

### 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 F<sub>5</sub> plant row originating from a single panicle selected from an F<sub>4</sub> bulk population grown in the field at Urbana, IL, in 1994. The F<sub>2</sub> and F<sub>3</sub> generations of the bulk population were grown in the greenhouse using modified single-seed descent. Panicles selected from an F<sub>6</sub> single plot of IL95-2541 were planted in F<sub>7</sub> plant rows in 1997, a single plant row was harvested, and seed from this plant row was used for the initial seed increase (F<sub>8</sub>) in 1998. Seed was increased further from 1999 through 2002. Breeder seed (F<sub>6,11</sub>) 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<sup>-1</sup> more than 'Ogle' (Brown and Jedlinski, 1983) over 16 locations in 2001, and 72 kg ha<sup>-1</sup> 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<sup>-1</sup> more than Ogle (4527 kg ha<sup>-1</sup> for Spurs compared to 4233 kg ha<sup>-1</sup> 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<sup>-1</sup> higher than Ogle. In 18 tests in Illinois, the test weight of Spurs averaged 2.7 kg hL<sup>-1</sup> 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* Corda. var. *avenae* W.P. Fraser & Ledingham), but may be susceptible to some races. Spurs is susceptible to loose smut [*Ustilago avenae* (Pers.) Rostr.].

The juvenile growth habit of Spurs is erect. Upper culm nodes of Spurs are glabrous, but a few hairs may occur at the lower edge of the flag leaf node. Leaf margins and leaf sheaths are glabrous. Ligules are present. Spurs has narrow equilateral panicles with ascending branches. Spikelet separation occurs by semi-abscission, and floret separation by heterofracture. Lemmas are tan and glabrous. Most seeds of Spurs fluoresce in ultraviolet light; however, 0.5% nonfluorescent seeds are allowed in Spurs. Several to numerous 1-mm-long basal hairs are present. The second floret rachilla segments are glabrous and midlong. Awns are infrequent. Up to 0.5% variants, predominantly taller plants, are allowed in Spurs.

Variety protection of Spurs has been applied for under the Title V option of the U.S. Plant Variety Protection Act. Foundation and Certified classes of seed are permitted beyond 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. Limited quantities of seed for research are available from the corresponding author. Recipients of seed are asked to make appropriate recognition of the source of Spurs if it is used in the development of a new cultivar, germplasm, parental line, or genetic stock.

F.L. KOLB\* AND N.J. SMITH

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Dep. of Crop Sciences, Univ. of Illinois, 1102 S. Goodwin Ave., Urbana, IL 61801. The development of Spurs was partially funded by Quaker, a unit of PepsiCo Beverages & Foods, Inc., Illinois Foundation Seeds, Inc., and the Illinois Agric. Exp. Stn. Registration by CSSA. Received 23 Jan. 2006. \*Corresponding author (f-kolb@uiuc.edu).

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