A3868

Wisconsin winter wheat performance tests

2008

Shawn Conley, Paul Esker, Mark Martinka, and John Gaska

The Wisconsin Winter Wheat Performance Tests are conducted each year to give growers information to select the best-performing varieties that will satisfy their specific goals. The performance tests are conducted at four locations in Wisconsin: Janesville, Arlington, Lancaster, and Chilton. Trials include released varieties, experimental lines from neighboring states, and lines from private seed companies. The primary objective of these trials is to quantify how varieties perform at different locations and across years. Growers can use this data to help select which varieties to plant; breeders use performance data to determine whether to release a new variety.

YEAR IN REVIEW

Growing conditions

Wisconsin saw a record number of winter wheat acres planted (350,000) in the 2008 growing season, up from the 290,000 planted the previous year. The estimated yield for the 2008 crop is 68 bu/a, down 1.5% from last year. Good soil moisture conditions and favorable temperatures in September and October of 2007 allowed for timely establishment of the wheat crop. Although winterkill due to cold temperature was not prevalent, ice damage due to record snowfall did cause significant injury to some low-lying fields. Spring growing conditions were mostly favorable across the state; however, acres were lost due to extreme rainfall and subsequent flooding across much of the southern part of the state in early June. Cooler-than-normal temperatures in May, June, and July delayed crop maturity, but they also extended the grain fill period for winter wheat. An increase in acres harvested for grain resulted in an estimated record production at 22.4 million bushels, a jump of 20% over the 2007 production of 18.6 million bushels.

Winter wheat yields were variable across our testing locations due to variable rainfalls and disease pressure. Wheat yield at the Lancaster location (66 bu/a test average) was lower than expected due to significantly greater-than-normal rainfall and heavy disease pressure. Wheat yields at Janesville and Chilton averaged 78 and 89 bu/a, respectively. The Arlington site was abandoned due to ice sheeting that caused significant stand loss.

Source: USDA National Agricultural Statistics Service (www.nass.usda.gov)

Table 1. Location and agronomics of winter wheat performance tests in Wisconsin

Location	Cooperators	Soil type	Row spacing	Avg. nitrogen applied	Date planted	Date harvested
			(inches)	(lb/a)	(2007)	(2008)
Arlington[a]	M. Martinka, J. Gaska	silt loam	7.5	70	Sept. 27	—
Chilton	Kolbe Seeds, B. Larson	red clay	7.5	70	Sept. 24	July 28
Janesville	Rock Co. Farm, J. Stute	silt loam	7.5	70	Oct. 12	July 26
Lancaster	T. Wood	silt loam	7.5	20[b]	Sept. 27	July 25

[a] *Site abandoned due to severe stand loss caused by ice sheeting.*
[b] *Nitrogen credited from previous alfalfa.*

Diseases

The Wisconsin Department of Agriculture, Trade, and Consumer Protection conducted surveys between May 5 and June 19 around the state and documented the following diseases: Ascochyta blight, Fusarium head blight, leaf rust, loose smut, powdery mildew, Pseudomonas leaf blight, Septoria leaf blotch complex, sooty mold, and tan spot. Disease levels were considered low and variable. In the trial plots, powdery mildew and Septoria leaf blotch complex were the predominant diseases; however, Fusarium head blight (head scab), leaf rust, stripe rust, and stem rust were noted in some locations (tables 5–7). There were reports at harvest that some fields had head scab levels testing higher than 2.0 ppm for DON, a vomitoxin, leading to grain dockage.

USING THIS DATA TO SELECT TOP-YIELDING VARIETIES

As with any crop, variety selection is the most important factor to consider in maximizing winter wheat yield and profitability. When choosing a winter wheat variety, several factors must be considered. These include winter survival, insect and disease resistance, heading date, lodging, test weight, and most importantly, yield. Since no variety is ideal for every location, it is important to understand the crop environment and pest complex that affects your specific region to maximize yield.

Yield is based on the genetic potential and environmental conditions in which the crop is grown. Therefore, by diversifying the genetic pool that is planted, a grower can hedge against crop failure. Select those varieties that perform well not only in your area but across experimental sites and years. This will increase the likelihood that, given next year's environment (which you cannot control), the variety you selected will perform well. (Table 4 gives an overview of yields across all locations.)

