Registration of ‘C-99R’ Peanut

‘C-99R’ peanut (Arachis hypogaea subsp. hypogaea var. hypogaea) (Reg. no. CV-71, PI 613135) cultivar was developed by the University of Florida Agricultural Experiment Station and approved for release in 1999. C-99R is a jumbo-runner market-type peanut with resistance to late leafspot [caused by Cercosporidium personatum (Berk. & M.A. Curtis) Deighton], stem rot or white mold (caused by Sclerotium rolfsii Sacc.), and tomato spotted wilt virus (TSWV, a tospovirus from the family Bunyaviridae). Tested experimentally as UF94320 and F84×9B-4-2-1-1-2-b2-B, C-99R was selected from a cross made in 1984 between two University of Florida breeding lines, UF81206-1 and F72×32B-13-1-3-b2-B. UF81206-1 is a selection from UF81206 (PI 203936×F–72B-3-1-7-4) and has multiple disease resistance to late leafspot, stem rot, rust (caused by Puccina arachidis Speg.) and TSWV. F72×32B13-1-3-b2-B comes from a cross between PI 257875×‘Florigiant’ and has resistance to late leafspot and TSWV. This breeding material was developed primarily for resistance to late leafspot by pedigree selection conducted under unprotected field conditions (unsprayed, no leafspot fungicide) from F2 through F7. Seed from two single plants were bulked in the F7 for yield testing under unsprayed field conditions at Marianna in 1992. Sprayed and unsprayed tests were conducted from 1993 through 1997 in Florida. UF94320 was tested in the Uniform Peanut Performance Test from 1996 to 1997, with a southeast (Alabama, Florida, Georgia) variety yield advantage over ‘Florigiant’ (Norden et al., 1969) of 1379 kg ha⁻¹ (Branch et al., 1997, 1998; Gorbet and Shokes, 2000).

C-99R has shown good resistance to late leafspot, stem rot, and TSWV, with greater pod yields, larger seed size, better grades, and better quality than the multiple-disease-resistant cultivar ‘Southern Runner’ (Gorbet et al., 1987). C-99R has shown consistently good pod yields with better seed quality (seed vigor and germination) than ‘Florida MDR 98’, with maturity and seed size similar to Florida MDR 98, being 2 wk later than Florigiant (Gorbet and Shokes, 1998). C-99R has a runner growth habit with foliage color darker green than Southern Runner and Florida MDR 98 and with a more prominent mainstem. Seed of C-99R are similar in size, color (tan), and shape to Florida MDR 98, but slightly larger (70.4 vs. 67.6 g 100 seed⁻¹) (Gorbet and Shokes, 2000).

In unsprayed Florida yield tests, C-99R gave better pod yields than Southern Runner (7.3%) and Florida MDR 98 (5.6%), with total sound mature kernel grades between those of Southern Runner and Florida MDR 98 (80.4 vs. 79.6 and 81.2%, respectively). In inoculated (S. rolfsii) stem rot field studies (1997–1998), C-99R gave greater pod yields than Southern Runner, Florida MDR 98, Florigiant, and ‘Georgia Green’ (4815 vs. 4301, 4638, 1677, and 2460 kg ha⁻¹, respectively), and lower disease severity (Gorbet and Shokes, 2000). Studies on TSWV in Georgia and Florida (1994–1995) showed C-99R to have a pod yield advantage over Florigiant and Southern Runner (4716 vs. 3522 and 4097 kg ha⁻¹, respectively), with a lower disease severity (Culbreath et al., 1997, 1999).

Data on quality factors indicate that C-99R has normal oil chemistry, similar to Southern Runner. From 1993 to 1997, C-99R had 57.2% oleic and 22.9% linoleic fatty acid with a 50% oil content. Flavor and blanching data were also found to be acceptable (Gorbet and Shokes, 2000).

Application has been made for U.S. Plant Variety Protection (PVP no. 20000182) for growing C-99R only as a class of Certified seed. Inquiries concerning Foundation seed and production of C-99R should be directed to Florida Foundation Seed Producers, Inc., P.O. Box 309, Greenwood, FL 32443. Breeder seed will be maintained by the Florida Agricultural Experiment Station.

D.W. Gorbet* and F.M. Shokes

References


D.W. Gorbet, Univ. of Florida, North Florida Res. and Educ. Center, 3925 Highway 71, Marianna, FL 32446; F.M. Shokes, VPI, Tidewater Agric. Res. and Ext. Center, 6321 Holland Road, Suffolk, VA 23437-9588. Registration by CSSA. Accepted 30 Apr. 2002. *Corresponding author (dgorbet@mail.ifas.ufl.edu).

Published in Crop Sci. 42:2207 (2002).

Registration of ‘Florida MDR 98’ Peanut

‘Florida MDR 98’ peanut (Arachis hypogaea subsp. hypogaea var. hypogaeavar. hypogaea) (Reg. no. CV-72, PI 607535) cultivar was developed by the Florida Agricultural Experiment Station and approved for release in 1998. Florida MDR 98 originates from a three-way cross made in 1984 between ‘Southern Runner’ (Gorbet et al., 1987) and an F1 plant from a cross of ‘Andru 93’ (Gorbet and Knauff, 1995) and UF81206. UF81206 is a Florida breeding line with better late leafspot [caused by Cercosporidium personatum (Berk. & M.A. Curtis) Deighton] resistance and stem rot (caused by Sclerotium rolfsii Sacc.) resistance than Southern Runner, with rust (caused by Puccina arachidis Speg.) resistance equal to Southern Runner with less susceptibility to peanut root knot nematode [Meloidogyne arenaria (Neal) Chitwood]. This cross was made with selection emphasis on resistance to late leafspot and runner market-type pods with good yield and grade potential. A pedigree...