

Registration of ICGV 87165 Peanut Germplasm Line with Multiple Resistance

ICGV 87165, a high-yielding peanut (*Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*) germplasm line (Reg. no. GP-78, PI 594923) with multiple disease and insect resistance, was released in 1994 by the Plant Materials Identification Committee of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) because of its resistance to rust (caused by *Puccinia arachidis* Speg.) and late leaf spot [caused by *Phaeoisariopsis personata* (Berk. & Curt.) Arx], and moderate resistance to bacterial wilt [caused by *Pseudomonas solanacearum* (Smith) Smith], leaf miner (*Aproaema modicella* Deventar), and tobacco caterpillar [*Spodoptera litura* (F.)].

ICGV 87165 is an interspecific derivative of a cross between PI 261942 (*A. hypogaea* subsp. *fastigiata* Waldron var. *fastigiata*) and *A. cardenasii* Krapov. & W.C. Gregory. It was developed through 14 generations of single plant and bulk selections for foliar diseases reaction and agronomically desirable characters (pod number and seed filling) from a cytologically unstable interspecific population of the above cross received from North Carolina State University, USA. The stabilized line was designated as CS 9.

In 12 replicated yield trials conducted during 1983 and 1984 by the All India Coordinated Research Project on Oilseeds (AICOR-PO) at different locations in India, ICGV 87165 produced 39% greater pod yield than 'Kadiri 3'. The average pod yield of ICGV 87165 in these trials was 2.39 t ha⁻¹. In 2 yr of trials at three locations in Myanmar, it produced 104% greater pod yield than 'Japanese Small', which produced 0.45 t ha⁻¹. In similar trials conducted in the Republic of Guinea, ICGV 87165 outyielded the local cultivar by 29.4% with 1.98 t ha⁻¹. In the Philippines, it gave a pod yield of 2.21 t ha⁻¹, compared with 1.45 t ha⁻¹ for the local cultivar BPN Pn-9.

In 13 trials conducted at seven Indian locations, ICGV 87165 was rated 3.11 for defoliation caused by late leaf spot, compared with a score of 6.89 for Kadiri 3 on a 1-to-9 field rating scale (4). In 12 other trials conducted at six Indian locations for rust, ICGV 87165 scored 3.07, compared with 6.94 for Kadiri 3 on the same 1-to-9 scale. ICGV 87165 maintained its resistant reaction to rust and late leaf spot over the local cultivars in the Republic of Guinea, Myanmar, Sudan, and northern Vietnam.

At five locations in India for three seasons, ICGV 87165 showed 12.7% leaflet damage due to leaf miner, compared with damage of 38.0% for 'TMV 2'. At three locations in India, ICGV 87165 showed lower percentage of damage (19.9–69.5%) due to tobacco caterpillar than the local cultivars TMV 2, J 11, and ICGS 44 (31.2–99.2%). ICGV 87165 has also shown moderate resistance to bacterial wilt in Indonesia (3) and in Vietnam (1).

ICGV 87165 has a Decumbent 3 growth habit (2), alternate branching, and small elliptic green leaves. It has 8 to 12 primary and 14 to 25 secondary branches. It matures in approximately 117 d during the rainy season in India. It has slightly reticulated pods with moderate ridges and beaks. The pods are two- to one-seeded with average meat content of 60%. The seeds are red, with a 100-seed weight of 41 g, and contain 46% oil (at 5% moisture, w/w), and 22% protein (N content × 5.46).

The Genetic Resources Division, ICRISAT Asia Center, will maintain the breeder seed of ICGV 87165. Limited quantities of seed without limitation for use, will be made available on request. Seeds of ICGV 87165 are also deposited with the USDA National Seed Storage Laboratory, Colorado State University, Fort Collins, CO 80521-4500.

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References and Notes

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Registration of N220-1-91, N222-1-91, N320-2-91, and N419-1-91 Nematode-Resistant Cotton Germplasm Lines

Four cotton (*Gossypium hirsutum* L.) germplasm lines, N220-1-91 (Reg. no. GP-639, PI 592295), N222-1-91 (Reg. no. GP-640, PI 592296), N320-2-91 (Reg. no. GP-641, PI 592297), and N419-1-91 (Reg. no. GP-642, PI 592298), were released because of their resistance to the southern root-knot nematode [*Meloidogyne incognita* (Kofoid & White) Chitwood] (Race 3), the reniform nematode (*Rotylenchulus reniformis* Linford & Oliveira), or both, and because of their productivity. The lines were developed jointly by the USDA-ARS and the Texas Agricultural Experiment Station and were released in 1995.

N220-1-91 originated as an F₂ selection from the cross of La. RN 910/C104. La. RN 910 is a root-knot and reniform nematode-resistant germplasm line developed by the Louisiana Agricultural Experiment Station (3). C104 is a USDA breeding line adapted to the Lower Rio Grande Valley of Texas. It was derived from a series of crosses between USDA-ARS breeding lines and PeeDee 9363 (2). Fiber of N220-1-91 was 7% stronger than 'Stoneville 453' (4), but its lint percentage was 3% lower.

N222-1-91 originated as an individual F₂ plant selection from the cross La. RN 910/C105. C105 is a USDA breeding line adapted to the Lower Rio Grande Valley of Texas. It resulted from a series of crosses involving 'Tamcot CAMD-E' (1,4,5) and USDA-ARS breeding lines. Lint percentage of N222-1-91 was 3% lower than Stoneville 453, but the micronaire value was 0.4 units higher.

N320-2-91 was derived from an F₂ individual plant selection of the cross La. RN 4-4/C105. La RN 4-4 is a root-knot and reniform nematode-resistant germplasm line developed by the Louisiana Agricultural Experiment Station (3). Micronaire value of N320-2-91 was 0.7 units lower than Stoneville 453.

N419-1-91 originated as an individual F₂ plant selection from the cross La. RN 909/C32. La. RN 909 is a root-knot and reniform