

IDAHO AGRICULTURAL EXPERIMENT STATION  
University of Idaho  
Moscow, ID

2-1-2

and

WASHINGTON AGRICULTURAL RESEARCH CENTER  
Washington State University  
Pullman, WA

and

OREGON AGRICULTURAL EXPERIMENT STATION  
Oregon State University  
Corvallis, Oregon

and

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

RELEASE OF CENTENNIAL (PI ) SPRING WHEAT

University of Idaho, the Washington Agricultural Research Center, the Oregon Agricultural Experiment Station, and the United States Department of Agriculture Research Service announce the release of Centennial soft white spring wheat. Centennial was developed by the University of Idaho in cooperation with the United States Department of Agriculture Research Service and Oregon and Washington Agricultural Experiment Stations. Centennial is a high test weight, early maturity wheat, with superior yields in high elevation growing conditions under both irrigation and rain-fed management, and excellent agronomic type and grain quality for most Pacific Northwest conditions.

Centennial was derived from the backcross of Sterling to the F<sub>1</sub>, Cowbird(S)/Sterling, to incorporate stripe rust (causal organism *Puccinia striiformis*) resistance and stiff straw into the Sterling background. Centennial was selected as the F<sub>3</sub> head selection A803S-B-6, which was increased and tested in the Aberdeen Spring Wheat testing program. The selection A803S-B-6 was designated ID0312 when entered into the Tri-state Spring Wheat Trial in 1985. Centennial was tested as ID0312 in the Western Regional Spring Wheat Trial from 1986 to 1988. Head selections of Centennial were re-selected in the greenhouse during winter 1987-88 for uniform auricle color and resistance to stripe rust. Headrows and breeders seed plots derived from the winter greenhouse selections were re-selected for uniform agronomic and seed type in 1988 at Aberdeen, ID and 1989 at Tetonia, ID.

Centennial is a semi-dwarf wheat equal in height to Penawawa under irrigation and 5 to 10 cm taller than Penawawa under dryland conditions at Tetonia. Centennial has pubescent, purple auricles; semi-erect, short flag leaves and dark green plant color at heading. Centennial has

short, ovate, awned heads; anthers are yellow, lacking purple pigmentation; glumes are non-pubescent and non-waxy; chaff color is whitish-yellow at maturity. Centennial is earlier heading than current soft white spring wheats grown in southeastern Idaho, 3 and 6 days earlier than Penawawa at Aberdeen and Teton, respectively. Lodging resistance of Centennial is superior to Treasure and comparable to Penawawa. Centennial had the highest and the second highest average yield across all locations in the Western Regional Spring Wheat Nursery in 1988 and 1986, respectively. Yields of Centennial are comparable to Fieldwin at lower elevations in southeastern Idaho, comparable to best current cultivars at high elevations on dryland, and 8% superior to Treasure, Penawawa, and Wakanz under irrigation at high elevation. Centennial has the highest average test weight of current soft white spring cultivars in southeastern Idaho growing conditions, 1% higher than Owens and 3% higher than Penawawa. The flour protein, ash content and milling percentage of Centennial is intermediate between Treasure and Penawawa. Centennial's soft wheat quality was rated as promising by the Western Region Wheat Quality Laboratory during testing in the Western Regional Spring Wheat Nursery. Centennial is resistant to stripe rust, susceptible to stem rust (causal organism *Puccinia graminis*), and moderately susceptible to black chaff (causal organism *Xanthomonas campestris* pv. *undulata*).

Breeder and foundation seed of Centennial will be maintained by the Idaho Agricultural Experiment Station. Seed may be obtained by writing C.T. Liu, IAES, University of Idaho, Moscow, ID 83843. Foundation and registered seed will be available from the Idaho, Oregon, and Washington Crop Improvement Associations. The U.S. Department of Agriculture will have no seed for distribution. The proposed release date for publicity shall be on the date of final signature of the release notice.

\_\_\_\_\_  
 Director  
 Idaho Agricultural Experiment Station  
 University of Idaho  
 Moscow, Idaho 83843

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Director  
 Washington Agricultural Research Center  
 Washington State University  
 Pullman, Washington

\_\_\_\_\_  
 Date

\_\_\_\_\_  
 Director  
 Oregon Agricultural Experiment Station  
 Oregon State University  
 Corvallis Oregon

\_\_\_\_\_  
 Date