flavor, and filling value of the Flue-Cured Tobacco Quality Committee-Varieties.

The high yield of good quality tobacco together with high disease resistance and high usability should make NC 60 adaptable to a wide portion of the flue-cured tobacco growing region. Breeder seed of NC 60 will be maintained at the Oxford Tobacco Research Laboratory. Foundation seed will be distributed by the North Carolina Foundation Seed Producers, Inc., Raleigh, NC 27650.

G. R. Gwynn (3)

References and Notes

REGISTRATION OF ‘CREE’ WHEAT

‘Cree’, PI 491532, is a hard red winter wheat (Triticum aestivum L.) (Reg. no. 712) developed cooperatively by the Montana Agricultural Experiment Station and USDA-ARS and approved for release in March 1982. Cree was tested as MT 77063 in Montana trials from 1979 through 1981 and in regional trials in 1981 and 1982. Cree was selected as a shatter resistant backcross derived F3 line at Montana State University, Bozeman. The pedigree is MT 7302/4‘Cheyenne’. MT 7302 is a stiff-strawed, shatter resistant, semidwarf with awned brown spikes selected from ‘Norin 10’/‘Brevor’/14/3*‘Yogo’. Following each backcross, F3 progeny from shatter resistant F3 plants were used in additional backcrosses with the recurrent parent Cheyenne.

Cree has awned, fusiform, upright spikes. The brown glumes are glabrous, shoulder midwide to wide, oblique to elevated, and beaks are acute. Kernels are red, midlong, elongate with small embryos, narrow creases, cheeks rounded to angular with midsize brush. The spike is awned, middense, fusiform, and upright. The glumes are white and glaucous, shoulders are midwide and oblique, and beaks are acute. The kernels are red, midlong, and elongate with small embryos, narrow creases, rounded to angular cheeks, and prominent brushes. Cree is very shatter resistant. The brown glumes will help producers differentiate it from the shatter susceptible recurrent parent Cheyenne, which Cree is intended to replace. Although the heading date, winterhardiness, and height of Cree are similar to Cheyenne, it outyields Cheyenne by 2 to 5%.

The milling and baking quality, test weight, grain protein, and flour protein percentage are similar to Cheyenne and satisfactory.

Foundation seed of Cree was first released to seed growers in the fall of 1983 and contained a small percentage of white glumed variant types. A subsequent lot of breeder seed was established in an effort to eliminate these variants. Breeder and foundation seed will be maintained by the Montana Agricultural Experiment Station, Bozeman, MT 59717.

G. A. Taylor (1)

References and Notes

REGISTRATION OF ‘NORWIN’ WHEAT

‘Norwin’, PI 491533, is a hard red winter wheat (Triticum aestivum L.) (Reg. no. 713) developed cooperatively by the Montana Agricultural Experiment Station and USDA-ARS and approved for release in December 1984. Norwin was tested as MT 7877 in Montana trials from 1980 through 1983 and in regional trials in 1982 and 1983. It was selected as a semidwarf, stiff-strawed, shatter resistant F3-derived F3 line at Montana State University, Bozeman. The pedigree is ‘Froid’/‘Winoka’/MT6928/‘Trader’. Norwin and Trader are tall, stem rust (caused by Puccinia graminis Pers. f. sp. tritici Eriks. and Henn.) resistant winter wheat. Froid and Winoka are more winter hardy than Trader and MT 6928. Selection MT 6928 is TX 65A1508/Westmont, a semidwarf, shatter resistant line with good yielding ability in low winter stress environments.

Norwin is the first semidwarf red winter wheat cultivar adapted to Montana that combines high winterhardiness, high yield potential, and acceptable milling and baking quality.

The winterhardiness of Norwin is at least equal to ‘Winalta’, ‘Roughrider’, and Froid, three winter-hardy wheat cultivars currently recommended in Montana. Norwin’s seedling characteristics of very narrow, dark green leaves and prostrate growth habit are associated with winterhardiness in wheat (1).

The average yield of Norwin in 1980 through 1982 Montana trials was 10, 15, and 27% higher than Winalta, Roughrider, and Froid, respectively. Norwin is about 27 cm shorter than the above three cultivars, and has a heading date similar to them. Norwin is lodging and shatter resistant. The milling and baking quality of Norwin is satisfactory. Under high yield conditions, adequate soil fertility is necessary for maintenance of satisfactory grain and flour protein percentage. In 1980 through 1982 Montana trials, the flour yields of Norwin averaged 3% more than Winalta and 4% more than Roughrider and Froid.

The spike is awned, middense, fusiform, and upright. The glumes are white and glaucous, shoulders are midwide and oblique, and beaks are acute. The kernels are hard red, midlong, and elongate with small embryos, narrow creases, rounded to angular cheeks, and prominent brushes. Norwin has shown field resistance to prevalent races of stem rust, stripe rust (caused by Puccinia striiformis West.), and tan spot (caused by Pyrenophora tritici-repentis (Died.) Drechs). It is susceptible to bacterial leaf spot (caused by Pseudomonas syringae Van Hall).

Foundation seed of Norwin was distributed to seed growers in the fall of 1985. Breeder and foundation seed will be maintained by the Montana Agricultural Experiment Station, Bozeman, MT 59717.