alternative cultivar to both M-101 and M-202 in the very coldest rice production areas and for late plantings in the warmer areas.

The 1986 M-103 panicle rows from the 1985–1986 winter nursery were uniform for short height and very early maturity. The 1988 foundation field contained 0.21% off-types that were rogued. Major off-types were glabrous medium-grains that were taller, later, and had more erect and flatter flag leaves than M-103. These particular off-types were also segregating for pink apiculus. A few off-types were taller and later pubescent medium-grains, and smooth long-grains with a pink apiculus; these off-types were the result of outcrossing and undetected rogues in the Hawaii winter nursery. The 1988 breeder seed planted in the foundation seed field was relatively free of these off-types. The 360 headrows produced in 1988 expressed uniform heading and maturity except for four taller and later rows that were removed.

Classes of seed will be breeder, foundation, registered, and certified, to be produced in California. Foundation seed can be used to produce foundation seed when necessary. Application is being made for protection of M-103 under the Plant Variety Protection Act, Title V. Headrow seed will be produced as necessary for breeder seed. Breeder and foundation seed will be maintained by the California Cooperative Rice Research Foundation, Inc., P.O. Box 306, Biggs, CA 95917.


References and Notes

4. C.W. Johnson, H.L. Carnahan, S.T. Tseng, J.J. Oster, and K.S. McKenzie, California Cooperative Rice Res. Found. (CCRFR), Biggs, CA 95917; J.E. Hill, Dep. of Agronomy and Range Science, Univ. of California, Davis, CA 95616; J.N. Rutger, Mid South Area, USDA-ARS, Stoneville, MS 38776; and D.M. Brandon, Experiment Station, CCRFR, Biggs, CA 95917. Registration by CSSA. Accepted 31 Dec. 1989. *Corresponding author.


REGISTRATION OF 'QUIRIEGO 88' SAFFLOWER

'QUIRIEGO 88' SAFFLOWER (Carthamus tinctorius L.) (Reg. no. 16, PI 537110) was developed at the Northwest Agriculture Research Center (CIANO), Yaqui Valley Agricultural Experiment Station, Cd. Obregón, Sonora, Mexico. It was released by CIANO-INIFAP-SARH (Sonora State Ctr. for Agric. Animal Husbandry and Forestry Res., Secretariat of Agric. and Water Development) in 1989 as a high-yielding, widely adaptable cultivar for commercial production in northwest Mexico.

Quiriego 88 originated from the cross CM-106-SI (11)/PCOy/'Gila' made in 1980. CM-106-SI (11) was obtained as a mutant selection in Line 106 from the World Safflower Collection and originated in India. The mutant plant was selected for its dwarfishness and earliness in the Culiacán Valley, Sinaloa, Mexico. The two characters are conditioned by single recessive genes (1). PCOy is an introduction resistant to rust [incited by Puccinia carthami Cda.] (2). Gila is a commercial cultivar adapted to the growing conditions of northwest Mexico.

Quiriego 88 originated as an F1 single plant selection from a segregating population managed by the pedigree method of selection. Seed of the selected F2-derived line was bulked in the F2 generation and tested in regional and national safflower yield trials from 1985 to 1988. It was tested at several locations in the states of Baja California, Chihuahua, Coahuila, Jalisco, Nuevo León, Sinaloa, Sonora, and Tamaulipas.

Quiriego 88 is intermediate in flowering and maturing, with moderate resistance to alternaria leaf spot [incited by Alternaria carthami Chow.] and rust compared to Gila, which is susceptible to both diseases. The flowers are yellow in the bud, full bloom, and wilt stages. Plants of Quiriego 88 have spines on the tip and along the margin of the leaves and involucral bracts. The involucral bracts of Quiriego 88 are short, averaging 3.6 cm long and 1.3 cm wide. The average head diameter is 2.8 cm. Quiriego 88 plants average about 3 d later in flowering and maturity than Gila. In the Yaqui Valley of Sonora, the average number of days to maturity is 145. Mature plants average 5 cm taller than Gila under irrigated conditions.

Seeds of Quiriego 88 have a smooth white hull. The seed size is slightly larger than Gila, averaging 7 mm long and 4 mm wide. The test weight of Quiriego 88 averaged 521 g/L compared to 516 g/L for Gila in tests conducted at Cd. Obregón and Navojoa over a 3-yr period. Compared to Gila, Quiriego 88 has improved oil content. In tests conducted over a 3-yr period at Cd. Obregón, the meal protein content of Quiriego 88 averaged 18.1%; this is similar to Gila, which averaged 18.5%. The seed oil content of Quiriego 88 is one percentage point higher than Gila under irrigated conditions. Quiriego 88 is low in oil iodine number and linoleic acid content, averaging 124.6 and 35.4%, respectively, compared with 139.6 and 75.1% for Gila. Quiriego 88 has an oleic acid content averaging 35.4%, compared with 16.5% for Gila. The seed yield and oil percentage of Quiriego 88 over a 3-yr period averaged 3020 kg/ha and 38.1%, compared with 2504 kg/ha and 37.2% for Gila.

Seed of Quiriego 88 was distributed to seed-producing organizations in Sonora in 1989. Breeder seed will be maintained by CIANO, Apartado Postal 515, Cd. Obregón, Sonora, Mexico. Additional information on the performance and characteristics of Quiriego 88 has been published (3).

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References and Notes


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REGISTRATION OF 'SAHUARIPA 88' SAFFLOWER

'SAHUARIPA 88' SAFFLOWER (Carthamus tinctorius L.) (Reg. no. 17; PI 537111) was developed at the Northwest Agriculture Research Center, (CIANO), Yaqui Valley Agricultural Experiment Station, Cd. Obregón, Sonora, Mexico. It was released by CIANO-INIFAP-SARH (Sonora State Ctr. for Agric. Animal Husbandry and Forestry Res., Secretariat of Agric. and Water Development) in 1989 as a high-yielding, widely adaptable cultivar for commercial production in northwest Mexico.

Sahuaripa 88 originated from the cross CM-106-SI (11)/PCOy/'Gila' made in 1980. CM-106-SI (11) was obtained as a mutant selection in Line 106 from the World Safflower Collection and originated in India. The mutant plant was selected for its dwarfishness and earliness in the Culiacán Valley, Sinaloa, Mexico. The two characters are conditioned by single recessive genes (1). PCOy is an introduction resistant to rust [incited by Puccinia carthami Cda.] (2). Gila is a commercial cultivar adapted to the growing conditions of northwest Mexico.

Sahuaripa 88 originated as an F1 single plant selection from