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’/7973; 973 is a germplasm line from Yugoslavia with the parentage ‘Forlani’/‘Garibaldino’. The original selection (AR 26158) was an F$_{3,4}$ 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$_{13}$ 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 ‘Hazen’ (2) in 46 Arkansas Small Grain Cultivar Performance Tests from 1994 to 1997, Jaypee yielded 2% higher, had approximately 13 kg m$^{-3}$ 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 awnletted, lax in density, fusiform, and nodding at maturity. The white glumes are glabrous, short (7 mm), and midwide, with wanting shoulders and acuminate beaks. Kernels are red, midlong, and ovate, with a small germ; the kernel brush is mid-sized 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 yellow mosaic virus (WSSMV; syn. wheat yellow mosaic virus), and moderately resistant in the field to glume blotch [caused by Stagonospora nodorum (Berk.) Castellani & E.G. Germano], stem rust, barley rust, rust, and elliptical leaf spot. It is moderately resistant in the field to Septoria nodorum. Rake-like awns are terminal, 2–8 cm, dark brown, and 120–130 per spike.

Registration of ‘Jim’ Soybean

‘Jim’ soybean [Glycine max (L.) Merr.] (Reg. no. 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 protein content compared with other cultivars of similar maturity. Jim was selected in 1991. ND91-2721 first was tested in replicated yield trials in 1992.

The cross was made in the summer of 1988 by plant crosses at Fargo. F$_{1}$ plants were grown during the winter of 1987-1988 and advanced to the F$_{3}$ generation by the single-cross method. The F$_{2}$ population was grown in the summer of 1989. The F$_{3}$ population was grown and advanced to the F$_{4}$ generation by the bulk method. The F$_{4}$ population was grown in the summer of 1990. F$_{5}$ plants from the segregating population were individually threshed in the fall of 1990 and F$_{5}$ selected in 1991. ND91-2721 first was tested in yield trials in 1992.

Jim was evaluated in the Uniform Soybean Test, States, from 1995 to 1997 (5). In 3 yr of Uniform Soybean Test, Jim had moderate resistance to Dothiorella phaseolorum (Cercospora sojina) and moderately susceptible to Pressure canescens var. sojae (P. sojae) and soybean rust (caused by Sinapsis alba (L.) Pers.).

Jim is an F$_{5}$-derived line, originally designated as ND91-2721, with the pedigree ‘Sigco KS20’ × M81-18, M81-18, ‘Evans’ × M65-442 and M65-442 has the pedigree ‘Anoka’ x M81-18. The cross was made in the summer of 1988 by plant crosses at Fargo. F$_{1}$ plants were grown during the winter of 1987-1988 and advanced to the F$_{3}$ generation by the single-cross method. The F$_{2}$ population was grown in the summer of 1989. The F$_{3}$ population was grown and advanced to the F$_{4}$ generation by the bulk method. The F$_{4}$ population was grown in the summer of 1990. F$_{5}$ plants from the segregating population were individually threshed in the fall of 1990 and F$_{5}$ selected in 1991. ND91-2721 first was tested in yield trials in 1992.

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