REGISTRATION OF CROP CULTIVARS

L. R. Joppa, L. D. Sibbitt, and J. D. Miller

'TIOGA' wheat, *Triticum aestivum* L. em. Thell., CI 17286, is a hard red spring wheat cultivar resistant to the wheat stem sawfly (*Cephus cinctus* Norton). It was released jointly by the North Dakota State Univ. Agric. Exp. Stn., Fargo, and ARS-USDA in 1974. Tioga was selected as an *F₂* derived *F₁* bulk in 1966 from the cross 'Fortuna'/S6285. S6285 is a selection from the cross ND47/Rescue/15001/313549 and includes the cultivars 'Thatcher', 'Kenya Farmer 338A', 'Rescue', 'Chinook', 'Frontana', 'Kenya 58', and 'Newhatch' in its pedigree.

The stem of 'Tioga' is midtall, white, solid (filled with parenchyma tissue), midstrong, and inclined from below the base of the spike; the spike is dorsiventrally compressed, oblong to fusiform, middense, and apically awned; glumes are glabrous, white, short, and midwide; shoulders are midwide and square; beak is midwide, obulate, 1 mm or less long, and keeled only in the upper half; kernels are red, midlong, hard, and elliptical; germ is large; crease is midwide and deep; petals are angular; and the brush is large and midlindol.

Tioga is superior to the sawfly-resistant cultivar, Fortuna, in resistance to physiological black chalk, lodging resistance, and yield under low-yield environments. Tioga resembles Fortuna in height (88 vs. 86 cm), maturity (222 vs. 221 days), stem solidness rating (14.8 vs. 15.7), stem cutting (9 vs. 8%), and test weight (77.7 vs. 78.1 kg/ha) under North Dakota growing conditions.

Tioga is similar to Fortuna in its reaction to race 1B5 of stem rust (*Puccinia graminis f. sp. tritici* Eriks & E. Henn.) and is susceptible to races 32 and 151. It is susceptible to leaf rust (*P. recondita* Rob. ex Dett.).

The milling and baking quality of 'Tioga' is satisfactory. It is slightly lighter than Fortuna in flour yield, but equal or superior to Fortuna in all other quality factors. Tioga is higher in test weight, flour yield, and loaf volume than 'Chris', 'Manitou', or 'Waldron'. It is also equal to or better than these three standard cultivars in flour ash, absorption, and dough handling properties. It is slightly below the averages of the standard cultivars in wheat and flour protein content and percentage of vitreous kernels.

Breeder seed of 'Tioga' will be maintained by the North Dakota State Univ. Agric. Exp. Stn., Fargo, ND 58102.

REGISTRATION OF OSAGE WHEAT

L. G. Campbell, K. E. Miskon, and M. L. Kiesewetter

'W-335' hard red winter wheat (*Triticum aestivum* L. em. Thell.), CI 17292, was developed by Funk Seeds International, a company of Ciba-Geigy Corp., and released in 1974. W-335 is midseason to late maturity (4 days later than 'Parker'), has a semi-erect growth habit, short white culms with hollow internodes and solid nodes. Spikes are middense, fusiform, awned, and usually nodding at maturity. Glumes are white, glabrous, midlong, midwide, and have rounded shoulders. Beaks are midwide, acuminate, and from 3 to 8 mm long. Kernels of W-335 are elliptical with rounded cheeks, midsize embryos, narrow shallow creases, and collared brushes of medium length.

W-335 is moderately resistant to leaf rust (*P. recondita* f. sp. *tritici*) and is susceptible to soilborne mosaic and wheat streak mosaic. W-335 resists lodging better than 'Centurk' and 'Scout 66', but has only occasional tendency to become weak if allowed to stand past maturity. W-335 may be sensitive to available moisture as its relative yields are better in environments where moisture is not limiting during vegetative growth. W-335 has a relatively long mixing time and good loaf volume potential. Its flour yield is slightly lower than most hard winter wheat cultivars.

Funk Seeds International will be the sole source of registered seed of W-335. U.S. Variety Protection has been applied for.

REGISTRATION OF W-335 WHEAT

L. G. Campbell, K. E. Miskon, and M. L. Kiesewetter

'W-335' hard red winter wheat (*Triticum aestivum* L. em. Thell.), CI 17350, was developed by Funk Seeds International, a company of Ciba-Geigy Corp., and released in 1975. W-335 was selected from a composite cross obtained from Colorado State Univ. One hundred and eleven heads were selected from *F₂* plants in 1968. These were observed in head rows in 1969 and in single