Test weight is also an important factor to consider when selecting a variety. The minimum test weight to be considered a U.S. #2 soft red winter wheat is 58 lb/bu. Wheat at lower test weights will be discounted. Both environment and pests may greatly affect test weight; therefore, selecting a variety that has a high test weight potential in your region is critical to maximize economic gain.

Select a variety that has the specific **insect and disease resistance** characteristics that fit your needs. By selecting varieties with the appropriate level of resistance, crop yield loss may be either reduced or avoided without the need of pesticides. (Refer to tables 5–7 for disease incidence data.)

EXPERIMENTAL PROCEDURES

AT PLANTING

Site details: Summarized in table 1.

Seedbed preparation: Conventional and conservation tillage methods.

Seeding rate: Seeded at 1.5 million viable seeds/a.

Seed treatments: Identified in table 3.

Planting: A grain drill with cone units was used to plant 9-row plots, 25-feet in length. Each variety was grown in at least three separate plots (replicates).

MIDSEASON

Diseases: Fusarium head blight (head scab) index was measured June 15. FHBI = (% incidence x % severity) ÷ 100. For other diseases, foliar assessments were made at all trial locations during June.

HARVEST

Yield: The center seven rows were harvested with a self-propelled combine. Plots were weighed and moisture was determined in the field using electronic equipment on the plot harvester. Reported as bu/a (assuming 60 lb/bu) at 13% moisture content.

Lodging: Scores are based on the Belgian Lodging System (0 = none, 9 = severe).

Test weight: Measured using a Dickey-john GAC2100 AGRI.

Crop height and **lodging potential** are also important varietal characteristics that may be affected by your cropping system. If the wheat crop is intended for grain only, it may be important to select a variety that is short in stature and has a low potential for lodging. This may decrease yield loss due to crop spoilage and harvest loss as well as increase harvest rate. However, if the wheat crop is to be used as silage or to be harvested as both grain and straw then selecting a taller variety may be warranted. (Tables 5–7 provide site-specific data on height and lodging potential.)

TESTING AGENCIES

The Wisconsin Winter Wheat Performance Tests were conducted by the Departments of Agronomy and Plant Pathology, College of Agricultural and Life Sciences and the University of Wisconsin-Extension in cooperation and with support from the Wisconsin Crop Improvement Association.

Table 2. Companies included in the 2008 performance tests

Brand	Company name	Phone	Web address
Agripro Coker	Agripro Coker	(765) 563-3111	www.agriprowheat.com
Diener	Biotown Seeds	(219) 984-5837	www.biotownseeds.com
DynaGro	UAP Great Lakes	(608) 846-1100	www.uap.com
Growmark	Growmark, Inc.	(309) 557-6399	www.fsseed.com
Jung	Jung Seed Genetics, Inc.	(920) 326-5891	www.jungseedgenetics.com
Kaltenberg	Kaltenberg Seeds	(800) 383-3276	www.kaltenbergseeds.com
Pioneer	Pioneer Hi-Bred International	(800) 851-9043	www.pioneer.com
PIP	Partners in Production	(608) 335-2112	
Pro Seed Genetics	Pro Seed Genetics	(920) 388-2824	
Public	WI Foundation Seeds	(608) 846-9761	
Public	WI Crop Improvement	(608) 262-0167	www.wisc.edu/wcia/
Seed-link	Seed-Link Inc.	(705) 324-0544	www.seed-link.ca
Welter	Welter Seed	(800) 728-8450	www.welterseed.com

