is of Maturity Group 'Hodgson 78', and has purple flowers at maturity, and dull yellow seeds. It is of Maturity Group I, having 78, and has purple flowers at maturity, and dull yellow seeds of late Maturity Group I, having 78 and has purple flowers at maturity, and dull yellow seeds. Maturity Group II, average purple flowers, gray pubescent pods, and dull yellow seeds with Maturity Group III, average purple flowers, gray pubescent pods, and has purple flowers, gray pubescent pods, and dull yellow seeds.

Seed of the lines is distributed by the Iowa Agricultural Development, IA 50011.

H. J. JESSEN, W. R. FEHR

References

4. H.J. Jessen and W.R. Fehr. Department of Agronomy and Horticulture, Iowa State University of Lowa, IA 50011; and S.R. Ciancio, Dep. of Agronomy, Univ. of Puerto Rico, Mayaguez, Puerto Rico. Iowa Agric. Home Economics Experiment Station, Journal Paper no. J-12659; and the Department of Agronomy, Iowa State University, PR 00708. The research was supported by the Iowa Corn Promotion Board. Registration by the CSSA. Accepted 30 July 1987.

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REGISTRATION OF SIX SOYBEAN LINES WITH ADAPTATION TO THE IOWA ENVIRONMENT

Six soybean [Glycine max (L.) Merr.] germplasm lines (no. GP-105, GP-110) adapted to the environments of

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2. Published March 21, 2016.