Registration of 'Jay' Spring Oat

'Jay' spring oat (Avena sativa L.) (Reg. no. CV-359, PI 608673) was developed cooperatively by the Purdue University Agricultural Research Programs and the USDA-ARS and was released in 1998. Jay, selection no. P8640A1-31-5-4, resulted from the cross: P79103B1-7-2×Iowa H728. The cross was made to add resistance to crown rust [caused by Puccinia coronata Corda, var. avenae (W.P. Fraser & Ledingham)] from Iowa H728 to P79103B1-7-2. P79103B1-7-2 has resistance to barley yellow dwarf virus (BYDV), crown rust, and loose smut [caused by Ustilago. avenae (Pers.) Rostr]. P79103B1-7-2 has BYDV resistance from Clav 6975, 'Noble', MO. 06528, 'Otte' and/or oat germplasm line 1575, and has crown rust resistance from 'Stout', Clav 8454, PI 183989, and/or IowaX434-II. Line 1575 (kindly provided by R.L. McKenzie, Agriculture Canada, Winnipeg, MB) is a semidwarf line with resistance/tolerance to BYDV with the parentage 'Avon'/ 'Rodney'/Milford. The line IowaX434-II (kindly provided by K.J. Frey, Iowa State University) has resistance to P. coronata derived from A. sterilis L. Clav 8079. The detailed parentage of Jay is: Avon/Rodney/Milford/11/Noble/Clav 6975/9/ MO.06528/Clav 8454/7/Otte/6'/Clintford/5'/Roxton/ 'Victoria', 'Hajira', 'Banner'/Ajax', Victoria, Hajira, Banner/ 'Clinton 59*/7'/Landhafer/3/PI 183989/ 'Putnam'/4'/Clintford/ 'Allen'/Noble/Clav 4/14/Lang/3/Clav 4/1/IowaX434-11/ Stout/NIY8832/4'/2/Iowa H728.

Jay was developed using a modified pedigree method of breeding. Plant selections were made in the F_2, F_3, and F_4 generations for resistance to BYDV and crown rust. Jay, the progeny of a single F_2 plant, was tested in performance nurseries at Lafayette, IN, since 1993 as oat line P8640A1-31-5-4. It was evaluated in the Cooperative Uniform Midseason Oat Performance Nurseries grown throughout the North Central and Northeastern States and Canada in 1996–1998, and in Indiana Performance Tests at Wanatah and Lafayette, IN in 1996–1998. Jay is adapted throughout the North Central region and is particularly well-suited to the upper midwest region of the U.S. because of its resistance to crown rust and BYDV. Jay has high yielding potential, producing 4,788 kg ha^-1, compared with 4,191 kg ha^-1 for 'Ogle', averaged over six years at Lafayette. (LSD_{0.05} = 800 kg ha^-1). Jay has excellent test weight, ranking in the upper 10–15 percent of entries in regional trials. Jay ranked in the best 10 percent in regional trials for short plant height (81 cm), lodging (13%), and grain yield potential (442 kg ha^-1). BYDV symptom severity scores (0 = no symptoms; 9 = severe leaf discoloration and plant stunting) on Jay, 'Classic', 'INO9201', and Ogle in controlled tests at Lafayette averaged over six years were 3.5, 3.0, 4.1, and 4.5, respectively (LSD_{0.05} = 1.0). Breeder seed produced in 1997 was the F_3 generation.

Jay is most similar to INO9201 in general plant type, but heads 3.6 d later (LSD_{0.05} = 2.9 d), lodges less, and has improved resistance to BYDV. Jay is resistant to crown rust in Indiana and throughout the upper midwest states, while INO9201 is moderately susceptible. Jay is resistant to P. coronata isolates Pk58, Pk62, and Pk264B, while INO9201 is susceptible to these isolates (tests conducted by cooperators in the Cooperative Uniform Midseason Oat Performance Nursery).

Juvenile growth habit of Jay is erect. The upper culm node is hairless, and mature stem color is yellow. Leaves at heading are dark green; the flag leaf is erect; leaf margins are glabrous; ligules are present; and leaf sheaths are hairless. Panicles are equalateral; the lower whorl of panicle branches is attached at the first node; panicle size is medium; panicles are midbroad; branches are ascending; and main panicles have five whorls of branches. The rachis is erect, and the second floret rachilla segment is hairless. Spikelets separate by abscission, and florets separate by disarticulation. The glumes and lemma are light tan at maturity. Awns are infrequent, non-twisted, and are up to 17 mm long. Glumes are fluorescent under ultraviolet light, although up to 0.4% nonfluorescent kernels are present. Basal hairs are absent.

The generation sequence of seed production is Foundation, Registered, and Certified. U.S. plant variety protection of Jay has been applied for (PVP Certificate no. 9900339). Breeder seed of Jay is maintained by the Purdue University Agricultural Research Programs, West Lafayette, IN 47907. Limited quantities of seed for research are available upon request from the corresponding author. Recipients of seed are asked to make appropriate recognition of the source of Jay if it is used in the development of a new cultivar, germplasm, parental line, or genetic stock.


References and Notes


*Corresponding author (ohm@purdue.edu).

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Registration of '61' Buffalo grass

'61' buffalo grass [Buchloæ dactyloides (Nutt) Engelm.] (Reg. no. CV-196, PI 607933) was developed through efforts of the Turfgrass Science Team at the University of Nebraska. It was released in 1997 by the Agricultural Research Division, Institute of Agriculture and Natural Resources, University of Nebraska. Cultivar 61 buffalo grass was evaluated under the experimental designation NE 86–61.

Cultivar 61 is a female clone selected in August 1986 from a stand of buffalo grass east of Kensington, Smith County, KS. This selection, along with several thousand other selections, was evaluated at the John Seaton Anderson Turfgrass Research and Ornamental Research Facility at the University of Nebraska Agricultural Research and Development Center, Mead, NE. Cultivar 61 was propagated vegetatively by stolons and plugs to provide genetically uniform planting stock for evaluating performance and for making comparisons to commercially available cultivars and other experimental. The first breeder block of 61 was established in 1994.

Cultivar 61 is noteworthy because of its decumbent growth habit. The upper culm node is hairless, and mature stem color is yellow. Leaves at heading