A3868

Wisconsin Winter Wheat Performance Trials

2023

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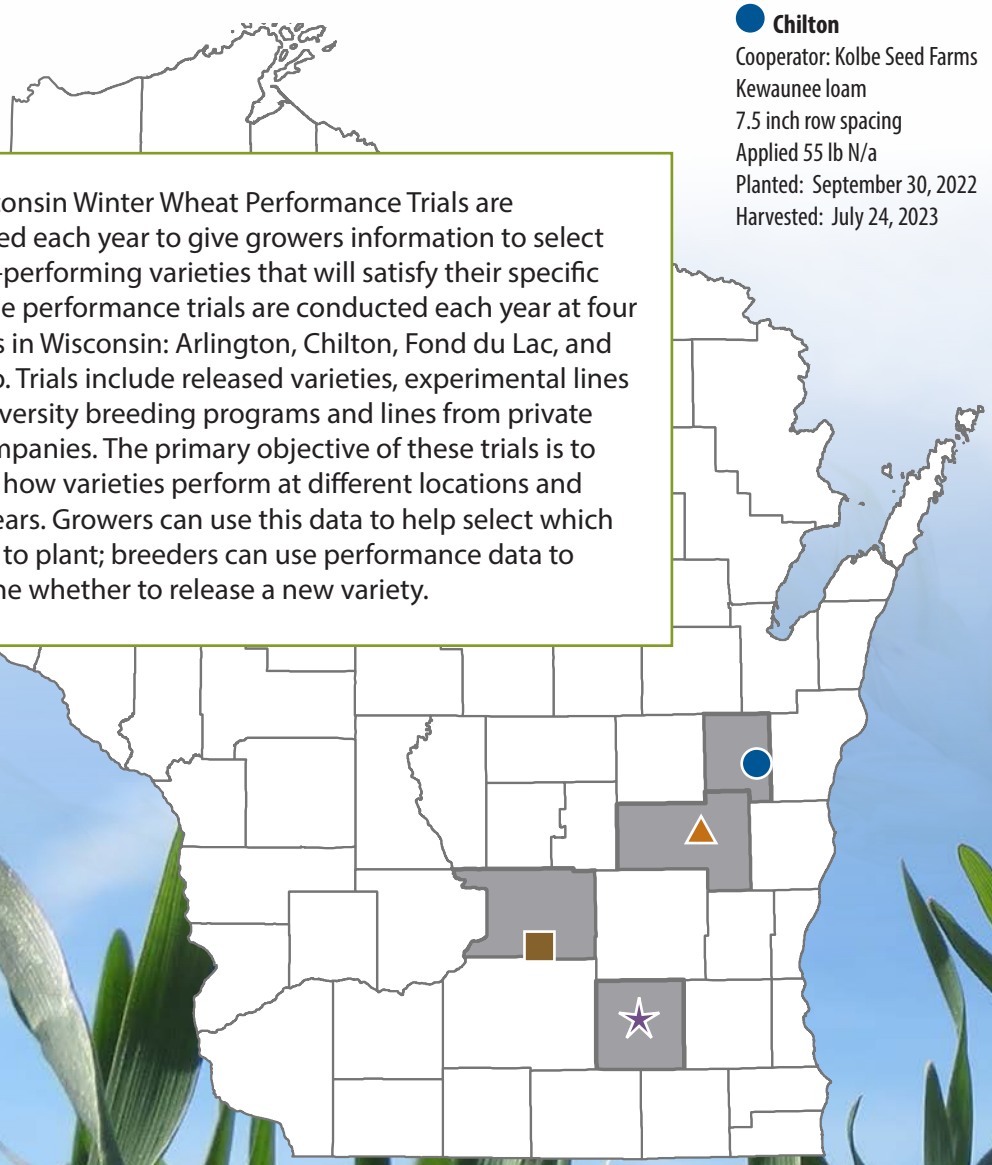
The Wisconsin Winter Wheat Performance Trials are conducted each year to give growers information to select the best-performing varieties that will satisfy their specific goals. The performance trials are conducted each year at four locations in Wisconsin: Arlington, Chilton, Fond du Lac, and Waterloo. Trials include released varieties, experimental lines from university breeding programs 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 can use performance data to determine whether to release a new variety.