Table 3. Wheat class and seed treatment(s) applied to entered varieties

Brand	Entry	Class[a]	Seed treatment
Public	Hopewell	SR	Raxil XT
Public	Kaskaskia	SR	Dividend Extreme
Public	Truman	SR	Raxil XT
Public	Sunburst	SR	Dividend Extreme
Public - exp	IL 01-11934	SR	Dividend Extreme
Public - exp	IL 02-23168	SR	Dividend Extreme
Public - exp	OH 02-7217	SR	Dividend Extreme
Public - exp	VA 03W-409	SR	Dividend Extreme
Public - exp	AR 97044-10-2	SR	Dividend Extreme
Agripro Coker	Branson	SR	Dividend Extreme; Cruiser
Agripro Coker	Cooper	SR	Dividend Extreme; Cruiser
Agripro Coker	W 1377	SR	Dividend Extreme; Cruiser
Diener	D 493 W	SR	Dividend Extreme
Diener	D 495 W	SR	Dividend Extreme
Diener	D 502 W	SR	Dividend Extreme
Diener	D 511 W	SR	Dividend Extreme
Diener	XW 70	SR	Dividend Extreme
Dyna-Gro	DG 404	SR	Raxil XT
Dyna-Gro	DG 410	SR	Raxil XT
Dyna-Gro	DG 421	SR	Raxil XT
Growmark	FS 628	SR	Dividend Extreme
Growmark	FS 637	SR	Dividend Extreme
Growmark	FS 8309	SR	Dividend Extreme
Growmark	FS W08-1	SR	Dividend Extreme
Jung	5804	SR	Raxil XT
Jung	5932	SR	Raxil XT
Jung	5988	SR	Raxil XT
Kaltenberg	KW 51	SR	Dividend Extreme
Kaltenberg	KW 55	SR	Dividend Extreme
Kaltenberg	KW 60	SR	Dividend Extreme
Kaltenberg	KW 62	SR	Dividend Extreme
Kaltenberg	KW 63	SR	Dividend Extreme
Kaltenberg	KW 66	SR	Dividend Extreme
Kaltenberg	KW 67	SR	Dividend Extreme
Kaltenberg	KW 68	SR	Dividend Extreme
Kaltenberg	KW 69	SR	Dividend Extreme
Kaltenberg	KW 70	SR	Dividend Extreme
Pioneer	25R47	SR	Dividend Extreme
Pioneer	25R51	SR	Dividend Extreme
Pioneer	25R56	SR	Dividend Extreme
Pioneer	25R62	SR	Dividend Extreme
PIP	701	SR	Charter
PIP	720	SR	Charter
PIP	721	SR	Charter
PIP	760	SR	Charter
Pro Seed Genetics	PRO 200	SR	Dividend Extreme
Pro Seed Genetics	PRO 220	SR	Dividend Extreme
Pro Seed Genetics	PRO 240	SR	Dividend Extreme
Pro Seed Genetics	PRO Ex260	SR	Dividend Extreme
Pro Seed Genetics	PRO Ex280	SR	Dividend Extreme
Seed-Link	ACS 55017	HR	Dividend Extreme
Welter	Excel 442	SR	Raxil XT; Cruiser

[a] *Class: SR = soft red winter wheat, HR = hard red winter wheat*

Table 4. COMBINED PERFORMANCE of winter wheat varieties in Wisconsin (2007–2008)

