Registration of ‘Georganic’ Peanut

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‘G eorganic’ (Reg. No. CV-100, PI 648033) is a runner-type peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) cultivar that was released by the USDA-ARS and the Georgia Agricultural Experiment Stations in 2006. It was developed at the University of Georgia Coastal Plain Experiment Station, Tifton, GA, and was tested under the experimental designation C11-2-39.

Georganic originated from a cross of PI 203396 and the Agratech cultivar GK 7. The original population was advanced to the F1 using single seed descent. Individual F1 plants were harvested and the population was subjected to selection pressure for resistance to late leaf spot [Cercosporidium personatum (Berk. & Curt.) Deighton] and spotted wilt caused by Tomato spotted wilt virus (TSWV) for the next three generations. During this same time, the population was also subjected to selection for desirable pod shape, seed size, growth habit, maturity, high yield, and grade characteristics.

Georganic is a runner-market-type in seed and pod size. It has a spreading runner growth habit with an erect mainstem that is prominent throughout the growing season and at harvest. It is a late maturity class peanut, with about 150 d needed for optimal maturity. It has a high level of resistance to TSWV, early (Cercosporidium arachidicola Horii), and late leaf spot. Georganic has been reported to have a much lower final intensity of spotted wilt than moderately resistant cultivars Georgia Green (Branch, 1996) and C-99R (Gorbet and Shokes, 2002), and to be among the most resistant lines evaluated in field tests (Culbreath et al., 1999). When tested using low seeding rates in Georgia and Florida, Georganic exhibited a final intensity rating for TSWV of 11.9% which was significantly (P<0.05) less than that observed on C-99R (32.3%) or Georgia Green (57.9%) (Culbreath et al., 1999). Georganic also exhibited significantly lower TSWV and significantly higher yield than Georgia Green in space-planted tests conducted for two years at two locations (Culbreath et al., 2005). Mandel et al. (2002) studied mechanisms of resistance using mechanical inoculation with TSWV and found that Georganic exhibited significantly (P<0.05) lower percentage of symptomatic plants (32%) in comparison to C-99R (58%) and Georgia Green (82%). They postulated that a mechanism of resistance in Georganic is restricted viral movement resulting in reduced systemic infection.

Georganic has good yield with multiple disease resistances (Cantonwine et al., 2006; in press). Because it has a red testa (seed coat), it is not acceptable for conventional peanut production. However, it has been adopted and is being grown by several organic peanut producers. Georganic has oleic to linoleic fatty acid (O/L) ratio, flavor, and percent meat comparable to the current standard runner cultivar, Georgia Green.

Seeds of Georganic have been deposited in the National Plant Germplasm System, where it will be available for research purposes, including development and commercialization of new cultivars. Appropriate recognition is requested if this release contributes to the development of a new breeding line or cultivar.

Breeder seed of Georganic will be maintained by the USDA-ARS at the Coastal Plain Experiment Station, Tifton, GA.

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References