

**UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE**

in cooperation with

STATE AGRICULTURAL EXPERIMENT STATIONS

**Report on Hard Red Spring Wheat Varieties Grown in Cooperative Plot and
Nursery Experiments in the Spring Wheat Region in 2008**

Hard Spring Wheat Nursery Coordinator:
D.F. Garvin, Research Geneticist, USDA-ARS

Report prepared by D.F. Garvin and Z. Blankenheim

This is a joint progress report of cooperative investigations underway in the State Agricultural Experiment Stations and the Agricultural Research Service of the U.S. Department of Agriculture. It contains preliminary data which have not been sufficiently confirmed to justify general release, and interpretations may be modified after additional experimentation. Confirmed results will be published through established channels. This report is primarily a tool for use by cooperators and their official staffs, and for those persons having direct and special interest in the development of agricultural research programs.

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2008 HARD RED SPRING WHEAT UNIFORM REGIONAL NURSERY REPORT

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COOPERATING AGENCIES, STATIONS, AND PERSONNEL FOR THE 2008 HRSWURN

USDA-AGRICULTURAL RESEARCH SERVICE

National Program Leader

K. Simmons

Midwest Area Director

L. Chandler

Nursery Coordinator

Plant Science Research Unit, St. Paul, MN

D.F. Garvin

Quality Investigations

Cereal Crops Research Unit, Fargo, ND

G. Hareland

Disease Evaluations

Cereal Disease Laboratory, St. Paul, MN

J. Kolmer

Y. Jin

Wheat Genetics, Physiology, Quality, and Disease
Research Unit, Pullman, WA

X. Chen

MINNESOTA AGRICULTURAL EXPERIMENT STATION

St. Paul, University of Minnesota

Agronomy and Plant Genetics

J. Anderson

G. Linkert

Plant Pathology

R. Dill-Macky

Morris, West Central Experiment Station

G. Nelson

Crookston, Northwestern Experiment Station

J. Wiersma

AGRICULTURE AND AGRI-FOOD CANADA

Winnipeg, Cereal Research Centre (Glenlea)

Breeding and Genetics

G. Humphreys

Cereal Diseases

T. Fetch

Swift Current, Semi-arid Prairie Agricultural Research Centre

B. McCallum

R. DePauw

D. Dahlman

NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION

Fargo, North Dakota State University

Plant Sciences

M. Mergoum

Hettinger Research Extension Center

E. Eriksmoen

Langdon Research Extension Center

B. Hanson

Williston Research Extension Center

N. Riveland

Carrington Research Extension Center

B. Schatz

SOUTH DAKOTA AGRICULTURAL EXPERIMENT STATION

Brookings, South Dakota State University

K. Glover

MONTANA AGRICULTURAL EXPERIMENT STATION

Bozeman, Montana State University

Sidney, Eastern Ag Research Center

L. Talbert

S. Lanning

J. Eckhoff

D. Kunda

B. Garza

WYOMING AGRICULTURAL EXPERIMENT STATION

Powell, University of Wyoming

M. Killen

WASHINGTON AGRICULTURAL EXPERIMENT STATION

Pullman, Washington State University

G. Shelton

Entering Lines with Protected or Patented Genes into the Hard Red Spring Wheat Uniform Regional Nursery

The following information details the Hard Winter Wheat Regional Program position on this issue. Basically, the same situation exists in the Spring Wheat Region, and it is therefore suggested that these guidelines are appropriate and thus accepted for the Hard Red Spring Wheat Uniform Regional Nursery as well, until such a time as the participants agree to deviate from it:

From: Robert Graybosch, Coordinator of Hard Winter Wheat Region

A question has arisen as to whether wheat germplasm lines carrying protected or patented genes may be entered in the HWW regional program. We have decided to allow such submissions, on a provisional basis, for the 2001 nurseries. Submissions must adhere to the provisions below, and submissions of such lines after the 2001 year will depend upon the adoption of formal guidelines. We are in the process of drafting a formal plan, hopefully one that will be approved at the 2001 Hard Winter Wheat Workers Conference.

Provisional plan for the submission of lines with patented or protected genes:

Definition: "protected" gene = a gene whose use is restricted by patents, Material Transfer Agreements, or other types of research agreements.