Brand	Entry	2008 means Yield	Test wt.	Ht.	Lodging[a]	Powdery mildew[b]	Janesville Yield	Janesville Test wt.	Lancaster Yield	Lancaster Test wt.	Chilton Yield	Chilton Test wt.	2-year mean yield
		(bu/a)	(lb/bu)	(in.)	(0–9)	(%)	(bu/a)	(lb/bu)	(bu/a)	(lb/bu)	(bu/a)	(lb/bu)	(bu/a)
Public	Hopewell	65	55.2	34	0	8	65	54.8	54	52.2	76	58.5	71
	Kaskaskia	72	58.5	37	2	47	85	58.7	63	56.9	69	60.0	75
	Truman[c]	69	56.9	32	1	35	69	56.2	55	54.5	84	59.9	78
	Sunburst	*81	59.7	31	0	0	77	59.2	69	57.1	*96	62.7	
Public - exp	IL 01-11934	*83	58.1	33	1	3	88	57.3	70	56.7	92	60.1	
	IL 02-23168	*79	58.7	34	3	20	77	57.9	68	57.4	92	60.7	
	OH 02-7217	69	56.2	36	0	4	66	55.6	63	54.0	77	59.2	
	VA 03W-409	74	55.4	29	0	2	73	54.7	65	53.2	85	58.5	78
	AR 97044-10-2	71	56.5	36	1	38	71	55.9	60	54.5	82	59.1	
Agripro Coker	Branson	*83	56.4	33	1	1	80	55.7	70	54.9	*98	58.6	82
	Cooper	*81	56.7	33	0	14	74	56.0	*75	54.6	95	59.5	
	W 1377	77	58.8	36	2	30	72	57.5	65	57.5	94	61.5	81
Diener	D 493 W	69	54.0	35	1	29	57	50.9	60	52.6	90	58.4	75
	D 495 W	78	58.2	33	2	12	80	58.0	69	56.4	84	60.3	
	D 502 W	*82	55.8	37	2	18	81	55.1	65	53.2	*100	59.0	80
	D 511 W	73	55.8	32	1	10	67	55.0	70	53.4	82	59.0	
	XW 70	*81	58.4	34	1	10	82	58.2	67	56.9	93	60.0	
Dyna-Gro	DG 404	*79	56.1	36	1	30	76	54.8	59	54.1	*102	59.3	
	DG 410	77	57.3	38	2	38	85	56.9	71	55.9	76	59.2	76
	DG 421	*79	57.7	33	1	7	78	57.4	69	56.4	90	59.3	79
Growmark	FS 628	77	55.9	36	2	18	79	54.9	65	53.9	88	58.8	81
	FS 637	*81	56.8	34	0	19	70	54.7	68	55.2	*106	60.4	*84
	FS 8309	*79	57.3	35	1	21	82	55.9	66	56.1	89	60.0	82
	FS W08-1	77	55.8	33	3	26	72	54.4	63	53.7	*97	59.4	
Jung	5804	*81	58.3	33	2	7	84	57.9	67	56.4	93	60.7	80
	5932	77	56.4	32	2	17	78	55.1	65	54.9	88	59.2	79
	5988	*88	57.0	36	2	17	*98	57.0	62	54.5	*104	59.6	*85
Kaltenberg	KW 51	*80	58.1	34	2	9	84	58.0	67	55.8	88	60.5	77
	KW 55	75	56.8	37	1	39	72	55.9	63	55.1	89	59.5	77
	KW 60	*85	56.7	36	2	11	*98	56.9	63	54.5	93	58.8	*84
	KW 62	*79	55.7	38	1	16	79	55.4	60	52.6	*98	59.1	81
	KW 63	77	56.9	35	0	13	72	54.7	69	55.1	90	60.8	81
	KW 66	78	56.9	34	2	10	79	55.2	67	55.1	89	60.3	
	KW 67	*84	56.0	36	2	39	*94	55.4	70	53.9	87	58.6	
	KW 68	74	54.1	35	1	30	67	52.0	64	52.7	92	57.7	
	KW 69	75	57.2	34	3	21	80	57.3	61	53.9	84	60.3	
	KW 70	*81	57.1	32	1	11	85	56.7	69	55.8	88	58.9	
Pioneer	25R47	*86	56.2	33	0	17	87	54.6	72	55.0	*99	58.9	*89
	25R51	*88	56.3	34	0	24	88	55.4	*79	54.4	*96	59.1	*87
	25R56	*79	55.9	34	1	37	75	53.9	67	53.6	95	60.2	82
	25R62	*86	53.7	33	0	16	74	52.1	71	51.7	*112	57.3	
PIP	701	77	55.2	37	2	7	77	54.8	61	52.2	92	58.6	
	720	*80	56.2	35	0	11	71	54.2	*76	54.2	94	60.2	
	721	72	56.4	33	2	30	72	55.5	69	54.3	74	59.4	
	760	*85	57.0	35	3	13	*94	56.9	67	54.7	94	59.5	
Pro Seed Genetics	PRO 200	*79	58.0	35	3	15	84	57.2	62	55.8	91	61.0	80
	PRO 220	68	58.8	36	3	48	75	58.7	56	56.8	74	60.9	74
	PRO 240	77	56.4	37	1	22	74	54.8	66	55.8	92	58.8	81
	PRO Ex260	75	56.1	36	1	21	75	54.9	63	53.9	88	59.7	
	PRO Ex280	*79	58.8	34	1	17	86	58.4	68	57.1	84	61.0	
Seed-Link	ACS 55017	71	58.2	35	1	19	75	57.2	62	56.5	77	61.0	
Welter	Excel 442	*83	56.2	38	2	36	83	55.6	*73	54.4	92	58.8	
Mean		78	56.8	35	1	19	78	55.9	66	54.8	89	59.7	80
LSD(.10)[d]		9	1.1	2	1	20	8	0.7	6	1.2	16	1.1	6

