ha⁻¹ yr⁻¹. Persistence of Mott under grazing is best when the grass is rotationally stocked with 28- to 42-d regrowth periods and when stubble height after grazing is 35 to 45 cm (4-6).

Breeder stock of Mott (Tift N75) will be maintained by Wayne W. Hanna, USDA-ARS, Georgia Coastal Plain Experiment Station, Tifton, GA 31793. Foundation stock for release to growers will be available from the Agronomy Department, Gainesville, FL 32611.


References and Notes

Published in Crop Sci. 29:827-828 (1989).

REGISTRATION OF 'GIRARD' SAFFLOWER

'Girard' safflower \(\text{Carthamus tinctorius L.}\) (Reg. no. 14) (PI 525457) was developed at the Eastern Agricultural Research Center, Montana Agricultural Experiment Station, Sidney, MT as a cooperative effort between personnel of the Montana Agricultural Experiment Station and the Williston Experiment Station, North Dakota Agricultural Experiment Station, Williston, ND. Girard was released by the Montana Agricultural Experiment Station cooperatively with the North Dakota Agricultural Experiment Station and USDA-ARS in 1986.

Girard originated from the cross ('Cargill 1653'/'Sidney Selection 87-42-3'/'Sidney Selection 87-42-3'/'Boswell 671')/ 'S-541'. Cargill 1653 is a white normal hull selection made in California by Cargill, Inc. Sidney Selections 87-42-3 and 88-74-2 are 1965 selections resistant to Alternaria leaf spot \[incited by Alternaria carthami\] (Chow.). These normal hull selections were obtained from a lower Yellowstone River Valley site near Sidney, MT that was continuously cropped for 15 generations. Bowswell 671 is a white normal hull selection made in California by the Bowswell Corporation. S-541 is a high seed oil content cultivar with a striped hull developed in California by Seedtec International.

The initial cross was made in 1979. Field selection for disease resistance to Alternaria leaf spot and Pseudomonas bacterial blight \[incited by Pseudomonas syringae\] (Van Hall) was practiced at Sidney, MT in the \(F_2\) and \(F_3\) generations. Girard is an \(F_4\) plant selection derived from an \(F_2\) plant selected for Alternaria leaf spot and Pseudomonas bacterial blight resistance. It was tested in Montana and North Dakota as 81B6708. Girard is similar to Hartman in its resistance to Alternaria leaf spot, Pseudomonas bacterial blight and Sclerotinia head rot \[incited by Sclerotinia sclerotiorum\] (Lib.) de B.

It has more resistance to these diseases than S-208 or S-541.

Girard plants are spiny with spines on the leaf tips and along the leaf margins and involucral bracts. Girard is similar in height to Hartman under dryland conditions but is approximately 2.0 cm taller under high moisture or irrigated conditions producing an average height of 54.6 cm in dryland tests and 76.7 cm in irrigated tests.

Girard is equal to or 1 d later in flowering and 2 to 3 d later in maturity than Hartman. In Montana and the Dakotas, the average number of days to maturity is 120 d. The flower is yellow in the bud and full bloom stages. Upon drying, the flower color is light orange, except under high moisture or high humidity conditions when the color appears orange to light red.

The seeds have a grey-striped hull. The seed of Girard is similar in length to Hartman but averages 0.3 mm more in width. The test wt. of Girard averages 30.6 kg/hL and is 0.4 kg/hL heavier than Hartman under dryland conditions and 1 kg/hL heavier than Hartman under irrigated conditions.

Girard is similar to Hartman in its oil iodine number and linoleic acid content averaging 147 and 82%. Girard is 2% higher in meal protein content and 3% lower in meal fiber content than Hartman, averaging 25.0% protein and 38.0% fiber under dryland conditions.

The seed yield and oil percentage of Girard under dryland conditions over a 4-yr period averaged 1167 kg/ha and 42.2%, whereas Hartman averaged 1060 kg/ha and 39.2%. Under irrigated conditions over a 5-yr period, Girard averaged 3033 kg/ha and 42.4% oil compared to 3193 kg/ha and 40% oil for Hartman.

Girard was released in 1986 and is intended to replace Hartman for production on fallow and in early plantings where the risk of bacterial blight and Alternaria leaf spot are greatest.

Girard is named after a farm community in Richland County, MT that has produced safflower commercially since the late 1950s.

Breeder and foundation seed will be maintained by the Foundation Seed Stocks Committee, Plant and Soil Science Department, Montana Agricultural Experiment Station, Montana State University, Bozeman, MT 59717.

J. W. Bergman, G. Carlson, G. Kushnak, N. R. Riveland, G. Stallknecht, L. E. Welty, and D. Wichman (1)

References and Notes