WASHINGTON AGRICULTURAL RESEARCH CENTER
Washington State University
Pullman, Washington

and

IDAHO AGRICULTURAL EXPERIMENT STATION
University of Idaho
Moscow, Idaho

and

OREGON AGRICULTURAL EXPERIMENT STATION
Oregon State University
Corvallis, Oregon

and

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service
Washington, D. C.

RELEASE OF SPILLMAN (PI506350) SPRING WHEAT

Washington State University, the Idaho Agricultural Experiment Station, the Oregon State Agricultural Experiment Station, and the United States Department of Agriculture Research Service announce the release of Spillman hard red spring wheat. Spillman was developed by Washington State University with the cooperation of the Idaho and Oregon Agricultural Experiment Stations and the United States Department of Agriculture Agricultural Research Service. The purpose of the release is to provide growers with a high yielding, semidwarf hard red spring wheat having the genetic capacity for increased grain protein production. Spillman is the first hard red spring wheat to have the combined potentials for high grain protein production and yield equivalent to the currently higher yielding, but lower grain protein-producing hard red spring wheat cultivars.

Spillman, tested as K790727, and WA7075, was derived from an F_5 line of the cross K73579/Borah. The cross was made in 1973 by C. F. Konzak at Pullman, Washington, and selected following a modified bulk-pedigree selection scheme. Its parent, K73579, was an F_1 hybrid M6810256/WA5938. M6810256 was a selection with the parentage Sonora 64//Tezanos Pintos Precos/Yaqui 54/3/Sonora 64/Yaqui 50 dwarf//Gaboto obtained from plot No. 256 of the CIMMYT International Bread Wheat Screening Nursery. WA5938 was an F_4-derived line from the cross NS3880-277/CI13438(WA Sel 101) made in 1951 by W. L. Nelson at the Washington State University Dry Land Research Unit near Lind, Washington. NS3880-277 = Lee/CI12440, a hard red spring wheat line from North Dakota State University, selected from the USDA cooperative Uniform Regional Spring Wheat Nursery.

Spillman was entered into Washington State trials in 1981, in the Tri-State Spring Wheat Regional Nursery in 1983, and in the Western Regional Spring Wheat Nursery in 1984 to 1986. Sel. No. 277 was a line selection made at Washington State University.

Spillman is a white-glumed, awned, semidwarf variety. It has early-intermediate maturity, heading 1-2 days earlier than Wampum and McKay. It is similar in height to McKay, but 10-15 cm shorter than Wampum. A low frequency of slightly taller variants may be present in the population. Its resistance to lodging is better than Wampum, but similar to that of McKay. The test weight of Spillman grain averages about 1.3 kg/hl (1 lb/bu) lower than that of Wampum and McKay. Its 4-year (1983-87) yield averages across Washington test locations have been equal or not statistically different from those of Wampum and McKay. In 1987, much as in prior years, its yield/grain protein content relationships were: 1769/17.3, 6.478/14.0, 7.063/14.4 (T ha/% protein) compared to 1.876/15.6, 6.862/13.0, and 7.669/13.7 for Wampum, and 1.554/16.0, 6.929/13.0, and 6.929/13.5 for McKay at Lind, Pullman, and Royal Slope, respectively. Spillman has been resistant to local forms of stripe rust, leaf rust and stem rust, and to powdery mildew. However, it is susceptible to some forms of leaf and stem rust present in Minnesota and other areas of the Midwest United States. Its stripe rust resistance appears to be genetically different from that of Wampum and of a higher type than that of McKay. Spillman is susceptible to the hessian fly. It is susceptible to some forms of common bunt, thus seed protectants should be used to prevent this disease. The milling and bread-baking quality properties of Spillman have been found to be satisfactory in cooperative evaluations over five years of testing by the USDA Western Regional Quality Laboratory, Pullman, Washington.

Seed classes of Spillman will be breeder, foundation, registered, and certified. These seed classes will be produced by the Washington State Crop Improvement Association, N. 513 Front St., Yakima, WA 98901. Seed may be obtained by writing to the Washington State Crop Improvement Association, Pullman, WA 99164.

The proposed release date will be January 1, 1989.