Chilton
Cooperator: Kolbe Seed Farms
Kewaunee loam
7.5 inch row spacing
Applied 55 lb N/a
Planted: September 30, 2022
Harvested: July 24, 2023

Fond du Lac
Cooperator: Ed Montsma
Lomira silt loam
7.5 inch row spacing
Applied 55 lb N/a
Planted: September 27, 2022
Harvested: July 21, 2023

Arlington
Cooperator: Mike Bertram
Plano silt loam
7.5 inch row spacing
Applied 55 lb N/a
Planted: September 28, 2022
Harvested: July 20, 2023

Waterloo
Cooperator: Larry Holzhueter
McHenry silt loam
7.5 inch row spacing
Applied 55 lb N/a
Planted: October 3, 2022
Harvested: July 19, 2023

2023 Year in Review

Acreage and Growing Conditions

Wisconsin saw a 3.3% decrease in winter wheat acres planted (290,000) in the 2022-2023 growing season compared to the previous year; 245,000 acres are forecasted to be harvested for grain, compared to 240,000 in 2022. The forecasted yield for the 2023 crop is 66 bu/a, down 12 bu/a from 2022. Wheat acres were generally planted on time with corn and soybean harvest progressing on average. Mild winter conditions and adequate snowfall resulted in good winter survival. Wheat broke dormancy in early April and crop development was normal even with below normal precipitation and normal GDU accumulation. In general, the crop was relatively short in stature.

Overall, winter wheat yield and test weights were average in 2023. Wheat yields at the Arlington, Chilton, Fond du Lac and Waterloo locations averaged 107, 107, 113, 93 bu/a, respectively.

