Registration of LN-183, Nondormant *Cuphea lanceolata* Germplasm

LN-183 (Reg. no. GP-4, PI 574384) is a nondormant, open-pollinated population of *Cuphea lanceolata* Ait. LN-183 was developed from LN-148 after three cycles of recurrent mass selection for decreased seed dormancy. LN-183 was developed at Oregon State University and was officially released by the Oregon Agricultural Experiment Station in 1992. LN-148 was developed by intermating (LN-61-ND)S/LS/(LN-68)S1 plants.

Although wild populations of *C. lanceolata* exhibit some seed dormancy, the dormancy of this species is less severe than that of many other species of *Cuphea* (1, 2, 3). The postharvest seed dormancy of wildtype *C. lanceolata* germplasm ranges from 4 to 16 wk, while the embryo dormancy ranges from 1 to 8 wk (1, 2). Seed of *C. lanceolata* can be germinated by removing the seed coats once embryo dormancy is broken. LN-183 lacks postharvest seed coat or embryo dormancy. The germination percentages of freshly harvested LN-183 seed usually exceed 80%. Other *C. lanceolata* lines and populations must be stored for a minimum of 4 wk before these germination percentages can be achieved (1, 2, 3). Many species of *Cuphea* need several months or years of storage before they germinate.

(LN-61-ND)S1 is a nondormant inbred line of *C. lanceolata*. This line originated from the wild open-pollinated population LN-61. Freshly harvested seed of LN-61 did not germinate, but a random LN-61 S1 line with no postharvest seed dormancy was observed and selected. Sublines of this line were developed and selected for two additional generations and culminated in the development of the nondormant inbred line LN-61-ND)S1. The vigor of (LN-61-ND)S1 was severely depressed by inbreeding, and this line was unusually hard to propagate sexually. This problem was overcome by crossing it to a partially nondormant inbred line (LN-68)S1 to restore vigor and create a narrow-based open-pollinated population LN-148. Three cycles of recurrent mass selection for nondormancy were subsequently completed within LN-148. The first 30 germintans among 600 seeds were selected each cycle; 100% of the selected progeny lacked postharvest seed dormancy. The open-pollinated population LN-183 was created by intermating the progeny from the last cycle of selection. LN-183 combines vigorous growth with a lack of postharvest seed dormancy.

LN-183 can be distinguished from undomesticated *C. lanceolata* germplasm by the lack of postharvest seed dormancy; however, the growth habit, seed shattering, and other traits of LN-183 are typical of undomesticated germplasm (4). The seed oil, caprylic, capric, lauric, myristic, palmitic, oleic, and linoleic acid contents of LN-183 harvested at Corvallis, OR, in 1991 were 285, 8, 836, 21, 21, 32, 29, and 46 g kg\(^{-1}\) respectively. These percentages are typical of wildtype *C. lanceolata* germplasm (5). The 1000-seed weight of the 1991 harvest of LN-183 was 2.9 g. This germplasm is indeterminate with mature heights greater than 0.75 m and often exceeding 1.5 m. LN-183 is a source of germplasm for breeding nondormant germplasm and cultivars. Seed of LN-183 can be obtained by writing to the corresponding author. Please acknowledge the source of this germplasm when developing additional germplasm, cultivars, or hybrids.


References and Notes


Registration of ICGS 35 Peanut Germplasm

ICGS 35 (ICGV 87127) (Reg. no. GP-67, PI 577819) Spanish peanut (*Arachis hypogaea* L. subsp. fastigiata) Waldron var. vulgaris Hartz) was developed at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Andhra Pradesh, India. It was introduced into the Republic of Korea in 1981, together with other breeding lines from ICRISAT. After a 4-yr evaluation in multilocation trials, the Crop Experiment Station of the Rural Development Administration, Suwon, Korea, recommended its release under the name ‘Jinpungtangkong’ in 1986 for cultivation in the country (1).

ICGS 35 was developed following the bulk pedigree method from a single plant selected in 1977–1978 in a natural hybrid population of an Indian cultivar Robust 33-1 (also known as Kadiri 3) (4). In the progeny of the selected single plant, a single plant was selected. Phenotypically uniform plants were selected from the progeny of the latter plant and bulked. In subsequent nine generations of the bulk, the process of selection and bulking was repeated until the population was phenotypically stable. The pedigree of ICGS 35 is (Robust 33-1)-P2r-P1r-B-B-B-B-B-B-B.

ICGS 35 produced an average pod yield of 5.6 t ha\(^{-1}\) in the five postrainy (November–April) seasons (1979–1980 to 1983–1984) and 2.5 t ha\(^{-1}\) in the three rainy (June–October) seasons (1980, 1982, and 1983) at the ICRISAT Center. The average pod yield of ICGS 35 over eight seasons was 14% higher than that of the parent cultivar Robust 33-1 (2). In the Republic of Korea, ICGS 35 was tested against local cultivars in multilocal trials from 1982–1983 to 1986 (3). In these trials, it produced an average pod yield of 1.8 t ha\(^{-1}\), which was 15–32% more than that of local cultivars Olatangkong, Yeonghotangkong, and Saedletangkong. It flowered 2 d later than Saedletangkong but 5 d earlier than Yeonghotangkong. Its average meat content in these trials was 71%.

ICGS 35 has an erect growth habit, sequential flowering, small- to medium-sized elliptic dark green leaves, and orange flowers (1). Its plant height (main axis) is 47 cm. It has 2-seeded pods with deep constriction. Its seeds are tan with a 100-seed mass of 44 g, and contain 530 g oil and 240 protein kg \(^{-1}\) dry seed.

ICGS 35 has a reaction to rust (caused by *Puccinia arachidis* Speg.), late leaf spot (caused by *Phaeosariopsis personata* (Berk. & M.A. Curtis) Arch. syn. *Cercosporidium personatum* (Berk. & M.A. Curtis) Deighton), early leaf spot (caused by *Cercospora arachidicola* S. Hori), and phoma (web blotch) (caused by *Phoma arachidicola* Marasas, G.D. Pauer & Boerema) similar to that of the local cultivar Saedletangkong in Korea. It was scored 5 for rust and late leaf spot, 3 for early leaf spot, and 7 for phoma (web blotch) on a 0–9 scale, where 0 = no disease and 9 = highly susceptible.

The Genetic Resources Unit, ICRISAT Center, Patancheru, AP 502 324, India, maintains the breeder seed of ICGS 35.