Registration of ‘SunOleic 95R’ Peanut

‘SunOleic 95R’ peanut (Arachis hypogaea L. subsp. hypogaea var. hypogaea) (Reg. no. CV-56, 578304) was developed by the Florida Agricultural Experiment Station and approved for release in 1995 (2). SunOleic 95R was tested experimentally as F1250 and originates from a BC3F3 selection of a cross between F435-2-3-B-2-1-b4-B-3-b3-1-B and a component line of ‘Sunrunner’ (F519-9), with the latter being a runner (subsp. hypogaea var. hypogaea) type and used as the female and recurrent parent. Both parents are A. hypogaea L., with the F435- parent originating as a Spanish outcross selection from ‘Florispan Runner’ (2,3). Evaluations for oil chemistry in the mid-1980s identified two plant selections of F435- with 80% of their oil composed of the oleic fatty acid (18:1) (6). A backcrossing program with F519-9 was initiated to establish the high-oleic chemistry in a runner cultivar (2,3). A plot bulk was made in the BC3F4 to provide seed for testing as a high oleic runner market class of peanut (2).

SunOleic 95R has a spreading runner to semiprostrate growth habit with foliage color similar to ‘Florunner’ and Sunrunner. The terminal ends of lateral branches may turn more upright than for Florunner in some seasons. The pods and seed are very similar to those of Sunrunner and mature at about the same time, which is approximately 135 to 140 d in Florida (2,5). SunOleic 95R averaged 78.3% TS MK (total sound mature kernels), 28.2% ELK (extra large kernels), and 65.4 g 100 seed for tests in Florida from 1991 to 1995. Pod yields for SunOleic 95R averaged 170 kg ha−1 lower than Florunner and Sunrunner checks in Florida tests, 1991 to 1995 (1,2). SunOleic 95R tends to have more split pods at maturity than Florunner or Sunrunner (2). SunOleic 95R has no documented pest resistance.

SunOleic 95R was released as a cultivar because of its extremely favorable and unique oil chemistry. Data from Florida tests show that SunOleic 95R has similar percentage of total oil content (49%) as Florunner, but an average oleic fatty acid content of 80.6% (vs. 55.1% for Florunner), with a linoleic fatty acid content of 2.8 (vs. 26.1% for Florunner) (2). SunOleic 95R also has a lower palmitic fatty acid content than Florunner (6.1 vs. 9.6%) (3). The fatty acid data indicate that SunOleic 95R has an iodine value of 76 (vs. 92 for Florunner and Sunrunner checks). These values indicate that the peanut seed, peanut oil, and other products from SunOleic 95R should have a much longer shelf-life than for Florunner, Sunrunner, or other comparable peanut cultivars (2). Shelf-life studies conducted at the University of Florida and other labs support this hypothesis, indicating a 3- to 15-fold increase in shelf-life, compared with Florunner (2,8). Additional studies conducted at the University of Florida indicate a potential health advantage for this oil chemistry as related to lowering blood serum cholesterol, especially low-density lipoproteins (LDL), in humans (7). Another University of Florida study found that SunOleic 95R peanuts can increase the level of monounsaturates in blood of swine when fed as part of their diet (4).

SunOleic 95R has been approved for U.S. plant variety registration (Certificate no. CV-16) as a runner peanut in the subterranean type with the latter being a runner (subsp. hypogaea) type and used as the female and recurrent parent. Both parents are A. hypogaea L., with the F435- parent originating as a Spanish outcross selection from ‘Florispan Runner’ (2,3). Evaluations for oil chemistry in the mid-1980s identified two plant selections of F435- with 80% of their oil composed of the oleic fatty acid (18:1) (6). A backcrossing program with F519-9 was initiated to establish the high-oleic chemistry in a runner cultivar (2,3). A plot bulk was made in the BC3F4 to provide seed for testing as a high oleic runner market class of peanut (2).

References and Notes

9. D.W. Gorbet, Univ. of Florida, NFREC, 32424, and D.A. Knauft, Crop Sci. Dep., North Carolina State Univ., Raleigh, NC 27695-7620. Florida Agric. Exp. Stn. 1996 Reg. no. CV-16, PI 594921, released in 1996 by the Variety Registration Office, Plant Products Division, Food Development Centre, Alberta Agriculture Food and Rural Development, Lacombe, AB, Canada. Pronghorn was registered by the Variety Registration Office, Plant Products Division, Agriculture and Agri-Food Canada, on 15 Feb. 1996. Pronghorn was derived from a cross between ‘Wapiti’ (1) and 79Q133001007, a selection out of the F2 population of a cross between M2A*2/Bgl“R”203, obtained from The International Maize and Wheat Improvement Centre (CIMMYT). The F2 generation was grown in the field (2). Plants were selected for single seed descent of the F2 plants in the winter of 1984–1985. The F4 and F5 generations were selected as modified bulks in 1985 and 1986. Spikes were harvested from the F5 generation to establish headrows. Pronghorn F6 headrow at Lacombe in 1987 and tested as T124 from 1987 to 1994. Breeder seed of Pronghorn is supplied by the Breeder from a bulk of 106 F13 lines.

Pronghorn is an early-maturing, hexaploid winter triticale cultivar. It has a purple coleoptile and erect juvenile growth habit. The flag leaf is medium long, with four nodes, with a pubescent, undulating neck. Pronghorn has glabrous green sheaths and blades. The flag-leaf blade has a serrated margin. The awns are medium long, and the awnlets are medium long and nodding at a 45° angle. The panicle is medium large, with a tapering spike. It is awned, lax, medium long and nodding at a 45° angle.

Registration of ‘Pronghorn’ Triticale

‘Pronghorn’ is a spring triticale (xTriticosecale, Reg. no. CV-16, PI 594921), released in 1996 by the California Winter Feed and Wheat Improvement Centre, Alberta Agriculture Food and Rural Development, Lacombe, AB, Canada. Pronghorn was registered by the Variety Registration Office, Plant Products Division, Agriculture and Agri-Food Canada, on 15 Feb. 1996. Pronghorn was derived from a cross between ‘Wapiti’ (1) and 79Q133001007, a selection out of the F2 population of a cross between M2A*2/Bgl“R”203, obtained from The International Maize and Wheat Improvement Centre (CIMMYT). The F2 generation was grown in a growth chamber at Lacombe in the winter of 1984–1985. The F4 and F5 generations were selected as modified bulks in 1985 and 1986. Spikes were harvested from the F5 generation to establish headrows. Pronghorn F6 headrow at Lacombe in 1987 and tested as T124 from 1987 to 1994. Breeder seed of Pronghorn is supplied by the Breeder from a bulk of 106 F13 lines.

Pronghorn is an early-maturing, hexaploid winter triticale cultivar. It has a purple coleoptile and erect juvenile growth habit. The flag leaf is medium long, with four nodes, with a pubescent, undulating neck. Pronghorn has glabrous green sheaths and blades. The flag-leaf blade has a serrated margin. The awns are medium long, and the awnlets are medium long and nodding at a 45° angle. The panicle is medium large, with a tapering spike. It is awned, lax, medium long and nodding at a 45° angle.