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

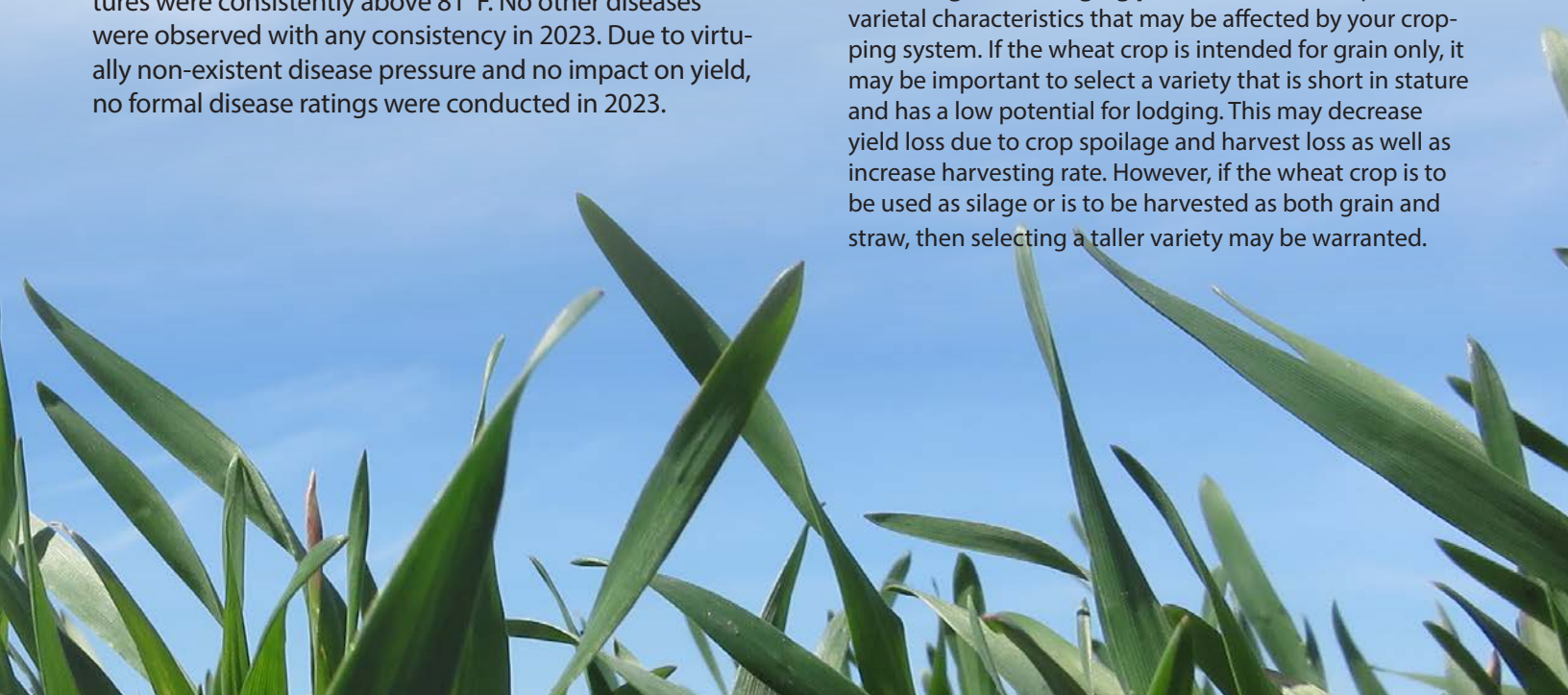
Diseases

Statewide, winter wheat disease pressure was even lower than in 2021 when we had record low levels. The very hot and dry weather during much of the stem elongation and flag leaf emergence stages, meant that foliar and head disease pressure was the lowest that has been observed in many years in Wisconsin. One small exception in 2023 was the occurrence of powdery mildew that could be found on some susceptible varieties. The powdery mildew pathogen (*Blumeria graminis* f. sp. *tritici*) thrives in cool, dry, but humid conditions. For the most part the powdery mildew pathogen was slowed, once daytime temperatures were consistently above 81°F. No other diseases were observed with any consistency in 2023. Due to virtually non-existent disease pressure and no impact on yield, no formal disease ratings were conducted in 2023.

Using 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 also 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 3 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 maximizing economic gain.
- Select a variety that has the **specific disease resistance** characteristics that fit your cropping needs. By selecting varieties with the appropriate level of resistance, crop yield loss may be either reduced or avoided without the need for pesticides. Careful management of resistant cultivars through crop and variety rotation are required to ensure that these characteristics are not lost.
- **Plant 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 harvesting rate. However, if the wheat crop is to be used as silage or is to be harvested as both grain and straw, then selecting a taller variety may be warranted.



Experimental Procedures

At Planting

Site details: Summarized on page 3.

Seedbed preparation: Conventional and no-till methods.

Seeding rate: 1.75 million seeds per acre.

Seed treatments: Identified in Table 2.

Fertilizer and herbicides: Nitrogen was applied in spring according to UWEX recommendations. Phosphorus and potassium were applied as indicated by soil tests. Herbicides were applied for weed control as necessary.

Planting: A grain drill with a 9 row cone seeder was used to plant the plots, all 25 feet in length. To account for field variability and for statistical analysis, each variety was grown in four separate plots (replicates) in a randomized complete block design at each location.

Midseason

Disease assessments: Foliar disease assessments were made at all trial locations during June at Feekes 10.0 (emerging heads). Assessments were made in the field by visual estimation of incidence (number of plants with symptoms) and average severity (magnitude of damage on plants with symptoms) across the plot using pre-made rating scale diagrams generated using the Severity Pro software (F. Nutter, Iowa State University). Fusarium head blight assessments were made two weeks after the completion of anthesis at all trial locations. Entire plots were visually assessed for Fusarium head blight incidence and severity using pre-made rating scale diagrams. Due to virtually non-existent disease pressure and no impact on yield, no formal disease ratings were conducted in 2023.

Harvest

Yield: The center seven rows of each plot were harvested with a self-propelled combine. Grain was weighed and moisture and test weight were determined in the field using electronic equipment on the plot harvester. Yield is reported as bu/a (60 lb/bu) at 13.5% moisture content.

Lodging: Lodging scores were based on the average erectness of the main stem of plants at maturity. 1 = all plants erect, 2 = slight lodging, 3 = plants lodged at 45° angle, 4 = severe lodging, 5 = all plants flat.

Data Presentation

Yield: Listed in Tables 3-7. Data for both 2022 and 2023 are provided if the variety was entered in the 2022 trials.

Least significant difference: Variations in yield and other characteristics occur because of variability in soil and other growing conditions that lower the precision of the results. Statistical analysis makes it possible to determine, with known probabilities of error, whether a difference is real or whether it may have occurred by chance.

