Registration of ‘ALR 2’ Peanut

‘ALR 2’ Spanish peanut (Arachis hypogaea L. subsp. fastigiata Waldron var. vulgaris Hartz) (Reg. no. CV-61, PI 599975) is a pure-line selection from an advanced breeding line, ICGV 86011, developed at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), ICRISAT Asia Center (IAC), Patancheru, AP, India. The original population of ICGV 86011 was supplied to the Agricultural Research Station, Aliyarnagar, Tamil Nadu, India, in 1984. It was tested during the rainy (Chitrasi season: April sowing, no irrigation), postrainy (Margazhi season: October sowing, irrigated), and summer (Adi season: June sowing, irrigated) seasons of 1986 to 1993 in various yield trials in Tamil Nadu. After 8 yr of evaluation, ALR 2 was released in 1994 by the state varietal release subcommittee of the Tamil Nadu Agricultural University, Coimbatore, for cultivation in the rainy and irrigated postrainy and summer seasons in the Pollachi tract of Tamil Nadu (3).

ALR 2 was selected from the original F_6 population of ICGV 86011, which was developed from a three-way cross made at IAC in 1981. Its pedigree is Dh 3-20/USA 20/NC Ac 2232 F_2/B_{1-2}-B_{1-3}-B_{1-3}, Dh 3-20 and USA 20 are high-yielding breeding lines developed in India and the USA, respectively. NC Ac 2232 is a low-yielding virgin gernplasm line (4). It is resistant to thrips (Frankliniella schultzei Trybom) and jassids and leafhoppers (Empoasca kerri Pruthi) (1).

After 8 yr of evaluation in over 59 environments (31 test locations during 1986-1993), ALR 2 produced an average pod yield of 1.74 t ha^-1, compared with 1.52 t ha^-1 for the highest-yielding control cultivar VRI 2 in Tamil Nadu. It also produced 25% greater haulm yield than VRI 2 (13.77 t ha^-1). The foliage of ALR 2 remains green even at maturity (105-110 d) in Tamil Nadu. ALR 2 has an erect growth habit (2), with sequential flowering and obovate-elliptic, dark green leaves. Its plant height averages about 35 cm, and it has six primary branches but no secondary branches. ALR 2 has mostly two-seeded small pods, which are characterized by slight pod beak, slight to moderate pod constriction, and moderate pod reticulation. Its seeds are tan in color, with a 100-seed weight of 35 g. The seeds contain 520 g oil kg^-1 dry seed. It has fresh seed dormancy of only 15 d.

ALR 2 is moderately resistant to rust (caused by Puccinia arachidis Speg.), late leafspot (caused by Phaeoisariopsis personata Berk. & M.A. Curtis) Deighton), and jassids, and is highly resistant to stem rot (caused by Sclerotium rolfsii Sacc.) (3). In adaptive trials conducted over 20 locations during the 1992-1993 seasons in Tamil Nadu, ALR 2 showed on average 46% rust (33-59%) and 45% late leafspot (30-65%) disease incidence. The susceptible control VRI 2 recorded on average 78% rust (68-98%) and 79% late leafspot (60-94%) disease incidence. In artificially inoculated trials under greenhouse conditions, ALR 2 showed 2% stem rot incidence, compared with 53% in the susceptible control ‘CO 21’.

Small quantities of seed of ALR 2 can be obtained without restriction on use from the Agricultural Research Station, Aliyarnagar, Tamil Nadu 642 101, India, or the Genetic Resources Division, ICRISAT Asia Center, Patancheru, Andhra Pradesh 520 324, India. Seeds of ALR 2 have been placed in long-term storage at the U.S. National Seed Storage Lab., 1111 S. Mason St., Fort Collins, CO 80521-4500.

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References and Notes

2. J.W. Johnson, D.E. Bland, Dep. of Crop and Soil Sciences; G.D. Buntin, Dep. of Entomology; B.M. Cunfer and J.J. Roberts, Dep. of Plant Pathology, University of Georgia, Griffin Campus, Griffin, GA 30223-1797. This contribution was supported by State and Hatch funds allocated to the Georgia Agric. Exp. Stn. and USDA-ARS. Registration by CSSA. Accepted 31 May 1996. *Corresponding author (jjohnsongas@griffin.peachnet.edu).

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