REGISTRATION OF ‘WRIGHT’ OAT

‘WRIGHT’ SPRING OAT (Avena sativa L.) (Reg. no. CV-329, CI 9218, PI 546034) was developed by workers in the Department of Agronomy, College of Agricultural and Life Sciences, University of Wisconsin-Madison, and was released in January 1975. The parentage of Wright is ‘Trispernia’/‘Belar’/2’/Beedee’/3/Beedee/4/Beedee. Selections X660, X1289, and X1265 were the three female parents crossed to Beedee in 1961 (greenhouse), 1961 (field), and 1963, respectively. Wright was released because it had high grain yield and test weight, a broad spectrum of disease resistance, and wide adaptation.

Wright was developed using the pedigree method of breeding after the third and final cross with Beedee (4), i.e., X1265 BCF/Beedee. Primary selection criteria in the F₂ population (X1641) and among F₃, F₄, and F₅ lines were resistance to crown rust [Puccinia coronata (corona) var. avenae (W.P. Fraser & Ledingham)] and stem rust (Puccinia graminis Pers. f. sp. avenae Eriks & E. Henn.), standability, agronomic appearance, and high grain quality as measured by kernel filling, groat percentage, groat protein concentration, and size and shape of kernels and groats. In 1968, F₅ line X1641-2 was cut and threshed, and this line ultimately became Wright. X1641-2 was evaluated in a preliminary yield trial at Madison, WI, in 1969 and in the main Madison nursery trial of 100 entries in 1970. It was advanced to the drill plot trial at Arlington, WI, and to other statewide trials in 1971 and was tested in the USDA Uniform Midseason Oat Performance Nursery (UMOPN) from 1972 to 1974.

At the time of release, Wright had the highest test weight of any cultivar being grown in the North Central USA. It ranked first for test weight in Wisconsin tests for two consecutive 3-yr periods, 1972 to 1974 [20 tests, mean of 485 kg m⁻³ (37.7 lbs/bu)] and 1973 to 1975 [21 tests, mean of 493 kg m⁻³ (38.3 lbs/bu)]. Wright also ranked first for test weight in each of the 3 yr that it was entered in the UMOPN.

Wright is midseason in maturity, heading about 2 d later than Stout (2) and 3 d earlier than Dal (6). Wright is tall, i.e., 7 to 9 cm taller than Dal and Beedee but 5 cm shorter than Lodi (5). Straw strength, as measured by the snap-back method, equals that of ‘Holden’ (1), ‘Chief’ (3), and ‘Froker’ (7), i.e., intermediate between ‘Stout’ (very stiff) and Beedee. Wright has light-tan kernels with above-average groat percentage. Groat protein values for Wright are moderately high, averaging about 12 g kg⁻¹ below the high-protein cultivar Dal. Approximately 99.5% of the kernels are fluorescent under ultraviolet light, with 0.5% nonfluorescent. Like Dal, groat oil concentration of Wright is relatively high at 85 g kg⁻¹. Grain yields of Wright equaled those of Dal and exceeded yields of other cultivars grown in the North Central states at the time of release.

Juvenile plants of Wright are erect. Leaves are glabrous with ligules present. Culms are midsized and culm nodes are glabrous. Panicles are equilateral and slightly long (22 cm) and have spreading branches which droop at maturity. The rachis is straight. Spikelets separate from the rachis by maturity.

Wright would have an avirulence/virulence genotype of 2/1,3,4,8,9 and is resistant to current stem rust races 8 and NA 16 but susceptible to races NA 25, NA 26, NA 27 and NA 28. Wright is resistant to older stem rust races 202, 216, 239, 263, 290, and 326, but susceptible to races 7 and 7A, using earlier race nomenclature. Wright would have an avirulence/virulence genotype of 2/1,3,4,8,9 and is resistant to current stem rust races 8 and NA 16 but susceptible to races NA 25, NA 26, NA 27 and NA 28. Wright is resistant to older stem rust races 202, 216, 239, 263, 290, and 326, but susceptible to races 7 and 7A, using earlier race nomenclature. Wright would have an avirulence/virulence genotype of 2/1,3,4,8,9 and is resistant to current stem rust races 8 and NA 16 but susceptible to races NA 25, NA 26, NA 27, and NA 28. Wright is resistant to older stem rust races 202, 216, 239, 263, 290, and 326, but susceptible to races 7 and 7A, using earlier race nomenclature. Wright would have an avirulence/virulence genotype of 2/1,3,4,8,9 and is resistant to current stem rust races 8 and NA 16 but susceptible to races NA 25, NA 26, NA 27, and NA 28.

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