Registration of ‘Río Yaqui 93’ Sesame

‘Río Yaqui 93’ sesame (Sesamum indicum L.) (Reg. no. CV-7, PI 593656) was developed at the Northwest Agricultural Research Center (CIANO-INIFAP-SAGAR), Cd. Obregón, Sonora, Mexico, and was officially released by CIANO in 1993. Río Yaqui 93 is a high-yielding cultivar with tolerance to root rot disease [caused by Macrophoma phaseolina (Tassi.) Goidanich], high quality grain, and adaptation for production in northwestern Mexico.

Río Yaqui 93 was developed by selecting one individual from Teras 77, an early-maturing commercial cultivar released at CIANO in 1977. Teras 77 was developed by selecting one individual from Iguala 101 (1). Iguala 101 is an early-maturing landrace collected in southeastern Mexico (1). The progenitor of Río Yaqui 93 was selected in 1988, bulked in 1989, and designated as Selection T 77. Yield data for supporting its release were obtained from regional yield trials during four crop cycles, yield trials with different planting dates, and at several on-farm validation plots in the Yaqui Valley.

Río Yaqui 93 is a basal-branching, intermediate-maturing cultivar. Río Yaqui 93 matures later than Teras 77 and is similar in maturity to ‘Turinoca 89’ (2) when seeded during the first 2 wk of May in northwest Mexico. Río Yaqui 93 begins flowering about 52 d after planting and reaches physiological maturity at 105 d. Mature plants average 149 cm in height, and the height of first capsules is 70 cm.

Río Yaqui 93 has three flowers per leaf axil. The flowers are white and the capsules are bicareset, semidhistic, and oblong-narrow with some pubescence, averaging 31.1 mm long and 9.8 mm wide. The average seed number per capsule is 92, and the lateral capsules are arranged at a 45° angle relative to the stem. The seed is white stained and ovate, with a rounding margin and acute extreme, averaging 3.0 mm long and 1.9 mm wide. Seed weight averages 2.8 g 1000 seed−1; test weight is 59.6 kg hL−1.

Río Yaqui 93 was tested at Yaqui Valley Experiment Station, Cd. Obregón, Sonora, over a 4-yr period from 1990 to 1993, and averaged 1299 kg ha−1. It outyielded Turinoca 89, a local check cultivar, by 15%. In a planting-date yield trial at the same site in 1992, the mean seed yield of Río Yaqui 93 was 1670 kg ha−1 (14% higher than Turinoca 89). In validation plots at five commercial fields in the Yaqui Valley, average yield was 1477 kg ha−1 (7% higher than Turinoca 89).

Seed of Río Yaqui 93 averaged 451 g kg−1 oil, 215 g kg−1 protein, and 89 g kg−1 carbohydrate (compared with 495, 236, and 88 g kg−1, respectively, for Turinoca 89). The fatty acid balance of Río Yaqui 93 oil averaged 369 g kg−1 oleic acid, 456 g kg−1 linoleic acid, 103 g kg−1 palmitic acid, and 73 g kg−1 stearic acid, with an oil iodine number of 110.0 (compared with 374, 482, 111, 33 g kg−1 of the respective acids and an iodine number of 114.9 for Turinoca 89).

Seed of Río Yaqui 93 was distributed to seed-producing organizations in Sonora in 1993. Breeder seed will be available from CIANO. Additional information on the performance and characteristics of Río Yaqui 93 has been published (3).

Registration of ‘ARS-2620’ Birdsfoot Trefoil

‘ARS-2620’ birdsfoot trefoil (Lotus corniculatus) was released by the USDA-ARS in cooperation with the Missouri Agricultural Experiment Station in March 1995. ARS-2620 is a birdsfoot trefoil cultivar that exhibits rhizomes, which are desirable under pasture, range, and other uses.

ARS-2620 was developed from the maternal plasm accessions G3127, G31273, G31317 from Morocco with ‘Norcen’ and ‘A24B’ plasm MU-81. The five Moroccan accessions of L. corniculatus, in that they possess rhizomes, to the maternal parents Norcen, AU Dewey, and MU-81 as maternal parents produced 556 F1 progeny. Each F1 progeny was evaluated for rhizome production, vigor, forage quality, incidence of rhizoctonia foliar blight (caused by Rhizoctonia solani Kühn), seed production, and field increase for ARS-2620 Syn 3 (Registration was planted in June 1994.

ARS-2620 is similar to its commercial parents Norcen and AU Dewey, but more variable in morphologically, erect, with small- to medium-sized leaves and fine- to medium-sized stems. It contains a larger number of rhizomes than Norcen or AU Dewey. ARS-2620 is easily distinguished from other cultivars by its rhizome production. In open-pollinated studies, approximately 25% of the plants do not express rhizomes. However, the expression of rhizomes in the field may not be found in every plant of ARS-2620, as rhizome production can be influenced by management practices and, among other factors. Development of ARS-2620 is intended for pasture and cutover forests.

ARS-2620 should be increased and maintained in a multi-generation system of no more than three generations beyond breeder seed: foundation, registered, and certified. Production and marketing of ARS-2620 will be awarded by the USDA-ARS on a competitive basis. Protection for ARS-2620 has been sought under the U.S. Plant Variety Protection Act of 1994.