Growers can use the appropriate least significant difference (LSD) value at the bottom of the tables to determine true statistical differences. Where the difference between two selected varieties within a column is equal to or greater than the LSD value at the bottom of the column, there is a real difference between the two varieties in nine out of ten instances. If the difference is less than the LSD value, there may still be a real difference, but the experiment has produced no evidence of it. Data that is not significant is indicated by NS.

If an entrant is not listed for a brand, the entry was submitted either by the listed company or by the testing program.

Testing Agencies

The Wisconsin Winter Wheat Performance Trials were conducted by the Departments of Plant & Agroecosystem Sciences and Plant Pathology, College of Agricultural and Life Sciences and the University of Madison-Wisconsin-Extension.

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 wcia.wisc.edu

For information on seed availability of public varieties, contact:
Wisconsin Crop Improvement Association
8520 University Green
Middleton, WI 53562
(800) 892-1341, wcia.wisc.edu

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

For more information on wheat production please also follow Dr. Conley on Twitter @badgerbean

Please click for A Visual Guide to Winter Wheat Development and Growth Staging

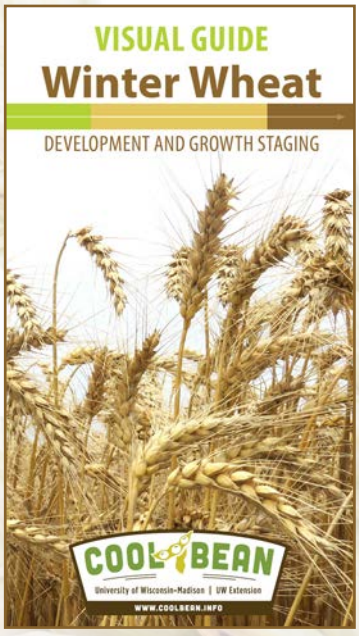


Table 1. 2023 Company Information

Brand (Entrant)	Company Name	Phone	Website
AgriMAXX	AgriMAXX Wheat Company	(855) 629-9432	www.agrimaxxwheat.com
AgriPro	Grow Pro Genetics	(618) 633-2017	www.growprogenetics.com
CROPLAN	WinField United		www.CROPLAN.com
Diener	BioTown Seeds Inc.	(219) 984-6038	www.biotownseeds.com
Dyna-Gro	Nutrien Ag Solutions	(217) 993-1557	nutrienagsolutions.com
FS InSPIRE Wheat	GROWMARK, Inc.	(309) 242-3439	www.fsseeds.com
KF Brand	Kratz Farms LLC	(262) 305-6631	www.kratzfarms.com
KWS Cereals	KWS Cereals	(217) 888-0176	www.kws.com
L-Brand (Ag Pro)	Ag Pro Enterprises, LLC	(920) 904-1758	
Legacy	Legacy Seeds Inc.	(866) 791-6390	www.legacyseeds.com
OSIA	Ohio Seed Improvement Association	(614) 889-1136	www.ohioseed.org
Pioneer	Corteva Agriscience	(515) 535-3200	www.pioneer.com
PiP	Partners in Production	(608) 335-2112	www.pipseeds.com
Pro Seed Genetics	Pro Seed Genetics Cooperative	(920) 255-1361	
Public	WI Foundation Seeds	(608) 846-3761	www.wisconsinfoundationseeds.wisc.edu
VA Tech	Virginia Tech		
Van Treeck's	Van Treeck's Seed Farm	(920) 467-2422	
Viking	Albert Lea Seed	(800) 352-5247	www.alseed.com
Williamsfield Seed Co	Williamsfield Seed Company	(309) 569-0008	