**Varieties not significantly different (0.10 level) from the highest yielding cultivar.*

[a] *Lodging rankings are based on the Belgian Lodging System. Values are rounded to whole numbers (0 = none, 9 = severe).*

[b] *Incidence of powdery mildew (% plants infected at June disease assessment).*

[c] *Truman plots were reseeded at Lancaster and Chilton due to poor seed quality.*

[d] *The LSD (least significant difference) figures are a statistical measure of variation within the trial. If the differences between two varieties is equal to or greater than the LSD, then the values are significantly different. If the difference is less than the LSD, then the value difference may have been due to other factors.*

Table 5. JANESVILLE SITE—winter wheat performance details (2007–2008)

Brand	Entry	Yield	Test weight	Height	Lodging[a]	Sep-toria[b]	Powdery mildew[b]	Leaf rust[c] - F	Leaf rust[c] - F-1	2007 yield	2-yr mean yield
		(bu/a)	(lb/bu)	(in.)	(0–9)	(%)	(%)	(%)	(%)	(bu/a)	(bu/a)
Public	Hopewell	65	54.8	34	0	100	0	6	9	75	70
	Kaskaskia	85	58.7	37	3	83	18	0	0	74	80
	Truman	69	56.2	33	2	90	3	2	4	79	74
	Sunburst	77	59.2	30	0	78	0	0	0		
Public - exp	IL 01-11934	88	57.3	32	1	100	0	0	1		
	IL 02-23168	77	57.9	33	3	93	0	0	0		
	OH 02-7217	66	55.6	37	0	100	0	2	5		
	VA 03W-409	73	54.7	30	0	68	0	0	0	75	74
	AR 97044-10-2	71	55.9	36	1	80	0	1	2		
Agripro Coker	Branson	80	55.7	33	1	92	3	2	4	73	77
	Cooper	74	56.0	33	0	100	0	1	1		
	W 1377	72	57.5	34	1	68	0	4	7	*89	81
Diener	D 493 W	57	50.9	33	1	100	0	3	4	79	68
	D 495 W	80	58.0	34	3	100	0	5	6		
	D 502 W	81	55.1	35	2	95	0	4	5	77	79
	D 511 W	67	55.0	31	1	93	0	4	6		
	XW 70	82	58.2	34	1	83	0	0	0		
Dyna-Gro	DG 404	76	54.8	38	2	98	0	5	9		
	DG 410	85	56.9	39	3	93	3	4	4	75	80
	DG 421	78	57.4	33	1	90	0	2	3	69	74
Growmark	FS 628	79	54.9	37	3	88	0	5	5	77	78
	FS 637	70	54.7	34	1	100	0	4	7	78	74
	FS 8309	82	55.9	35	1	83	3	0	0	81	82
	FS W08-1	72	54.4	32	1	88	0	1	1		
Jung	5804	84	57.9	34	2	88	0	3	4	73	79
	5932	78	55.1	33	1	98	3	1	2	72	75
	5988	*98	57.0	33	3	93	0	1	2	77	*88
Kaltenberg	KW 51	84	58.0	35	3	100	0	5	7	73	79
	KW 55	72	55.9	39	1	93	3	3	4	72	72
	KW 60	*98	56.9	35	3	88	0	1	3	77	*88
	KW 62	79	55.4	38	1	100	0	3	4	76	78
	KW 63	72	54.7	36	0	95	0	11	13	81	77
	KW 66	79	55.2	32	3	100	0	3	8		
	KW 67	*94	55.4	36	2	90	3	3	3		
	KW 68	67	52.0	34	1	98	0	6	10		
	KW 69	80	57.3	34	3	88	5	2	3		
	KW 70	85	56.7	33	0	85	0	0	0		
Pioneer	25R47	87	54.6	34	0	83	0	1	1	*94	*91
	25R51	88	55.4	32	0	88	0	0	0	*87	*88
	25R56	75	53.9	34	0	95	5	0	1	80	78
	25R62	74	52.1	32	0	98	0	5	8		
PIP	701	77	54.8	37	1	98	0	3	5		
	720	71	54.2	35	0	88	0	4	5		
	721	72	55.5	33	2	95	0	0	2		
	760	*94	56.9	35	5	83	0	0	1		
Pro Seed Genetics	PRO 200	84	57.2	36	3	98	3	0	1	79	82
	PRO 220	75	58.7	37	3	95	13	2	2	81	78
	PRO 240	74	54.8	36	2	100	3	3	6	79	77
	PRO Ex260	75	54.9	35	2	85	0	1	2		
	PRO Ex280	86	58.4	35	1	83	0	0	0		
Seed-Link	ACS 55017	75	57.2	34	1	75	0	0	0		
Welter	Excel 442	83	55.6	38	1	90	0	1	2		
Mean		78	55.9	34	1	91	1	2	3	76	78
LSD(.10)[d]		8	0.7	2	1	16	6	3	4	8	7

