REGISTRATION OF VGP 1 PEANUT
GERMPLASM
(Reg. No. GP 11)

T. A. Coffelt*

VGP 1 peanut (Arachis hypogaea L. ssp. hypogaea var. hypogaea) was released as germplasm in 1979 by the AR-SEA-USDA and the Virginia Agric. Exp. Stn. VGP 1, which traces to a single plant selection from PI 343381, was evaluated in area tests as VA 751607. Introduced from Israel, PI 343381 was a segregating breeding line from a cross between 'Virginia Sihut Meshubahat' and 'Schwartz 21'. Seed from the individual plant selection were planted in a single row which was harvested in bulk. Seed has been maintained by bulking in each succeeding generation.

VGP 1 has a high level of resistance to cylindrocladium black rot (CBR) (caused by Cylindrocladium crotalariae [Loos Bell & Sober], a destructive disease of peanuts in the Virginia-North Carolina peanut-producing area. No chemicals are approved for control. In 11 tests during 1975–1978, VGP 1 averaged 71% fewer CBR-infected plants than 'Florigiant' (grown on over 95% of the peanut area in Virginia and North Carolina) when grown in infested fields. It did not differ in percent infected plants from 'NC 3033' or 'Spracross', two sources of previously identified resistance. Similar results were observed by visual estimates of the amount of pod and root damage due to CBR.

In limited field testing, VGP 1 has shown resistance to sclerotinia blight (caused by Sclerotinia sclerotiorum [Lib. d'Bay. 's. minor Jagger]) and moderate resistance to pod breakdown (caused by Phytophthora megatyphula Drec. and Rhizoctonia solani Kuehn). It is highly susceptible to peanut rust (caused by Puccinia arachidis Speg.), the two-spotted spider mites (Tetranychus urticae Koch), and tobacco thrips (Frankliniella fusca Hinds) and is moderately susceptible to leafspot (caused by Cercospora arachidica Horri and Cercosporidium personatum [Berk. & Curt.] Deighton). 3

VGP 1 has a bushy growth habit and is similar to 'NC-FLA 14' in appearance. The light-pink-colored seed are similar to NC 3033 in weight (54 g/100) and the length/width ratio is about 1.7:1. Pods are moderately constricted with some pronounced veination and pubescence. Two-seeded pods are the most common (93%) with some single-seeded pods (6%) and an occasional three-seeded pod (1%). The pod length/width ratio is approximately 2.1:1. VGP 1 matures 5 to 7 days later than and yields 65–70% that of Florigiant on soils with or without CBR. However, limited testing has shown yields as high as 95% of Florigiant in fields with sclerotinia blight. A2 displayed little or no yellowing in tests from 1975 to 1978 in Iowa.

VGP 1 is a F2 plant selection from the cross M63-17 × 'Schwartz 21'. M63-17 is a line developed by the Minnesota Agric. Exp. Stn. M402 × M406. M402 is a selection from 'Renville' × 'Norwich', and M406 is from 'Harosoy' × 'Norwich'. C1453 is a selection from PI 11, AR-SEA-USDA and the Purdue Univ. Agric. Exp. Stn. C1266R × C1253. C1266R is a selection from PI 2343381, Virginia and North Carolina) when grown in infested fields. It did not differ in percent infected plants from 'NC 3033' or 'Spracross', two sources of previously identified resistance. Similar results were observed by visual estimates of the amount of pod and root damage due to CBR.

The cross from which A2 was selected originated in Israel. Original generations were advanced by single-seed descent to Puerto Rico and Iowa. The line was tested for yield in Puerto Rico and Iowa in 1978 and in the Northern Regional Soybean Tests from 1977 to 1979, under the designation A74-10101.

A2 has white flowers, grey pubescence, brown and grey pods, and shiny yellow seeds with yellow hila. It is of Creole origin and is best adapted to 43° to 44° N Lat. In comparison with viré, A2 is similar in yield and time of maturity. A2 has an average score of 3.2 for resistance to iron deficiency chlorosis, slightly better in lodging resistance, 10 cm shorter, and pods are 1.3 g/100 seed smaller, 0.5% lower in protein, and 1.4% lower in oil than Coles.

A2 is moderately susceptible to bacterial blight (caused by Pseudomonas glycinea Coe), brown stem rot (caused by Diaporthe phaseolorum (Allington & Chamberl.) W. Gams and Colesa), and pod and root rots (caused by Rhizoctonia solani) [Lib. d'Bay. 's. minor Jagger]).

Seed of A2 was distributed to soybean breeders by the Committee for Agricultural Development, Iowa State Univ., Mayaguez, PR 00911. Breeder seed will be maintained by the Iowa Agric. and Home Economics Exp. Stn.

REGISTRATION OF FC 607 AND FC 607 CMS
SUGARBEET GERMPLASM
(Reg. Nos. GP 60 and GP 61)

G. A. Smith and E. G. Ruppel*

SUGARBEET (Beta vulgaris L.) breeding line FC 607 is a cytoplasmic male-sterile equivalent, FC 607 CMS, with its maintainer, FC 607 (GP No. 60), released by the AR-SEA-USDA, in cooperation with the BeetSugar Improvement Foundation and the Colorado State Univ. Exp. Stn. It is highly susceptible to cercospora leaf spot (incited by Cercospora beticola) and the curly top virus. The lines are diploid and flower after short photothermal induction.

FC 607 (GP No. 60) is the monogerm, pollenless line (type O) of FC 607 CMS. This line was developed from a three-way cross (FC 504 × 502/2) × FC 605 (FC 605 R × 605 T × 502/2 T); FC 504 Registration No. CP 39; FC 502/2 Registration No. 44). The line is moderately vigorous; consequently it is potentially for use as a parent of single-cross hybrids. It is highly susceptible to leaf spot (about equal to US 201) and moderately resistant to curly top (superior to that in US 41).

FC 607 CMS (GP No. 61) is the cytoplasmic male-sterile equivalent of FC 607 and resulted from the cross (FC 502/2 × 502/2 T.O.) × FC 605 T.O. FC 607 CMS is being used by sugarbeet breeders in quantities sufficient for reproduction upon request. Requests for seed should be made to Dr. G. A. Smith and Jon B. Bahrenfns*.


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REGISTRATION OF A GERMLASM