Table 2. 2023 Entered Varieties and Seed Treatments

Brand (Entrant)	Variety	Head Type	Seed Treatment(s)
AgriMAXX	498	Awnless	PRIME ST
	503	Awnless	PRIME ST
	505	Awned	PRIME ST
	513	Awned	PRIME ST
	516	Awned	PRIME ST
	525	Awned	PRIME ST
	531	Awnless	PRIME ST
	Exp 2302	Awnless	PRIME ST
AgriPro	GP 463	Awnless	Cruiser 5FS, Vibrance Extreme
	SY Viper	Awnless	Cruiser 5FS, Vibrance Extreme
CROPLAN	CP8007	Awnless	Resonate, Warden Cereals II
	CP8045	Awned	Resonate, Warden Cereals II
	CP8224	Awnless	Resonate, Warden Cereals II
	CP9203	Awnless	Resonate, Warden Cereals II
Diener	D491W	Awned	Resonate, Warden Cereals II
	D504W	Awned	Resonate, Warden Cereals II
	DXW2022	Awned	Resonate, Warden Cereals II
	DXW2023	Awned	Resonate, Warden Cereals II
	DXW2024	Awned	Resonate, Warden Cereals II
	DXW2025	Awnless	Resonate, Warden Cereals II
Dyna-Gro	9120	Awned	Awaken, Foothold Virock
	9151	Awned	Awaken, Foothold Virock
	9172	Awned	Awaken, Foothold Virock
	9182	Awnless	Awaken, Foothold Virock
	9290	Awned	Awaken, Foothold Virock
	9481	Awnless	Awaken, Foothold Virock
	9862	Awnless	Awaken, Foothold Virock
	WX23444	Awnless	Cruiser, Vibrance Extreme
FS InSPIRE Wheat	FS 597	Awned	Vibrance Extreme, plus insecticide
	FS 600	Awned	Vibrance Extreme, plus insecticide
	FS 603	Awned	Vibrance Extreme, plus insecticide
	FS 606	Awnless	Vibrance Extreme, plus insecticide
	FS 617	Awned	Vibrance Extreme, plus insecticide
	FS 623	Awnless	Vibrance Extreme, plus insecticide
	FS 624	Awnless	Vibrance Extreme, plus insecticide
	FS 745	Awned	Vibrance Extreme, plus insecticide

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Table 2. 2023 Entered Varieties and Seed Treatments

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Brand (Entrant)	Variety	Head Type	Seed Treatment(s)
KF Brand	KF 667	Awnless	Vibrance Extreme
	KF 809	Awnless	Vibrance Extreme
	KF 819	Awnless	Vibrance Extreme
	KF 839	Awned	Vibrance Extreme
	KF 849	Awnless	Vibrance Extreme
	KF 869	Awnless	Vibrance Extreme
	KF 898	Awnless	Warden Cereals II
	EX KF 848	Awnless	Vibrance Extreme
	EX KF 861	Awnless	Vibrance Extreme
	EX KF 908	Awnless	Vibrance Extreme
	EX KF 952	Awnless	Vibrance Extreme
KWS Cereals	KWS472	Awned	CruiserMaxx, Vibrance
	KWS490	Awned	CruiserMaxx, Vibrance
	KWS495	Awned	CruiserMaxx, Vibrance
L-Brand (Ag Pro)	L-410	Awnletted	SabrEx, Tebustar
	L-425	Awnless	SabrEx, Tebustar
	L-435	Awnless	SabrEx, Tebustar
	L-440	Awnless	SabrEx, Tebustar
	L-444	Awnless	SabrEx, Tebustar
	L-447	Awned	SabrEx, Tebustar
	L-450	Awnless	SabrEx, Tebustar
	L-452	Awnless	SabrEx, Tebustar
	L-Star	Awnletted	SabrEx, Tebustar
Legacy	LW 2021	Awnless	SabrEx, Tebustar
	LW 2023	Awned	SabrEx, Tebustar
	LW 2024	Awned	SabrEx, Tebustar
	LW 2026	Awned	SabrEx, Tebustar
	LWS-P38	Awnless	CruiserMaxx, Vibrance
	LWXB-1012	Awned	CruiserMaxx, Vibrance
	LWXB-305	Awned	CruiserMaxx, Vibrance
	LWXS-815	Awnless	CruiserMaxx, Vibrance
	LWXS-P24	Awnless	CruiserMaxx, Vibrance
OSIA	Starburst	Awnless	Athena
Pioneer	25R28	Awned	LumiGEN
	25R64	Awned	LumiGEN
	25R76	Awned	LumiGEN
PiP	701	Awnless	Charter, Imidacloprid
	702	Awnless	Charter, Imidacloprid
	705	Awnless	Charter, Imidacloprid
	708	Awnless	Charter, Imidacloprid
	712	Awnless	Charter, Imidacloprid
	713	Awned	Charter, Imidacloprid
	715	Awned	Charter, Imidacloprid
	753	Awned	Charter, Imidacloprid
	762	Awned	Charter, Imidacloprid
	763	Awned	Charter, Imidacloprid
	775	Awned	Charter, Imidacloprid
	776	Awned	Charter, Imidacloprid
	777	Awned	Charter, Imidacloprid
	778	Awned	Charter, Imidacloprid
	779	Awned	Charter, Imidacloprid
	781	Awned	Charter, Imidacloprid
	785	Awned	Charter, Imidacloprid
	790	Awned	Charter, Imidacloprid
	791	Awned	Charter, Imidacloprid
	796	Awned	Charter, Imidacloprid
	798	Awned	Charter, Imidacloprid
	799	Awned	Charter, Imidacloprid
Pro Seed Genetics	PRO 330A	Awned	Charter, Imidacloprid
	PRO 410	Awnless	Sativa 309, Sebring 480
	PRO 490A	Awned	Sativa 309, Sebring 480
Public	Sunburst	Awnless	Athena
VA Tech	16VDH-SRW03-023	Awnletted	fungicide
	VA19FHB-36	Awned	fungicide
Van Treeck's	L 024	Awnless	CruiserMaxx, Vibrance
	L 920	Awnless	CruiserMaxx, Vibrance
	Sittin' Pretty	Awnless	CruiserMaxx, Vibrance
Viking	801	Awned	Cruiser
Williamsfield Seed Co	WSC 3804	Awnless	CereUS
	WSC 3906	Awned	CereUS