** Varieties not significantly different (0.10 level) from the highest yielding cultivar.*

[a] *Lodging rankings are based on the Belgian Lodging System. Values are rounded to whole numbers (0 = none, 9 = severe).*

[b] *Disease incidence (% plants infected at June 25 disease assessment).*

[c] *Leaf rust severity (% leaf area covered at June 25 disease assessment): F = flag leaf, F-1 = leaf directly preceding flag leaf.*

[d] *The LSD (least significant difference) figures are a statistical measure of variation within the trial. If the differences between two varieties is equal to or greater than the LSD, then the values are significantly different. If the difference is less than the LSD, then the value difference may have been due to other factors.*

Table 6. LANCASTER SITE—winter wheat performance details (2007–2008)

Brand	Entry	Yield	Test weight	Height	Lodging[a]	Powdery mildew[b]	—Leaf rust[c]— F	F-1	Head scab[d]	2007 yield[e]	2-yr mean yield
		(bu/a)	(lb/bu)	(in.)	(0–9)	(%)	(%)	(%)	(0–100)	(bu/a)	(bu/a)
Public	Hopewell	54	52.2	36	0	0	3	7	2.3	76	65
	Kaskaskia	63	56.9	39	2	48	0	0	2.9	83	73
	Truman[f]	55	54.5	33	1	10	0	1	0.7	*96	76
	Sunburst	69	57.1	31	0	0	0	0	0.9		
Public - exp	IL 01-11934	70	56.7	34	2	3	1	2	0.6		
	IL 02-23168	68	57.4	35	3	3	0	0	1.3		
	OH 02-7217	63	54.0	38	1	0	9	14	3.2		
	VA 03W-409	65	53.2	31	0	3	0	0	3.0	*96	*81
	AR 97044-10-2	60	54.5	38	0	53	0	0	1.9		
Agripro Coker	Branson	70	54.9	33	2	0	0	0	2.1	*94	*82
	Cooper	*75	54.6	35	1	0	0	0	1.7		
	W 1377	65	57.5	38	1	8	0	0	2.5	*90	*78
Diener	D 493 W	60	52.6	37	1	13	0	0	4.3	*94	77
	D 495 W	69	56.4	35	3	3	0	0	1.2		
	D 502 W	65	53.2	39	2	5	0	0	3.0	*92	*79
	D 511 W	70	53.4	34	0	8	0	0	0.7		
	XW 70	67	56.9	37	1	0	0	0	1.7		
Dyna-Gro	DG 404	59	54.1	39	1	3	0	1	5.3		
	DG 410	71	55.9	38	1	25	0	0	2.8	81	76
	DG 421	69	56.4	37	2	5	0	1	1.5	*87	*78
Growmark	FS 628	65	53.9	38	2	0	1	2	6.7	*100	*83
	FS 637	68	55.2	36	1	5	0	0	3.8	*95	*82
	FS 8309	66	56.1	37	0	0	1	3	1.8	86	76
	FS W08-1	63	53.7	35	3	0	0	1	1.7		
Jung	5804	67	56.4	35	2	5	0	1	1.2	*90	*79
	5932	65	54.9	32	3	3	0	0	1.8	*91	*78
	5988	62	54.5	38	1	0	0	0	2.4	84	73
Kaltenberg	KW 51	67	55.8	37	2	5	0	0	1.5	86	77
	KW 55	63	55.1	38	1	15	1	1	1.7	*87	75
	KW 60	63	54.5	39	3	8	0	0	7.5	*91	77
	KW 62	60	52.6	39	2	5	0	1	2.9	*92	76
	KW 63	69	55.1	38	0	0	0	0	2.7	*95	*82
	KW 66	67	55.1	39	3	0	0	2	3.2		
	KW 67	70	53.9	40	2	33	0	1	1.7		
	KW 68	64	52.7	38	0	8	0	0	8.9		
	KW 69	61	53.9	35	3	20	2	3	1.5		
	KW 70	69	55.8	34	1	3	1	1	0.7		
Pioneer	25R47	72	55.0	35	0	0	0	0	2.1	*91	*82
	25R51	*79	54.4	36	1	10	0	0	2.1	*91	*85
	25R56	67	53.6	34	0	13	0	0	2.5	83	75
	25R62	71	51.7	36	0	8	0	2	1.6		
PIP	701	61	52.2	39	2	0	0	0	2.3		
	720	*76	54.2	37	1	0	0	0	3.9		
	721	69	54.3	34	2	23	0	0	1.4		
	760	67	54.7	38	2	0	0	0	1.5		
Pro Seed Genetics	PRO 200	62	55.8	36	3	13	0	0	1.8	86	74
	PRO 220	56	56.8	37	3	58	0	0	1.7	78	67
	PRO 240	66	55.8	40	1	0	1	2	3.4	*90	*78
	PRO Ex260	63	53.9	38	1	0	0	0	2.2		
	PRO Ex280	68	57.1	37	0	0	0	0	1.4		
Seed-Link	ACS 55017	62	56.5	38	0	13	0	1	1.1		
Welter	Excel 442	*73	54.4	40	2	37	0	0	1.5		
Mean		66	54.8	36	1	9	0	1	2.4	85	77
LSD(.10)[g]		6	1.2	2	1	16	1	1	3.2	13	7

