Registration of ‘Spurs’ Oat

‘Spurs’ spring oat (*Avena sativa* L.), (CV-374, PI 638523) was developed at the Illinois Agricultural Experiment Station of the University of Illinois and released in 2003. Spurs was tested as experimental line IL95–1241 before release. The performance of Spurs was evaluated in Illinois from 1997 to 2004 and in the Uniform Midseason Oat Performance Nursery in 2001 and 2002. Spurs was released because it combines high yield potential, very good test weight, tan kernel color, moderate tolerance to *Barley yellow dwarf virus* (BYDV), and crown rust resistance to some races.

The parentage of Spurs is ‘Jay’ / ‘Rodeo’. As experimental breeding line IL95–2541, Spurs was first selected as an F₅ plant row originating from a single panicle selected from an F₄ bulk population grown in the field at Urbana, IL, in 1994. The F₂ and F₃ generations of the bulk population were grown in the greenhouse using modified single-seed descent. Panicles selected from an F₃ single plot of IL95–2541 were planted in F₄ plant rows in 1997, a single plant row was harvested, and seed from this plant row was used for the initial seed increase (F₅) in 1998. Seed was increased further from 1999 through 2002.

Breeder seed (F₆:11) was produced in 2002. Spurs has been consistently high yielding in many environments and is adapted to the north-central and northeastern regions of the USA. Spurs ranked sixth for yield in the Uniform Midseason Oat Performance Nursery in 2001 and was fourth in that nursery in 2002. Spurs yielded 394 kg ha⁻¹ more than ‘Ogle’ (Brown and Jedlinski, 1983) over 16 locations in 2001, and 72 kg ha⁻¹ more than Ogle over 15 locations in 2002. Averaged over 49 tests in Illinois and throughout the spring oat growing region, Spurs yielded 294 kg ha⁻¹ more than Ogle (4527 kg ha⁻¹ for Spurs compared to 4233 kg ha⁻¹ for Ogle).

In 30 tests in the 2001 and 2002 Uniform Midseason Oat Performance Nursery, the test weight of Spurs averaged 3.4 kg hL⁻¹ higher than Ogle. In 18 tests in Illinois, the test weight of Spurs averaged 2.7 kg hL⁻¹ higher than Ogle. Spurs is a mid-season variety and is about one to 2 d earlier than Ogle, ‘Blaze’ (Kolb et al., 1999a), and Jay (Ohm et al., 2000) and 3 d earlier than Rodeo (Kolb et al., 1999b). Spurs is usually slightly shorter than Blaze, Rodeo, Ogle and ‘Jerry’ (McMullen et al., 1997) but slightly taller than Jay. Spurs is somewhat more resistant to lodging than Rodeo or Blaze but not as lodging resistant as Jay. Based on data from the Uniform Midseason Oat Performance Nursery groat percentage of Spurs is similar to Ogle.

BYDV tolerance of Spurs is similar to Blaze and Ogle. In inoculated tests for BYDV tolerance from 1997 to 2005, Spurs averaged 4.0 compared with 4.3 for Ogle on a 0 to 9 scale where 0 equals tolerant and 9 equals very sensitive. Spurs has been resistant to crown rust (*Puccinia coronata avenae* W.P. Fraser & Ledingham), but may be susceptible to some races. Spurs is susceptible to loose smut (*Ustilago avenae* W.P. Fraser & Ledingham), but may be susceptible to some races. Spurs has

The juvenile growth habit of Spurs is erect. Nodes of Spurs are glabrous, but a few hairs are present at the lower edge of the flag leaf node. Leaf margins are present. Spurs has narrowly linear to linear leaves. Ligules are present. Spurs has medium length panicles with ascending branches. Spikelets are uniform in shape, and floret separation by semi-abscission, and floret separation by heterofracture. Lemmas are tan and glabrous. Most seeds of Spurs produce ultraviolet light; however, 0.5% non-fluorescent seeds are allowed in Spurs. Several to numerous 1-mm-long hairs are present. The second floret rachilla segment is 5 to 8 mm long and midlong. Awns are infrequent. Up to 0.5% non-flowering plants are allowed in Spurs.

Variety protection of Spurs has been applied for Title V option of the U.S. Plant Variety Protection Act. Breeder seed; there is no Registered class of seed. Breeder seed of Spurs will be maintained by the Illinois Agricultural Experiment Station, Urbana, IL 61801. Recipients of seed for research are asked to make appropriate recognition of the source of Spurs if it is used in the development of a new cultivar, germplasm, or genetic stock.

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References


doi:10.2135/cropsci2006.01-0045