REGISTRATION OF GERMPLASMS

References and Notes


PEANUT GERMPLASM LINES, AR-1, -2, -3, AND -4

Four peanut (Arachis hypogaea L.) (Reg. Nos. 35–38) germplasm lines were developed by the Crops Research Unit, USDA-ARS in cooperation with the Coastal Plain Station of the University of Georgia Agricultural Experiment Stations and released 7 Mar. 1983.

The peanut germplasm lines, designated AR-1 (GP35), -2 (GP36), -3 (GP37), and -4 (GP38), have shown greater resistance to aflatoxin-producing strains of Aspergillus sp. than standard peanut cultivars and hundreds of accessions and breeding lines evaluated for several successive years, using standard laboratory screening methods (2,3).

These Aspergillus resistant lines resulted from a special breeding project begun in 1969. From 1200 to 3800 single-plant and composite-plant selections each year from field nurseries at Tifton, Ga. (summer) and Isabella, Puerto Rico (winter), the more resistant selections were increased or crossed with more productive genotypes in successive laboratory and field evaluation and selection procedures. Aflatoxin-producing strains, including strain NRRL-A-13794 of A. flavus Link Fr. and strain NRRL-2999 of A. parasiticus Speare, were used to inoculate hand-picked and hand-shelled samples of seed which were rated for seed infection after incubation for 7 days at 28 °C in a humid chamber. Uninoculated samples were also processed to determine field and incidental infection.

In laboratory evaluation of duplicate seed samples for each of 4 years (1978-1981) using an established procedure of inoculation with aflatoxin-producing strains of A. flavus, AR-1, -2, -3, and -4 had 18, 13, 12, and 12% respectively, of the seed infected in comparison with 40 and 87%, respectively, for the commercial cultivar 'Florunner' and PI 331326 (a highly susceptible line), respectively.

The yield potential of these lines is too low for use as commercial cultivars, averaging 84, 62, 75 and 77%, respectively, of Florunner in 1978-1980 forage, their resistance to Aspergillus sp. is important to peanut breeders for increasing more productive peanut genotypes.

Seed stocks will be maintained and distributed by Dep. of Agronomy, Univ. of Ga., Coastal Plain Exp. Stn., Tifton, GA 31793. Limited quantities of seed (up to 500) may be made available upon written request and agreement to appropriately recognize the source as a matter of standard research information.

AUBREY C. MIXON

References and Notes

4. Established line from a cross made in 1957 between 'Florunner' and 'APW 205'.
5. Research agronomist, USDA-ARS, Univ. of Georgia Coastal Plain Exp. Stn., Tifton, GA 31793. Registration by the Crop Sci. Soc. of Am. Accepted 25 May 1983.

SUGARBEET GERMPLASM RESISTANT TO SUGARBEET NEMATODE

SUGARBEET NEMATODE RESISTANT GERMPLASM LINES, GP 35, 36, 37, AND 38

Four peanut (Arachis hypogaea L.) (Reg. Nos. 35–38) germplasm lines were developed by the Crops Research Unit, USDA-ARS in cooperation with the Beet Development Foundation and released in 1982. This germplasm has resistance to the sugarbeet cyst nematode (Heterodera schachtii Schm.). The mortality of nematode larvae in this line is very high and the mechanism of resistance seems to be antibiosis (2).

These sugarbeet germplasm lines have been registered as GP 35 (AR-1), GP 36 (AR-2), GP 37 (AR-3), and GP 38 (AR-4). Registration was made available upon written request and agreement to appropriately recognize the source as a matter of standard research information.

AUBREY C. MIXON

References and Notes