REGISTRATION OF GENETIC STOCKS

Registration of VGS 1 and VGS 2
Peanut Genetic Stocks

VGS 1 (Reg. no. GS-4, PI 584770) and VGS 2 (Reg. no. GS-5, PI 584771) peanut (Arachis hypogaea L.) genetic stocks were developed and released cooperatively by the USDA-ARS and the Virginia Agricultural Experiment Station in 1994. These genetic stocks were released because of their crinkle-leaf characteristic in combination with large pod size. The crinkle-leaf characteristic is a dominant mutant identified by Hammons (3) in a spanish-type peanut with small pods.

VGS 1 and VGS 2 were developed from single-plant selections in the F_8 generation of material from a natural crossing study (2). Florigiant (1), a large-seeded virginia-type cultivar, was used as the female parent and the crinkle-leaf mutant as the male parent. Subsequent generations through F_12 have been maintained by bulking seed from several plants. Plants are similar to the crinkle-leaf mutant with an erect growth habit, dark green, wrinkled leaves, and flowers on the main stem. However, pods are similar to those of the Florigiant parent with a virginia-type shape, slight constriction and reticulation, and mostly two-seeded. Seed are light pink, with a 100-seed weight of 64 g for VGS 1 and 63 g for VGS 2, compared with 76 g for Florigiant and 27 g for the krinkle. Other market grade factors also indicate that VGS 1 is slightly larger than VGS 2. The percentage of fancy pods (83 vs. 77%) and percentage of extra-large kernels (14 vs. 12%) are higher for VGS 1 than VGS 2. VGS 1 is slightly later in maturity than VGS 2.

Preliminary observations indicate no significant resistance to common diseases or insects. VGS 1 and VGS 2 will give geneticists an additional source of the dominant mutant krinkle-leaf trait for use in genetic studies. They will provide breeders using the pedigreed natural crossing method (4) a large-seeded virginia-type source of the krinkle-leaf mutant. In a breeding program developing large-seeded cultivars, these lines should increase the chance of obtaining useful breeding material when using the pedigreed natural crossing method.

Seed of VGS 1 and VGS 2 will be maintained by the USDA-ARS Southern Regional Plant Introduction Station (SRPIS), Griffin, GA. Small quantities of seed are available to qualified researchers upon written request to Dr. R.N. Pittman, Peanut Curator, USDA-ARS, SRPIS, Griffin, GA 30223. Appropriate recognition should be given when these genetic stocks are used.

References and Notes

*Corresponding author.

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REGISTRATION OF PARENTAL LINES

Registration of B99 and B100
Inbred Lines of Maize

Inbreds B99 (Reg. no. PL-174, PI 584528) and B100 (Reg. no. PL-175, PI 584529) are yellow dent maize (Zea mays L.) lines developed cooperatively by the Iowa Agriculture and Home Economics Experiment Station and the USDA-ARS. The lines were released 12 May 1993 for their potential value in the production of hybrid seed and as sources of germplasm in pedigree-selecion breeding programs.

B99 was developed from a population of 'Iowa Corn Borer Synthetic No. 1' (BSCB1) after 10 cycles of reciprocal recurrent selection (1). The other population in the reciprocal recurrent selection was 'Iowa Stiff stalk Synthetic' [BSBS(R)Cn]. The line was a selection from the reciprocal recurrent selection program [BSCB1(R)C10-7233] and was one of 20 lines intermated to form BSCB1(R)C11. BSCB1(R)C10-7233 was included in the breeding and topcross nurseries at the S1 generation (F = 0.50). On the basis of testcross performance, the line was advanced ear-to-row by six generations of self-pollination in the breeding nursery and included in the crossing nursery to produce single-cross seed with B37 and B89. In single-cross trials conducted at 9 (1990) and 10 (1991 and 1992) locations, its best performance was in crosses with B37. Single-cross B37 x B99 yielded 5.9% and 19.1% more than B37 x Mo17 in 1990 and 1991, respectively. B37 x B99 (10.65 t ha⁻¹) yielded similarly to B37 x Mo17 (11.08 t ha⁻¹) in 1992 [LSD (0.05) = 0.88 t ha⁻¹]. Grain moisture at harvest and root and stalk strength of B37 x B99 were similar to those of B37 x Mo17, but B99 crosses tended to have more root lodging than the commercial check hybrids, B99 flowers 2 d earlier than B37, and has similar plant and ear heights. Leaf midribs develop a reddish color after pollination. Pollen production is good, and silk emergence is coincident with pollen shed. Ears have 12 to 14 rows of yellow dent kernels on red cobs, and grain yield is similar to Mo17. B99 has good plant health, with average root and stalk strength and average resistance to first-generation European corn borer (Osorina nubilalis Hübner). B99 has greater potential as a male than as a female in the production of single-cross seed. Maturity classification is AES800.

B100 was developed from the cross of B85 (2) and H99. H99 was developed from Illinois Syn. 60C. The cross was backcrossed to H99, and pedigree selection within the backcross generation was used to develop B100 [(B85 x H99)H99-361]. Selections were entered in testcross evaluation, with A632 as tester at the S3 generation (F = 0.875). Based on testcross performance, the line was advanced ear-to-row by four generations of self-pollination in the breeding nursery and included in the crossing nursery to produce single-cross seed with A632, A681, B87, and SD40. In single-cross trials conducted in 1990 (four locations), 1991 (two

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