Registration of ‘Yellowstone’ Wheat


Yellowstone (Reg. No. CV-1012, PI 643428) hard red winter wheat (Triticum aestivum L.) was developed by the Montana Agricultural Experiment Station and released in September 2005. Yellowstone was released for its high yield potential and broad adaptation to Montana winter wheat production environments. Yellowstone was named in commemoration of the 200th anniversary of the Lewis and Clark expedition. William Clark explored the Yellowstone River of Montana, spanning the state from the continental divide near Yellowstone Park to its confluence with the Missouri River in western North Dakota, in 1806, during the return voyage of the Lewis and Clark expedition.

Yellowstone was selected from a composite of F2 seed from two closely related populations: ‘Promontory’ (PI 555458; Hole et al., 1995)/‘Judith’ (PI 584526; Taylor et al., 1995) and Judith-dwarf/Promontory. The initial crosses were made in 1993, the F1 populations were grown in the field during 1994, and the composite F2 spaced-plant population was grown at Fort Ellis, MT, in 1995. The F3 bulk population was planted at Sidney, MT, in 1996. Winter survival of F3 populations was extremely low, and only seven plants were harvested from the composite bulk population.

In 1997 the seven F3 plants were grown in bulk and 93X542c-C6 was selected based on visual criteria for uniformity, productivity, and acceptable agronomics in bulk after reselection of seven individual plants. An F3 reselection headrow, 93X542c-C6-6, was grown in bulk. 93X542c-C6-6 was subsequently tested in the 1999 Single Rep Observed (SROB) grown at Bozeman and Fort Ellis. In 2000, 93X542c-C6 was assigned experimental number MT00159 and subsequently named Yellowstone in 2006.

Yellowstone is an awned, white-chaffed, intermediate height hard red winter wheat with good hardness and high yield potential in Montana. Medium maturity, 165.0 d to heading from 1 January (LSD0.05 = 0.7d) from Promontory (163.6d). Yellowstone is 80% for Yellowstone compared with CDC Falcon (76 cm), Pryor (84 cm), and similar to Promontory, Pryor, and CDC Falcon. Yellowstone has excellent straw strength and lodging only under irrigated, high-yield management. Winter survival in 10 trials showing differences in 60% for Yellowstone compared with CDC Falcon (8%), Pryor (55%), Neeley (55%), and Promontory (55%).

Yellowstone is susceptible to stem rust (caused by Puccinia graminis Westend. f. sp. tritici). It was highly resistant (infection type 2 on a 0–9 scale and 5% severity) at Mount Vernon, MT 59901; Y. Jin, USDA-ARS, Cereal Disease Lab., 1551 Lindig St., Pullman, WA 99164-6430. Registration by CSSA. Received 12 Dec. 2006. *Corresponding author (bruckner@montana.edu).