Registration of ‘Georgia-06G’ Peanut

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‘Georgia-06G’ (Reg. no. CV-94, PI 644220) is a new high-yielding, Tomato spotted wilt virus (TSWV)-resistant, runner-type peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) cultivar that was released by the Georgia Agricultural Experiment Stations in 2006. It was developed at the University of Georgia, Coastal Plain Experiment Station, Tifton, GA.

Georgia-06G originated from a cross made in 1996 between ‘Georgia Green’ (Branch, 1996) × ‘C-99R’ (Gorbet and Shokes, 2002). Pedigree selection was practiced within the F2, F3, and F4 populations for TSWV resistance, desirable pod shape, runner seed size, testa color, growth habit, maturity, high yield, and grade characteristics. Performance testing began in the F4 generation with the advanced pure-line selection, GA 011557.

During three years (2003–2005) in 16 multilocation Georgia tests planted in mid-May, and eight multilocation Georgia tests planted earlier in mid-April, Georgia-06G had among the lowest TSWV incidence and the greatest total disease resistance, as well as among the highest in pod yield (4822 kg ha⁻¹), total sound mature kernel (TSMK) grade (75%), and dollar value return per hectare ($1930 ha⁻¹) when compared to other runner-type peanut cultivars. In these same Georgia multilocation tests, the check cultivar Georgia Green had an average yield, grade, and dollar value of 4026 kg ha⁻¹, 75%, and $1584 ha⁻¹, respectively.

When tested in the 2004 Uniform Peanut Performance Tests (UPPT), Georgia-06G was also found to have the highest pod yield (5648 kg ha⁻¹) and highest TSMK grade at 78% averaged across all UPPT locations (Branch et al., 2005). At these same 2004 UPPT locations, the check cultivar ‘Florunner’ (Norden et al., 1969) had an average yield of 4080 kg ha⁻¹ and an average grade of 75%, respectively. Georgia-06G has thus shown very good performance stability and a wide-range of adaptability throughout the major peanut production areas of the USA.

Georgia-06G has an intermediate or decumbent runner growth habit and medium maturity similar to Georgia Green. However, Georgia-06G has darker green foliage compared to Georgia Green. Seed of Georgia-06G have tan testa color; whereas, seed of Georgia Green have pink testa color.

Georgia-06G is a large-seeded runner-type peanut cultivar. In three years (2003–2005) of shelling outturn distribution, Georgia-06G averaged significantly higher percentage of jumbo runner seeds than Georgia Green (41 vs. 18%, P < 0.05), but significantly fewer medium size seeds (23 vs. 40%, P < 0.05), and No. 1 seeds (4 vs. 8%, P < 0.05). However, Georgia-06G is very similar to Georgia Green in blanchability, protein content, oil content, and roasted flavor. Oleic (O) to linoleic (L) fatty acid ratio are slightly higher (2.4 vs. 1.9), and iodine values are slightly lower (90 vs. 94), respectively for Georgia-06G compared to Georgia Green but neither are high-oleic cultivars.

U.S. Plant Variety Protection (PVP) is pending for Georgia-06G. Breeder seed of Georgia-06G will be maintained at the University of Georgia, Coastal Plain Experiment Station at Tifton, GA. Foundation seed stock will be available from the Georgia Seed Development Commission, 2420 S. Milledge Avenue, Athens, GA 30605. Small quantities of seed may be obtained from the corresponding author for at least five years. Recipients of seeds are asked to make appropriate recognition of the source if Georgia-06G is used in the development of a new cultivar or germplasm line.

References