** Varieties not significantly different (0.10 level) from the highest yielding cultivar.*

[a] Lodging rankings are based on the Belgian Lodging System. Values are rounded to whole numbers (0 = none, 9 = severe).

[b] Disease incidence (% plants infected at June 11 disease assessment).

[c] Leaf rust severity (% leaf area covered at June 11 disease assessment): F = flag leaf, F-1 = leaf directly preceding flag leaf.

[d] Fusarium head blight (head scab) index: 0 = no disease, 100 = complete infection.

[e] Data for 2007 from previous southern Wisconsin site (Racine).

[f] Truman plots were reseeded due to poor seed quality.

[g] The LSD (least significant difference) figures are a statistical measure of variation within the trial. If the differences between two varieties is equal to or greater than the LSD, then the values are significantly different. If the difference is less than the LSD, then the value difference may have been due to other factors.

Table 7. CHILTON SITE—winter wheat performance details (2007–2008)

Brand	Entry	Yield	Test weight	Height	Lodging[a]	Powdery mildew[b]	2007 yield	2-yr mean yield
		(bu/a)	(lb/bu)	(in.)	(0–9)	(%)	(bu/a)	(bu/a)
Public	Hopewell	76	58.5	32	0	23	77	77
	Kaskaskia	69	60.0	34	1	77	74	72
	Truman[c]	84	59.9	30	1	93	*84	84
	Sunburst	*96	62.7	31	0	0		
Public - exp	IL 01-11934	92	60.1	35	0	7		
	IL 02-23168	92	60.7	33	2	57		
	OH 02-7217	77	59.2	34	0	13		
	VA 03W-409	85	58.5	27	1	3	73	79
	AR 97044-10-2	82	59.1	34	1	60		
Agripro Coker	Branson	*98	58.6	32	2	0	76	*87
	Cooper	95	59.5	32	0	43		
	W 1377	94	61.5	34	2	83	73	84
Diener	D 493 W	90	58.4	34	1	73	71	81
	D 495 W	84	60.3	30	1	33		
	D 502 W	*100	59.0	37	3	50	66	83
	D 511 W	82	59.0	30	1	23		
	XW 70	93	60.0	31	0	30		
Dyna-Gro	DG 404	*102	59.3	32	2	87		
	DG 410	76	59.2	36	2	87	68	72
	DG 421	90	59.3	30	1	17	*80	85
Growmark	FS 628	88	58.8	35	1	53	74	81
	FS 637	*106	60.4	31	0	53	*84	*95
	FS 8309	89	60.0	34	1	60	*85	*87
	FS W08-1	*97	59.4	31	3	77		
Jung	5804	93	60.7	30	2	17	73	83
	5932	88	59.2	32	2	47	77	83
	5988	*104	59.6	37	1	50	*85	*95
Kaltenberg	KW 51	88	60.5	31	1	23	59	74
	KW 55	89	59.5	33	2	100	*81	85
	KW 60	93	58.8	34	1	27	*82	*88
	KW 62	*98	59.1	38	1	43	*81	*90
	KW 63	90	60.8	33	0	40	77	84
	KW 66	89	60.3	32	2	30		
	KW 67	87	58.6	32	2	83		
	KW 68	92	57.7	34	1	83		
	KW 69	84	60.3	34	3	37		
	KW 70	88	58.9	31	1	30		
Pioneer	25R47	*99	58.9	31	1	50	*86	*93
	25R51	*96	59.1	34	0	63	*79	*88
	25R56	95	60.2	33	1	93	*89	*92
	25R62	*112	57.3	30	0	40		
PIP	701	92	58.6	36	2	20		
	720	94	60.2	33	0	33		
	721	74	59.4	32	2	67		
	760	94	59.5	32	1	40		