Table 3. 2023 Combined Winter Wheat Performance Trial Results

Brand (Entrant)	Entry	2023 4-test average[1] Yield (bu/a)	2023 4-test average[1] Test wt. (lb/bu)	Arlington Yield (bu/a)	Arlington Test wt. (lb/bu)	Chilton Yield (bu/a)	Chilton Test wt. (lb/bu)	Fond du Lac Yield (bu/a)	Fond du Lac Test wt. (lb/bu)	Waterloo Yield (bu/a)	Waterloo Test wt. (lb/bu)	2022 4-test average[2] Yield (bu/a)	2022 4-test average[2] Test wt. (lb/bu))
AgriMAXX	498	108	56.5	109	55.8	106	58.8	* 119	57.3	91	55.6	108	57.7
	503	107	57.7	109	56.5	103	59.9	113	59.4	86	55.9	106	58.6
	505	105	60.7	104	59.9	108	62.4	108	62.0	95	58.6	105	60.8
	513	102	59.4	99	58.6	103	61.1	106	60.9	90	57.8	109	59.6
	516	107	58.5	101	57.8	107	60.1	* 126	60.3	89	56.9	108	58.7
	525	106	58.4	109	57.7	109	60.4	112	59.6	91	56.9	*118	59.4
	531	99	58.9	105	58.1	104	61.4	97	59.6	87	57.7	--	--
	Exp 2302	108	58.0	108	57.0	108	59.9	109	59.2	* 102	57.5	--	--
AgriPro	GP 463	100	57.5	97	56.3	105	59.3	105	58.9	89	56.6	101	58.0
	SY Viper	109	59.1	111	57.8	* 111	61.6	110	60.3	93	57.8	102	60.1
CROPLAN	CP8007	* 112	57.6	109	56.9	* 114	59.4	* 120	59.2	* 105	56.4	*114	58.5
	CP8045	104	58.6	106	57.8	104	60.5	112	59.9	88	57.1	108	58.6
	CP8224	109	59.2	108	58.3	* 111	61.6	117	60.4	97	57.2	*116	59.9
	CP9203	107	57.9	* 113	57.0	102	59.9	112	59.2	95	56.7	--	--
Diener	D491W	111	57.9	* 115	57.1	107	59.3	* 123	59.5	* 98	56.8	109	58.0
	D504W	107	58.5	111	58.0	* 112	60.4	116	59.8	92	57.1	109	58.9
	DXW2022	* 112	58.3	* 113	57.5	109	60.1	* 125	60.0	94	56.4	*116	58.0
	DXW2023	111	57.1	104	56.7	109	59.5	* 125	57.6	* 98	56.6	--	--
	DXW2024	107	58.4	108	58.0	106	60.3	117	59.3	95	56.7	--	--
	DXW2025	96	57.7	97	57.0	95	60.5	98	58.4	80	55.2	--	--
Dyna-Gro	9120	106	60.1	108	59.4	108	61.9	108	60.9	91	59.2	108	60.0
	9151	107	60.5	107	59.6	* 112	62.3	113	62.0	90	58.3	104	60.9
	9172	107	58.2	109	57.6	107	60.2	115	59.5	93	56.8	110	58.7
	9182	107	57.8	107	56.8	105	60.1	* 122	59.6	87	56.1	107	58.6
	9290	105	58.8	109	58.0	106	60.8	110	59.8	91	57.7	--	--
	9481	106	58.1	107	57.5	109	59.8	108	59.2	* 99	57.0	--	--
	9862	104	57.6	104	56.2	104	59.7	115	59.3	94	56.5	100	58.8
	WX23444	109	56.0	106	55.4	* 114	58.1	115	56.5	* 104	56.3	--	--
FS InSPIRE Wheat	FS 597	106	58.8	107	58.1	107	60.9	114	59.8	91	57.5	--	--
	FS 600	106	60.8	107	60.0	103	62.3	114	62.4	92	58.6	105	61.0
	FS 603	105	59.4	110	58.8	100	61.3	116	60.5	96	58.5	103	58.9
	FS 606	106	59.9	110	58.7	* 114	62.2	115	61.5	86	58.1	--	--
	FS 617	107	58.8	108	58.0	109	60.5	110	60.3	* 98	57.3	--	--
	FS 623	107	57.4	111	56.3	108	60.1	112	58.4	90	56.0	110	58.9
	FS 624	108	58.9	109	57.8	106	61.6	* 122	60.7	* 98	56.9	106	59.7
	FS 745	109	58.4	112	57.8	* 113	60.5	* 119	59.9	95	56.9	109	58.7

