Registration of ‘Blaze’ Oat

‘Blaze’ spring oat (Avena saliva L.), (Reg. no. CV-354, PI 602968), was developed at the Illinois Agricultural Experiment Station of the University of Illinois in cooperation with USDA-ARS and released in 1997. Blaze was tested as experimental line IL89-1730 prior to release. The performance of Blaze was evaluated in Illinois from 1992 to 1997 and in the Uniform Midseason Oat Performance Nursery in 1996 and 1997. Blaze was released because it combines high yield potential, good test weight, tan kernel color, and tolerance to barley yellow dwarf virus (BYDV).

The parentage of Blaze is IL83-7646/‘Newdak’. The pedigree of IL83-7646 is Purdue 722661-2-3-2/IL75-5665 (‘Coker 227’/‘Clintford’/‘Portal’). As experimental breeding line IL89-1730, Blaze was first selected as an F2 plant row originating from a single panicle selected from an F1 bulk population grown in the field at Urbana, IL, in 1988. The F1 and F2 generations of the bulk population were grown in the greenhouse using modified single-seed descent. Panicles selected from an F2 single plot of IL89-1730 were planted in F3 plant rows in 1991, a single plant row was harvested, and seed from this plant row was used for the initial seed increase (F4) in 1992. Seed was increased further from 1993 through 1995. Breeder seed was produced in 1996.

Blaze has been consistently high yielding in many environments and is adapted to the north-central and northeastern regions of the United States. Blaze ranked third for yield in the Uniform Midseason Oat Performance Nursery in 1996, and second in 1997. Blaze yielded 806 kg ha−1 more than ‘Ogle’ over 20 locations in 1996, and 470 kg ha−1 more than Ogle over 17 locations in 1997. Averaged over 57 tests in Illinois and throughout the spring oat growing region, Blaze yielded 558 kg ha−1 more than Ogle.

In 20 tests in Illinois, test weight of Blaze averaged 1.9 kg hl−1 higher than Ogle. Blaze is a midseason variety with maturity similar to Ogle. It is usually slightly shorter than Ogle, but taller than ‘Brawn’. Blaze is somewhat more susceptible to lodging than Ogle or Brawn. Based on data from the 1996 Uniform Midseason Oat Performance Nursery, Ogle ranked third for yield in the same environment. Blaze was resistant to crown rust (caused by Puccinia coronata W.P. Fraser & Ledingham), but may be susceptible to loose smut (caused by Ustilago avenae (Pers.) Rostr.).

Rodeo has been consistently high yielding in many environments and is adapted to the north-central and northeastern regions of the United States. Based on data from trials in Illinois and the Uniform Midseason Oat Performance Nursery, Rodeo has been equal to, or better than, Ogle for grain yield in most environments. In the Uniform Midseason Oat Performance Nursery, Rodeo ranked first for grain yield in 1991, second in 1992, and third in 1993. In comparison, Ogle ranked 12th in 1991, 8th in 1992, and 22nd in 1993. The grain yield of Rodeo averaged 4050 kg ha−1 over 60 trials in the 1991, 1992, and 1993 Uniform Midseason Oat Performance Nursery, compared with 3620 kg ha−1 for Ogle.

Rodeo is a midseason maturity cultivar. It heads 2 d later than Ogle. Rodeo is ≈3 cm taller than Ogle, averaging 91 cm in the Uniform Midseason Oat Performance Nursery over three years. Lodging of Rodeo has been similar to Ogle, or slightly higher. Test weight of Rodeo is similar to Ogle. Great percentage, great protein content, and great oil content of Rodeo are similar to Ogle.

References and Notes
1. F. L. Kolb, N. J. Smith, C. M. Brown, and L. L. Domier (1)