Registration of ‘Kewaunee’ Barley

‘Kewaunee’ six-row spring barley (Hordeum vulgare L.) (Reg. no. CV-270, PI 603948) was developed by workers in the Department of Agronomy, College of Agricultural and Life Sciences, University of Wisconsin–Madison, and was released in March 1996. The parentage of Kewaunee is ‘Hazen’/M46. The parentage of M46 is ‘Nordic’/‘Manker’/‘Robust’. The final cross was made in the 1984–1985 greenhouse crossing nursery.

Kewaunee, tested as X3250-6, was developed using the pedigree method of breeding. Primary selection criteria in the F2 through F6 generations were response to diseases, straw strength, test weight, yield, and grain quality factors associated with malting quality. In 1989, an F2,6 line was harvested in bulk, and subsequently tested as selection X3250-6. Line X3250-6 was entered in preliminary yield trials at Madison, WI, in 1990, was advanced to the main Madison nursery trial in 1991, and advanced to drill plot trials at Arlington, WI, and to statewide trials in 1993. It was entered into the Mississippi Valley Uniform Barley Nursery in 1995 and 1996.

Kewaunee is intermediate in maturity, heading at the same time as Robust (3) and ‘Stander’ (5), but 1 d later than ‘Chilton’. Plant height is intermediate: about 2.5 cm shorter than Chilton, the same as Hazen (1) and Robust, and about 5 cm taller than Stander. Lodging resistance is equal to that of Robust. Percent kernel protein of Kewaunee is greater than that of ‘Excel’ (4), but less than that of ‘Morex’ (2). Kewaunee has good test weight, similar to that of Hazen (1), and high grain yield, ranking first for yield in Wisconsin statewide trials in 1994, 1995, and 1996. Kewaunee ranked 3rd for yield out of 33 entries in 1995 and 4th out of 32 entries in 1996 in the Mississippi Valley Uniform Barley Nursery.

Juvenile plants of Kewaunee are erect. Leaves are slightly waxy, with a glabrous basal leaf sheath. The flag leaf is upright at the boot stage. The first leaf below the flag leaf is approximately 22 cm in length and 15 mm in width. Collars on stems are closed, and anthocyanin is absent. The spikes of Kewaunee are six-rowed and lax, with parallel shape. A few hairs are present on the edge of the rachis. Glumes are approximately one-half the length of the lemma, with hairs confined to a band. Awns are long and smooth. Rachilla hairs are short. Seed of Kewaunee are covered, short to midlong, and slightly wrinkled; hairs on the ventral furrow are absent. The aleurone is colorless. Kewaunee is resistant to stem rust [caused by Puccinia graminis Pers.:Pers. f. sp. tritici Eriks. & E. Henn.], but is susceptible to loose smut [caused by Ustilago tritici (Pers.) Rostr.].

Kewaunee is intended to be grown as a feed barley. Designated classes of certified seed of Kewaunee are Breeder, Foundation, and Certified. Breeder seed of Kewaunee is maintained by the Department of Agronomy, University of Wisconsin–Madison. U.S. plant variety protection, with the Wisconsin Agricultural Research Station as owner, is pending (PVP Certificate no. 9800224).

H. F. Kaeppler,* R. D. Duerst, and R. A. Forsberg (6)

References and Notes
6. Dep of Agronomy, Univ. of Wisconsin-Madison, 1575 Linden Dr., Madison, WI 53706-1597. Registration by CSSA. Accepted 31 Dec. 1998. *Corresponding author (hkaeppler@facstaff.wisc.edu).

Published in Crop Sci. 39:871 (1999).

Registration of ‘Matador’ Tall Fescue

‘Matador’ tall fescue (Festuca arundinacea Schreb.) (Reg. no. CV-66, PI 597935) was released in August 1996 by Pure Seed Testing, Inc., Hubbard, OR. The first certified seed was produced in 1998. Matador was tested under the designation PST-5LMR.

Matador traces its origin to plants selected from ‘Coronado’ (1) and two tall fescue populations, designated ZVL-91 and ZML-91. The ZVL-91 population was developed into ‘Gazelle’, and the ZML-91 population was developed into ‘Coyote’. These populations trace their origins to tall fescue collections from old turfs in Alabama, Mississippi, New Jersey, North Carolina, Pennsylvania, and Tennessee.

During the summer of 1992, 14 dark green, low-growing plants with late maturity were selected from Coronado tall fescue near Hubbard. These plants were designated 5RL. Meanwhile, 10 plants were selected from ZVL-91 and 4 plants were selected from ZML-91, both in nurseries near Hubbard. These plants, designated SLM, were also dark green and low-growing, and had medium-late maturity.

The 5RL plants were transplanted into an isolated crossing block near Hubbard during the spring of 1992. Prior to anthesis, the SLM plants were transplanted around the perimeter of the 5RL block. All plants were allowed to interpollinate. Seed from the SLM plants with the best floret fertility and tolerance to stem rust (caused by Puccinia graminis Pers.:Pers.) were harvested during the summer of 1992 and designated 5LMR.

During the fall of 1992, the bulked 5LMR seed was used to establish an isolated 1674-spaced-plant nursery near Hubbard. Twenty-five phenotypically similar plants that exhibited dark green color, low mature plant height, fine leaf texture, good floret fertility, and good stem rust tolerance were selected from this nursery. These plants were vegetatively increased to 32 clones each and were planted into an isolated nursery near Hubbard during the fall of 1993.

Also during the fall of 1993, seed from each of the 25 selected plants was used to establish progeny turf trials near Hubbard, OR, and Rolesville, NC. Turf performance data from Rolesville, assessing turf quality and susceptibility to brown patch (caused by Rhizoctonia solani Kühn), were used to select the best maternal clones to harvest. The 17 best-performing clones were subsequently harvested from the nursery near Hubbard during the summer of 1994, to produce the first breeder seed of Matador tall fescue.

Matador is a low-growing, high-density, dark green tall fescue that has an excellent establishment rate from seed. Matador has shown good turf quality in temperate regions and it has exhibited