REGISTRATIONS OF CULTIVARS

Registration of ‘Tamrun OL01’ Peanut

‘Tamrun OL01’ (Reg. no. CV-77, PI 631177) is a runner market-type peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) cultivar with a high oleic (O) to low linoleic (L) fatty acid ratio and good yield potential. The new variety was tested as Tx977006 and was released by the Texas Agricultural Experiment Station in January 2002. A joint release with the Oklahoma Agricultural Experiment Station has also been approved and the same anticipated with the USDA-ARS.

Tamrun OL01 was derived as a single plant selection from a first backcross with ‘Tamrun 96’ (Smith et al., 1997) as the recurrent parent and ‘SunOleic 95R’ (Gorbet and Knauf, 1997), the donor of the high O/L genes. The first cross was made in 1995 and the subsequent backcross in 1996. The BC1F1 was field planted in 1996. The BC1F2 populations were spaced planted in the Puerto Rico winter nursery in the 1996-1997 season. Individual plants were harvested and planted as BC1F2 progeny rows in a TSWV screening nursery in 1997. Selections from these rows were made on the basis of disease ratings and agronomic traits. These selections were subjected to the first O/L analysis and the agronomically acceptable, elevated O/L lines were grown the following year in two preliminary F24 yield trials. These were reselected on the basis of disease ratings, yield, and grade characteristics. Seed from these tests were reanalyzed for O/L ratio in 1998. From a subsequent yield test in 1999, BC1F2 seed were again tested for O/L ratio, and seeds testing high O/L were bulked and planted as BC1F2 breeder seed increase. The released material was BC1F2.

Tamrun OL01 has plant size equal to Tamrun 96. The main stem is semiapparent at most locations and seeding rates. The lateral branching is profuse, similar to Tamrun 96, and the branching pattern is mostly alternate. Leaf color is medium green, also similar to Tamrun 96 (RHS 137A). Pods of Tamrun OL01 are much larger in size than Tamrun 96, mostly two seeded (up to 1% three seeded pods). Pod constriction between the seeds is moderate, but deeper than Tamrun 96. Seed size is also much larger than Tamrun 96, averaging 73 g 100 sd−1 over all locations.

In 18 tests from 1998 to 2000, Tamrun OL01 averaged 16% higher yield than ‘Florunner’ (Norden et al., 1969) in central Texas, west Texas, and southwestern Oklahoma. Sound mature kernels (TSMK) were found to be equal between Tamrun OL01 and Florunner in these tests (71.4 vs. 71.8%). However, 100 seed weights were significantly different (Tamrun OL01 = 73.3 g vs. Florunner = 59.8 g). In shelling tests, Tamrun OL01 was significantly different (P < 0.05) from Florunner in jumbo, medium, and no. 1 seed size distribution. Splits, other kernels, damage kernels and oil stock were equal.

Disease ratings in Texas and Oklahoma indicate that Tamrun OL01 is tolerant of greenbug (Schizaphis graminum Rondani), resistance was not retained in BC1F2 progeny rows in a TSWV screening nursery in 1997. Appreciation is expressed to the Texas Peanut Producers Board and the Oklahoma Peanut Commission for their support of this research. The Tamrun OL01 cultivar is developed and released under a license agreement with the University of Florida Research Foundation.

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References


C.E. Simpson,* M.R. Baring, A.M. Schubert, C.E. Simpson,* M.R. Baring, A.M. Schubert, M.C. Black, Texas Coop. Ext., Texas Agric. Res. & Ext. Ctr., Vernon, TX 76384. Applicable to the first O/L analysis and the agronomically acceptable, elevated O/L lines were grown the following year in two preliminary F24 yield trials. These were reselected on the basis of disease ratings, yield, and grade characteristics. Seed from these tests were reanalyzed for O/L ratio in 1998. From a subsequent yield test in 1999, BC1F2 seed were again tested for O/L ratio, and seeds testing high O/L were bulked and planted as BC1F2 breeder seed increase. The released material was BC1F2.

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