Wheat lines carrying such traits may be entered in the 2001 HWW Regional nurseries (RGON, SRPN, NRPN) under the following conditions:

1. Cooperators may cross with the line in question. Thereafter, the cooperator making such crosses must either have their own research agreement with the trait owner, or, if such an agreement is lacking, they must remove the trait from breeding populations by selection.
2. The owner of the trait has been informed of the submission, and that they agree to the conditions set forth in #1.
3. All other uses of the line are governed by the Wheat Workers Code of Ethics.
4. The trait may not have been inserted into the wheat genome by genetic engineering. In other words, the wheat line in question may not be transgenic.

At this point in time, transgenics may not be entered in the program. I am certain this question will arise in the near future, so I have contacted USDA-APHIS regarding this point. If you are interested in the details, the attached file contains the pertinent points of our e-mail exchange (note by HRSW coordinator: this file is not included in this report). The APHIS responses are in bold. To make a long story short - transgenic wheat lines will be allowed in the regional program only if they have been granted permanent non-regulated status. Non-regulated status is granted only after the originator files a formal petition to de-regulate a line with APHIS.

Previous HRSWURN Entries Released as New Cultivars

Cultivar	Release	Experimental Designation	Year(s) Evaluated	Source
'Sabin'	2009	MN03358-4	2006, 2007	University of Minnesota
'Hat Trick'	2008	05M SP5	2006	Trigen Seed
'Albany'	2008	06MSP 18	2007, 2008	Trigen Seed
'Brick'	2008	SD3851	2006, 2007	South Dakota State University
'Pivot'	2009	CA904-741	2005	Westbred
'O'Neal'	2008	BZ999-592	2005	Westbred
'Kelse'	2008	WA007954	2008	Washington State University
'Jenna'	2009	00S0291-3	2007	AgriPro
'Brennan'	2009	01S0042-10	2007	Agripro

SPRING WHEAT PRODUCTION, 2008

SPRING WHEAT OTHER THAN DURUM Growers produced an estimated 547 million bushels of spring wheat. This production estimate is approximately 14 percent higher than year 2007 production. Yield averaged 40.5 bushels per acre, an increase of 3.5 bushels per acre from year 2007. Area harvested totaled approximately 13.5 million acres, which is 4.2% higher than the acreage harvested in 2007.

Spring Wheat Production Statistics, 2006-2008*

	Acres Harvested (x1000)			Production (x1000 Bushels)			Yield (Bushels/Acre)		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Minnesota	1,650	1,650	1,800	77,550	77,550	100,800	47	47	56
Montana	2,900	2,400	2,480	63,800	55,200	59,520	22	23	24
North Dakota	6,850	6,500	6,400	212,350	234,000	246,400	31	36	38.5
South Dakota	1,420	1,340	1,520	42,600	52,260	68,400	30	39	45
USA	13,878	12,947	13,487	460,480	479,047	546,744	33.2	37	40.5

* Source: National Agricultural Statistics Service: (http://www.nass.usda.gov/QuickStats/PullData_US.jsp) on 12-26-08.

2008 NURSERY DESCRIPTION AND SUMMARY

The Hard Red Spring Wheat Uniform Regional Nursery (HRSWURN) was planted for the 80th year in 2008. The nursery contained 37 entries submitted by 13 different scientific or industry breeding programs, and 5 checks (Table 1). Trials were conducted as randomized complete blocks with three replicates except where noted. The HRSWURN was planted at 18 locations in 6 different states in the USA (MN, ND, SD, MT, WY, and WA), and two Canadian provinces (Manitoba and Saskatchewan). 16 locations provided data included in this report (Figure 1, Table 2). Data summaries for each of these locations are presented in Tables 3 through 18. For each location summary, entries are listed in descending order of yield. Overall means across locations for a set of core traits are summarized in Table 19, and yield rankings for individual locations are found in Table 20. Two-year means for entries entered previously in the 2007 HRSWURN are presented in Table 21. Entries were also evaluated for various diseases at different locations; these can be found by looking at individual location data summaries. Seedling and adult plant leaf rust resistance was evaluated in St. Paul, MN, and stripe rust evaluations were completed at three field locations in WA. These rust data are presented in Tables 22 and 23 respectively. Lastly, entries were evaluated in a *Fusarium* head blight nurseries at Crookston and St. Paul, MN; these results are provided in Tables 24 and 25. The highest average yielding location was Powell, WY with 106.1 Bu/Ac, while the lowest yielding location was Williston, ND with 31.1 Bu/Ac. The average yield for 16 combined locations where the nursery was replicated was 63.6 Bu/Ac.

