

United States Department of Agriculture  
Agricultural Research Service  
Washington, D.C.

and

Washington Agricultural Research Center  
Washington State University  
Pullman, Washington

and

Oregon Agricultural Experiment Station  
Oregon State University  
Corvallis, Oregon

and

Idaho Agricultural Experiment Station  
University of Idaho  
Moscow, Idaho

RELEASE OF CODA (PI594372) A SOFT WHITE CLUB  
WINTER WHEAT VARIETY

The Agricultural Research Service, U.S. Department of Agriculture, the Washington Agricultural Research Center, Idaho Agricultural Experiment Station, and the Oregon Agricultural Experiment Station announce the joint release of 'Coda' a soft-white winter (SWW) club wheat variety. Coda was developed by R.E. Allan, Collaborating Geneticist, USDA-ARS, in cooperation with the Federal-State research programs at Pullman, Washington. Coda is being released to provide Pacific Northwest growers the option of producing SWW club variety that has resistance to strawbreaker foot rot, high yield potential, and satisfactory milling and baking quality.

Coda (WA7752, ARS9131) was derived from a  $F_2:F_6$  line of the cross Tres//Madsen/Tres in 1991. This line was heterogeneous for resistance to strawbreaker foot rot. Four  $F_6:F_{10}$  lines homozygous for the *Pch1* gene for resistance to foot rot were blended equally to constitute breeder seed. Coda is a one-gene, semidwarf with elliptical to dense awned, white glumed spikes with kernels that are white, short, soft,

ovate, germ small; crease midwide; cheeks rounded; brush midshort to short. Grain samples of Coda consistently grade as white club by Federal Grain Inspectors.

Coda has race specific resistance to several biotypes of the stripe rust fungus. It is heterogeneous for adult plant nonspecific resistance. Coda rates intermediate for field resistance to powdery mildew, leaf rust and for tolerance to physiologic leaf spot. Coda has medium tolerance to *Cephalosporium* stripe exceeding other currently grown club wheat varieties. It is moderately susceptible to common bunt and *Septoria* leaf blotch but susceptible to dwarf bunt and stem rust.

The grain yields of Coda have usually equaled or exceeded other semidwarf club wheat varieties. In 55 tests in Washington, Coda exceeded the yield of Hiller (2 percent), Hyak (3 percent), Rely (11 percent), Rohde (11 percent), and Tres (15 percent). In tests where strawbreaker reduced yields Coda exceeded the yields of Hiller, Rohde, Rely, and Tres by 23 to 34 percent. In 34 regional tests at 10 sites in Idaho, Montana, Oregon and Washington Coda has equaled or exceeded the yield of Tres, Moro and Stephens at all sites and equaled or exceeded the yields of Hiller at 8 sites.

Coda has a mean grain volume weight slightly less than Rohde and 10 to 30 grams per liter heavier than Tres, Rely and Moro. It is similar to Tres for plant height having straw strength and lodging vulnerability similar to Rely. Coda is more prone to lodging than Hyak and Rohde. Field tests suggest coldhardiness of Coda is similar to Rely. In artificial freeze tests, it is similar to Rohde but hardier than Stephens. Emergence of Coda is similar to most other semidwarf club varieties; it is superior to Hiller.

Extensive quality tests by the USDA-ARS Western Wheat Quality Lab indicated that overall milling performance of Coda is similar or better than existing club varieties. Flour viscosity, mixograph water absorption, cookie diameter and sponge cake quality are all better than or equal to one or more of the existing club wheat varieties. Coda has the optimal high molecular weight glutenin subunits desired in club wheat at each of the three Glu-1 loci.

Coda is adapted to areas of northwestern USA where semidwarf club wheat varieties can be grown.

Breeder and foundation seed of Coda will be maintained by the Washington State Crop Improvement Association under supervision of the Department of Crop and Soil Sciences, Washington State Agricultural Research Center. The proposed release date for publicity shall be on the date of final signature of the release notice. Genetic

material of this release will be deposited in the National Plant Germplasm System where it will be available for research purposes, including development and commercialization of new varieties.

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