REGISTRATION OF TIOGA WHEAT
(Reg. No. 568)

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 F4 derived F3 bulk in 1966 from the cross 'Fortuna'/S6285. S6285 is a selection from the cross ND4/'Rescue'/II5017/513349 and includes the cultivars 'Thatcher', 'Kenya Farmer 338A', 'Rescue', 'Chinook', 'Frontana', 'Kenya 58', and 'Newthatch' 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, obtuse, 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; cheeks are angular; the brush is large and midlong.

Tioga is superior to the sawfly-resistant cultivar, Fortuna, in resistance to physiological black chaff, 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. 13.7), 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 15B 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 Desm.) and to certain leaf spot diseases such as *Pyrenophora* sp. Tioga is recommended for those areas where stem and leaf rust are not a problem.

The milling and baking quality of Tioga is satisfactory. It is slightly lower 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 external and internal loaf characteristics. It is equal to the 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
(Reg. No. 570)

E. L. Smith, L. H. Edwards, H. Pass, H. C. Young, Jr., and D. C. Abbott

'OSAGE,' CI 17292, is a hard red winter wheat (*Triticum aestivum* L. em. Thell.) which is an F2 derived line from 5*Scout*/'Agent' backcross population. It was released jointly by the Oklahoma and Texas Agric. Exp. Stns. in 1974. Seeds from 5*Scout*/Agent F3 plants were the Colorado Agric. Exp. Stn. in the fall of 1966, screened for leaf rust (*Puccinia recondita* reaction house at Stillwater, Okla., and F3 progenies of 5*Scout*/Agent were restested to identify lines homozygous for the best of leaf rust resistance. Selection for agronomic performance among lines grown in observation nurseries in 1968 and several lines, including OK696731, were advanced to replicated performance trials in 1970. OK696731 was released jointly by the Southern Regional Performance Nursery in 1970.

Osage is a hard red winter wheat. It is midtall to tall and medium to medium late in maturity. It matures 3 to 4 days later than 'Scout 66.' The stem is white to yellow at the base, the spike is awned, fusiform, middense, and inclined; the beaks are glabrous, white, midlong, and narrow; the florets are narrow and oblique; the awns are narrow, acuminate, from 1.5 to 4.0 mm in length, the awns are white; the germ is small to midsized; the crease is straight and middeep; the cheeks are rounded and midlong.

Osage is similar to Scout 66 in plant height, straw strength, test weight, and flour yield is slightly lower than most hard winter wheat cultivars.