ha compared to 3150 kg/ha for Century in these tests. Seeds of C1640 averaged 144 mg/seed compared to 179 mg/seed for Century.

Like Century, C1640 has purple flowers, tawny pubescence, and brown pods at maturity containing shiny yellow seeds with black hila. Seeds of C1640 will be maintained by the Purdue University Agricultural Experiment Station. The USDA-ARS will not maintain seed of this strain.

J. R. Wilcox and J. F. Cavins (3)

References and Notes

REGISTRATION OF FOUR SOYBEAN GERMPLASM LINES RESISTANT TO BEAN POD MOTTLE VIRUS

Four bean pod mottle virus (BPMV)-resistant soybean [Glycine max (L.) Merr.] lines, developed by the North Carolina Agricultural Research Service, and the USDA-ARS, were released in 1985. The four lines are NCBPRM-1, NCBPRM-2, NCBPRM-3, and NCBPRM-4 (Reg. no. GP-56 through GP-59, respectively). The lines were developed from a cross of 'Semmes' (BPMV resistant) with 'Forrest' (cyst nematode resistant) and crossing a BPMV-resistant high-yielding selection with Forrest. The BPMV resistance of Semmes is manifested by very mild chlorotic mottle of the youngest one or two leaves.

Semmes was crossed with Forrest in 1977, and in 1979 five F2 lines were grown from each of 19 F1 lines selected for BPMV resistance. The five F2 lines from one F1 line appeared resistant. The highest yielding of these was continued for further reselection. Fourteen F3 resistant lines were increased and evaluated for seed yield. The highest yielding line outyielded Forrest by 15% and was crossed to Forrest in Puerto Rico during the winter of 1982-1983. Generation advance from F2 to F4 was by single seed descent. Eighty-eight F5 lines were grown in 3-m rows at the Tidewater Research Station, Plymouth, NC in 1984 and evaluated for BPMV reaction. BPMV was transmitted throughout the test by the natural beetle vector (Cerotoma trifurcata). Remnant seed of these lines were evaluated twice for resistance to the soybean cyst nematode (Heterodera glycines Ichinohe) race 1 in the greenhouse.

The agronomic characters of four lines having both BPMV and cyst nematode resistance are presented in Table 1. The selected lines have a growth habit and maturity similar to those of Forrest (Maturity Group V) and have other desirable agronomic characters of this cultivar. The BPMV resistance is generally not as complete as that of Semmes, whereas cyst nematode resistance of the lines is equal to that of Forrest.

The release of these lines will provide a germplasm source for development of cultivars having both BPMV and cyst nematode resistance. The virus is seed transmitted, prevalent in commercial soybeans in mid eastern North Carolina (2), and is capable of reducing soybean yields of such cultivars as Forrest and 'Centennial' by 10 to 15% (1,3). The presence of the virus in this and other soybean producing areas where high populations of the vector prevail should make the cultivation of BPMV-resistant types profitable without the application of insecticides to control the vector.

Seed of these four lines will be maintained by the Crop Science Department, North Carolina State University and can be obtained from J. W. Burton, Crop Science Department, North Carolina State University, Raleigh, NC 27695.

J. P. Ross (4)

REGISTRATION OF EIGHT SOYBEAN GERMPLASM LINES RESISTANT TO SEED INFECTION BY PHOMOPSIS ssp.

Eight soybean [Glycine max (L.) Merr.] germplasm lines, developed by the North Carolina Agricultural Research Service and the USDA-ARS, were released in 1985. The eight lines, NCPR83-26, NCPR83-27, NCPR83-246, NCPR83-47, NCPR83-40, NCPR83-443, NCPR83-207, and NCPR83-5 (Reg. no. GP-60 through GP-67, respectively), were released because of their resistance to seed infection by Phomopsis sp. [P. phaseoli (Desm.) Sacc., sensu Kulik (1)]. Infection of soybean seed by Phomopsis sp. is associated with poor seed quality (2), and it has been considered a prime cause of diminished seed quality, especially in seed of early maturing cultivars in the southern USA that mature during warm, moist periods.

A pedigree breeding method (pedigrees in Table 1) was used to transfer resistance found in PI 200 510, PI 209 908, and Arksoy to selected lines. The resistance of these sources and that of the selected lines was determined by growing single 3-m rows of the lines in a field cropped to soybeans the previous season. Under these conditions the disease developed naturally. Ten plants per line were cut within 5 days after maturity and incubated in a saturated moist chamber (25°C) for 42 h. Plants were then air dried, and