**Registations of Cultivars**

**Registration of ‘Hopewell’ Wheat**

‘Hopewell’ soft red winter wheat (*Triticum aestivum* L.) (Reg. no. CV-909, PI 595678) was developed by the Ohio State University-Ohio Agricultural Research and Development Center (OSU-OARDC) and released in February 1995. Previous experimental numbers for Hopewell were ‘R19182B-33-2’ and ‘OH490’. Hopewell was released because of its superior yields, excellent straw strength, and diverse pedigree. Hopewell was named after the Native American mound building peoples that flourished in the Ohio valley 2100 yr ago.

Hopewell’s pedigree is ‘Logan’/Hart’/3270A/‘Rousalka’/3/TN1685/‘IA22’/6767/216-6-3 (Lafever, 1968; Sechler et al., 1977). 3270A was an Ohio experimental line with the pedigree: 2669F1/Logan. 2669F1 was an Ohio experimental F2 population with the pedigree ‘S410’/Logan/Logan/‘Arthur’ (Patterson et al., 1974). S410 was a dwarf spring wheat of unknown ancestry. TN1685 was an Ohio experimental line from the cross ‘Heines VII’/Pur5752cl-7/‘Alb – Talbot’ (Whiteside and Gfeller, 1964). Pur5752cl-7 was an Indiana AES experimental line. 6767 was an Ohio experimental line with the pedigree TN1493/Pur5724B3-5P-8-2. TN1493 was an Ohio experimental line with the pedigree ‘Redcoat’/TN1345 (Patterson et al., 1978). TN1345 was an Ohio experimental line with the pedigree ‘Lucas/CIt 12530 (Heyne, 1960). Materials received through the International Rust and Powdery Mildew Nursey Program include Rousalka (PI520076), a winter wheat cultivar developed by CIMMYT; ‘IA22’ (IAPAR 22-Guarauna), a *T. aestivum* cultivar developed in Brazil; and 216-6-3, a French experimental line of unknown pedigree possessing resistance to *Stagonospora nodorum* (Berk.) Castellani & E.G. Germano.

The final cross, designated R19182B, was made by H.N. Lafever in 1982. The population R19182B was advanced without selection to the F3 generation at the OSU-OARDC research farm, Wooster OH. Thirty spikes were harvested randomly. The F4 generation was evaluated for maturity, height, and disease resistance as 30 hill plots, each containing grain from a single F3 spike. Two spikes were selected from a single F4 hill plot based on visual selection for height, heading date, and resistance to powdery mildew (caused by *Erysiphe graminis* D.C. f. sp. *tritici* Ém. Marchal; syn. *Blumeria graminis* (DC.) E.O. Speer). The F5 generation was evaluated for maturity, height, and disease resistance as two hill plots, each containing grain from a single F4 spike. Two spikes were selected from a single F4 hill plot based on visual selection for height, heading date, and resistance to powdery mildew, glume blotch, leaf rust (caused by *Puccinia triticina* Eriks.), standability, and uniformity. Harvested grain was evaluated for yield, test weight, and milling and baking quality. R19182B-33-2 was advanced from the F7-F10 generation in replicated yield trials, initially at Wooster and then throughout Ohio. R19182B-33-2 was renamed OH490 in 1997. At locations in northern and western Ohio, where most of the wheat crop is grown, Hopewell averaged 4593.2 kg ha\(^{-1}\) compared with 4351.1 kg ha\(^{-1}\) for Freedom. The test weight of Hopewell (72.9 kg hL\(^{-1}\)) was 5.8% greater than that of Freedom (329 g kg\(^{-1}\)). Hopewell’s heading date was 3 d later than Freedom (Day of Year 144 vs. 147). Straw strength of Hopewell was good, with 1.3% lodging recorded across 22 location-years. Plant height of Hopewell was 86.4 cm, as compared with 88.9 cm for Freedom.

Selected hill plots were harvested and advanced with selection to the F3 generation at the OSU-OARDC radiation was compiled from selected uniform purification and increase drill strips and grown as Breeders Seed by the USDA-ARS Soft Wheat Quality Laboratory in Wooster, OH. Data on harvest and disease resistance as 30 hill plots, each containing grain from a single F4 spike, and one plot, designated R19182B-33-2, was selected as above. A single-row F6 plot, Hopewell’s phenol reaction is dark brown. Kernels are rounded checks and a medium and shallow crescent is medium and noncollared. Kernels average 6.8 mm in length, 3.4 mm in width, and 33 mg in weight. Uniformity had been observed across four generations at release. In Breeder Seed nurseries, Hopewell exhibited total variants involving tall plants, awned spikes, exhibiting bluegreen coloration.

In 22 location-years of replicated yield trials between 1991 and 1994, Hopewell averaged 4465.6 kg ha\(^{-1}\) compared with Freedom (4371.2 kg ha\(^{-1}\)) (Gooding et al., 1997). At locations in northern and western Ohio, where most of the wheat crop is grown, Hopewell averaged 4593.2 kg ha\(^{-1}\) compared with 4351.1 kg ha\(^{-1}\) for Freedom. The test weight of Hopewell (72.9 kg hL\(^{-1}\)) was slightly better than Freedom (72.1 kg hL\(^{-1}\)). Hopewell’s heading date was 3 d earlier than Freedom (Day of Year 144 vs. 147). Straw strength of Hopewell was good, with 1.3% lodging recorded across 22 location-years. Plant height of Hopewell was 86.4 cm compared with 88.9 cm for Freedom.

Hopewell carries no known resistance genes that are determined by the USDA Cereal Disease laboratory at Zadoks growth stage 45 (boot stage) is dark green (Y\(\text{a}\)). Hopewell’s phenol reaction is dark brown. Kernels are rounded checks and a medium and shallow crescent is medium and noncollared. Kernels average 6.8 mm in length, 3.4 mm in width, and 33 mg in weight. Uniformity had been observed across four generations at release. In Breeder Seed nurseries, Hopewell exhibited total variants involving tall plants, awned spikes, exhibiting bluegreen coloration.