Pro Seed Genetics	PRO 200	91	61.0	34	1	30	74	83
	PRO 220	74	60.9	35	3	73	*79	77
	PRO 240	92	58.8	35	1	63	*82	*87
	PRO Ex260	88	59.7	35	0	63		
	PRO Ex280	84	61.0	31	1	50		
Seed-Link	ACS 55017	77	61.0	35	1	43		
Welter	Excel 442	92	58.8	35	2	70		
Mean		89	59.7	33	1	47	76	84
LSD(.10)[d]		16	1.1	3	1	30	10	9

** Varieties not significantly different (0.10 level) from the highest yielding cultivar.*

[a] Lodging rankings are based on the Belgian Lodging System. Values are rounded to whole numbers (0 = none, 9 = severe).

[b] Disease incidence (% plants infected at June 9 disease assessment).

[c] Truman plots were reseeded due to poor seed quality.

[d] The LSD (least significant difference) figures are a statistical measure of variation within the trial. If the differences between two varieties is equal to or greater than the LSD, then the values are significantly different. If the difference is less than the LSD, then the value difference may have been due to other factors.

ADDITIONAL INFORMATION

Check the following publications for additional information on small grain production and seed availability. Both are updated annually.

Pest Management in Wisconsin Field Crops (A3646)—available at learningstore.uwex.edu.

The Wisconsin Certified Seed Directory—available at www.wisc.edu/wcia.

For information on seed availability of public varieties, contact the Wisconsin Crop Improvement Association, 554 Moore Hall, 1575 Linden Drive, Madison, WI 53706, (608) 262-1341, www.wisc.edu/wcia.

To access crop performance testing information electronically, visit **www.coolbean.info**.

Authors: Shawn Conley and Paul Esker are assistant professors in agronomy and plant pathology, respectively; and Mark Martinka and John Gaska are program managers in agronomy, College of Agricultural and Life Sciences, University of Wisconsin-Madison. Produced by Cooperative Extension Publishing.

University of Wisconsin-Extension, Cooperative Extension, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914 Acts of Congress; and provides equal opportunities and affirmative action in employment and programming. If you need this material in an alternative format, contact Cooperative Extension Publishing at 608-262-2655 or the UWEX Affirmative Action office.

This publication is available from your Wisconsin county Extension office or from Cooperative Extension Publishing. To order, phone toll free 877-WIS-PUBS (947-7827) or visit our web site at **learningstore.uwex.edu**.

Wisconsin Winter Wheat Performance Tests—2008 (A3868) I-8-2008