Registration of ‘Jaypee’ Wheat

‘Jaypee’ soft red winter wheat (Triticum aestivum L.) (Reg. no. CV-861, PI 592760) was developed by the Arkansas Agricultural Experiment Station. It was released in 1995 due to its superior combination of high yield, high test weight, and early maturity.

Jaypee was developed from a cross of ‘Doublecrop’/AR 39-3 (1). AR 39-3 is an Arkansas breeding line selected from the cross ‘Arthur’/973; 973 is a germplasm line derived from Yugoslavia with the parentage ‘Forlania’/Garibaldo’. The original selection (AR 26158) was an F\textsuperscript{3}$_{4}$ line derived from a bulk population. Due to heterogeneity in AR 26158, head selections based on plant type, maturity, resistance to leaf rust (caused by Puccinia recondita Roberge ex Desmaz.), and test weight were made in the F\textsuperscript{3} generation. The headrow AR 26158-4 was increased and tested in the Uniform Southern and Uniform Eastern Soft Red Winter Wheat regional trials in harvest years 1995 and 1996 and in the Arkansas Small-Grain Performance Tests since 1994.

Jaypee has excellent adaptation in Arkansas test sites. Compared with ‘Hazzen’ (2) in 46 Arkansas Small Grain Cultivar Performance Tests from 1994 to 1997, Jaypee yielded 2% higher, had approximately 13 kg m\textsuperscript{-2} heavier test weight, was 4 d earlier in maturity, and was 4 cm shorter under Arkansas conditions. It has performed well on a regional basis, ranking first and eighth out of 30 entries in 1995 and 1996, respectively, across all locations in the Uniform Southern Soft Red Winter Wheat Nursery.

Jaypee is most similar to ‘Coker 9543’in appearance. Both are approximately 79 cm tall and have a plant color of 147A (as referenced by the Royal Horticultural Society Color Chart). Spikes of Jaypee are apically awnleted, lax in density, fusiform, and nodding at maturity. The white glumes are glabrous, short (7 mm), and midwidth, with wanting shoulders and acuminate beaks. Kernels are red, midlong, and ovate, with a small germ; the kernel brush is midsize and short; the kernel crease is narrow in width and shallow in depth, with rounded cheeks. Kernels on average are 6 mm long and 3 mm wide, with a kernel weight of 30 mg.

Jaypee has good winterhardiness for its area of adaptation, but is susceptible to late freezes, due to its early growth in the spring. It has moderately good straw strength; lodging data from the 1995 and 1996 Uniform Eastern Soft Red Winter Wheat Nurseries rated Jaypee 2.4, vs. 2.0 for the check cultivar Caldwell (0-9 scale). In 1995, Jaypee had a high level of resistance to leaf rust; in 1997, however, races of P. recondita capable of overcoming the resistance in Jaypee were prevalent in southwest Arkansas. According to seedling tests at the USDA Cereal Disease Lab., St. Paul, MN, Jaypee contains the Lr10 and Lr18 genes for leaf rust resistance, and Sr36 (plus an additional gene or genes) for resistance to stem rust (caused by P. graminis Pers.;Pers.). Jaypee is resistant to wheat soilborne mosaic virus (SBWVM), susceptible to wheat spindle streak mosaic virus (WSSVMV; syn. wheat yellow mosaic virus), and moderately resistant in the field to glume blotch [caused by Stagonospora nodorum (Berk.) Castellani & E.G. Germaino], stem rust, stripe rust (caused by P. striiformis Westend.), and powdery mildew (caused by Erysiphe graminis DC. f. sp. tritici Em. Marchal). Results from a field test by Steven Leath, USDA-ARS, Raleigh, NC, indicate possible adult-plant resistance to powdery mildew. Results from the USDA Soft Wheat Quality Lab. at Wooster, OH, indicate excellent soft wheat baking characteristics (baking score 92, vs. 97 for Caldwell) and milling characteristics (milling score 98, vs. 102 for Caldwell).

Jaypee was named in honor of J.P. Jones, emeritus professor of plant pathology at the University of Arkansas. During his 27 years of service to the University, he worked closely with small-grains breeders in the development and improvement of small grains. He was instrumental in the release of one barley, three oat, and four wheat cultivars. U.S. plant variety protection for Jaypee is pending (PVP Certificate no. 9600156). Classes of seed production are limited to breeder, foundation, and certified. Breeder and foundation seed is maintained by the Arkansas Agricultural Experiment Station, Fayetteville, AR 72701. Small quantities of seed will be available from the corresponding author for at least 5 years.

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References and Notes

3. R.K. Bacon and J.T. Kelly, Dep. of Agronomy, and E.A. Milus, Dep. of Plant Pathology, Univ. of Arkansas, Fayetteville, AR 72701. Published with the approval of the Director, Arkansas Agric. Exp. Stn., Manuscript no. 97143. The research was supported in part by grants from the Arkansas Wheat Promotion Board. Registration by CSSA. Accepted 31 May 1998. *Corresponding author (rtbocom@comp.uark.edu).

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Registration of ‘Jim’ Soybean

‘Jim’ soybean [Glycine max (L.) Merr.] (Reg. no. CV-392, PI 602897) was developed by the North Dakota Agricultural Experiment Station, North Dakota State University (NDSU), Fargo, ND. It was released 20 Feb. 1998. Jim has high seed yield compared with other cultivars of similar maturity. Jim was named in honor of Jim Helm, former NDSU extension agronomist.

Jim is an F$_{4}$-derived line, originally designated ND91-2721, and has the pedigree ‘Sigco KS20’ × M81-18; M81-18 has the pedigree ‘Evans’ × M65-442 and M65-442 has the pedigree ‘Anoka’ × ‘Amsoy’ (1,2,3,4).

The crossing was made in the summer of 1987 at Fargo, and the F$_{4}$ plants were grown during the winter of 1987-1988 in the glasshouse at Fargo. The F$_{5}$ population was grown in the summer of 1988 and advanced to the F$_{6}$ generation by the single-pod bulk method. The F$_{3}$ population was grown in the 1988-1989 Chile winter nursery and advanced to the F$_{4}$ generation by the single-pod bulk method. The F$_{5}$ population was grown at Fargo in the summer of 1889. The F$_{6}$ population was grown at Fargo in the summer of 1990. F$_{5}$ plants from the segregating population were individually threshed in the fall of 1990 and F$_{5}$ progeny rows were selected in 1991. ND91-2721 first was tested in replicated yield trials in 1992.

Jim was evaluated in the Uniform Soybean Test 00, Northern States, from 1995 to 1997 (5). In 3 yr of Uniform Soybean Test 00, Jim averaged 19% higher in seed yield than ‘McCall’ (6) and 7% higher than ‘Agassiz’ (7). Jim matures 1 d later than McCall and 6 d earlier than Agassiz. Lodging and seed quality scores of Jim are similar to McCall. Plant height of Jim is 3 cm taller than McCall and 3 cm shorter than Agassiz. Seeds of Jim are 19 mg seed$^{-1}$ larger than McCall and 28 mg seed$^{-1}$ larger than Agassiz. Protein content of Jim was 411 g kg$^{-1}$ and oil content was 198 g kg$^{-1}$, compared with 409 g kg$^{-1}$ protein content and 201 g kg$^{-1}$ oil content for McCall.

Jim has purple flowers, gray pubescence, brown pods, and yellow seed with yellow hilum and a dull seed coat. Jim has indeterminate growth habit and is adapted as a full-season cultivar from 47 to 48° N lat. Jim was evaluated in the Red River Valley of the North from 1992 to 1997 by the North Dakota State University and