Registration of ‘Carver’ Peanut

‘Carver’ peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) (Reg. no. CV-90 PI-633046 (NSSSL# 425530.03)) cultivar was developed at the University of Florida Agricultural Experiment Station and approved for release in 2002. Carver is a runner market-type peanut with good resistance to spotted wilt caused by *Tomato spotted wilt virus* (TSWV), a *Tospovirus*, and has some resistance to Cylindrocladium Black Rot (CBR) caused by *Cylindrocladium parasiticum* (Crous, Wingfield, and Alfenas), and stem rot or white mold (*Sclerotium rolfsii* Sacc.). Carver was selected from a cross made in 1990 between the breeding lines OKFH15 and NC3033, and tested experimentally as UF97102 or 90x7–1–5–1-b2-B. The OKFH15 is a sister line of ‘Okrun’ (Banks et al., 1989), which has ‘Florunner’ (Norden et al., 1969), as a parent and is phenotypically very similar to Florunner. NC3033 is a germplasm line released by North Carolina State University and has resistance to CBR and stem rot (Beute et al., 1976). The cross that produced Carver was made primarily to produce material to select for resistance to stem rot and CBR within a runner market-type peanut. A pedigree selection program was followed in the F₁–F₇ generations under sprayed management for leafspot (*Cercosporidium personatum* (Berk. & M.A. Curtis) Deighton), but no soilborne fungicides were applied to control stem rot and CBR. Seed from two F₇ plants were bulked to initiate yield testing in the field at Marianna, FL in 1996. Carver was evaluated in field yield tests in Florida through 2002 (Gorbet, 2003). Carver (UF97102) was included in the Uniform Peanut Performance Tests from 1999–2001 with an average pod yield advantage over Florunner of 970 kg ha⁻¹ (Branch et al., 2000, 2001, 2002).

Carver has shown good resistance to TSWV with moderate resistance to CBR and stem rot (Gorbet et al., 2004). Carver had a pod yield advantage (19%) and somewhat larger seed size than ‘Georgia Green’ (Branch, 1996) in Florida tests. Carver has a prostrate (runner) to semi-prostrate growth habit with slightly lighter green foliage color than Georgia Green or Florunner and a prominent mainstem. The pods and seed of Carver mature at approximately the same time as Georgia Green (135–140 d). Carver has a somewhat lower total sound mature kernel (TSMK) percentage (76 vs. 78%) and lower jumbo runner seed percentage (16 vs. 18%) than Georgia Green in Florida tests (Gorbet, 2003). Seed of Carver are somewhat elongated with a pink testa and with a 100-seed weight of 66 ± 2 g. The oil quality of Carver is normal (oleic to linoleic ratio = 2.5) with about 48% oil content.

In studies in Florida (1999–2001), plots of Carver inoculated with *S. rolfsii* produced pod yields of 3111 kg ha⁻¹ compared to 2340 kg ha⁻¹ for Georgia Green, with an average disease rating of 3.3 vs. 4.3 on a 1–10 scale (1 = no symptoms). Ratings for TSWV on a 1–10 scale in Florida tests (1996–2001) averaged 3.0 for Carver and 4.2 for Georgia Green with pod yields of 5092 vs. 4281 kg ha⁻¹ (Gorbet, 2003). In April space-planted TSWV conducted at Marianna, Florida, and Attapulgus, Georgia in 1998, Carver had an average pod yield of 709 kg ha⁻¹ for Georgia Green. The final disease rating was 34.4 vs. 50.4% for Carver vs. Georgia Green (A. K. Culbreath, personal communication). Seed blanching studies all indicated these factors to be acceptable for Carver and not significantly different than Florunner.

Carver has received approval for a U.S. Plant Variety Protection Certificate (PVP no. 200300204) in May 2006. Concerning Foundation seed and production of Carver, contact the author (dgorbet@ufl.edu). Small samples of seed for research purposes should be submitted to the National Plant Germplasm System (NPGS) or the Florida Agricultural Experiment Station. Seed has been submitted to the National Plant Germplasm System (NPGS) for growing only as a class of certified seed concerning Foundation seed and production of Carver. It is directed to Florida Foundation Seed Production Cooperative, 309, Greenwood, FL 32443. Breeders seed was released by the Florida Agricultural Experiment Station and is submitted to the National Plant Germplasm System for post PVP expiration distribution. Further information concerning Foundation seed and production of Carver should be submitted to the author.

References