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

[1] 4-test sites were Arlington, Chilton, Fond du Lac, and Waterloo

[2] 4-test sites were Arlington (non-fungicide only), Chilton, Fond du Lac, and Waterloo

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Table 3. 2023 Combined Winter Wheat Performance Trial Results

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Brand (Entrant)	Entry	2023 4-test average[1] Yield (bu/a)	2023 4-test average[1] Test wt. (lb/bu)	Arlington Yield (bu/a)	Arlington Test wt. (lb/bu)	Chilton Yield (bu/a)	Chilton Test wt. (lb/bu)	Fond du Lac Yield (bu/a)	Fond du Lac Test wt. (lb/bu)	Waterloo Yield (bu/a)	Waterloo Test wt. (lb/bu)	2022 4-test average[2] Yield (bu/a)	2022 4-test average[2] Test wt. (lb/bu))
KF Brand	KF 667	110	59.0	110	58.0	* 118	61.4	109	59.4	97	58.4	106	59.3
	KF 809	* 115	58.2	* 114	57.2	* 119	61.1	* 124	59.1	* 100	57.1	111	58.7
	KF 819	108	56.4	104	55.4	* 115	58.5	111	57.3	* 99	55.5	--	--
	KF 839	102	60.4	103	59.5	110	62.5	113	61.8	89	58.9	105	60.8
	KF 849	108	59.0	105	58.1	* 112	61.9	113	60.1	96	56.6	102	58.2
	KF 869	104	59.7	108	58.5	110	62.2	113	61.1	86	58.2	--	--
	KF 898	105	58.7	105	58.3	98	59.8	111	59.8	* 99	57.4	--	--
	EX KF 848	103	59.2	106	58.4	106	61.4	101	59.9	85	58.1	--	--
	EX KF 861	103	58.8	104	58.2	* 112	61.1	103	59.1	86	57.2	--	--
	EX KF 908	103	58.2	101	57.3	105	60.4	112	59.6	88	56.5	--	--
	EX KF 952	102	57.9	103	57.0	107	60.4	103	58.7	91	57.6	--	--
KWS Cereals	KWS472	100	58.3	92	57.8	102	59.7	113	59.8	96	57.5	--	--
	KWS490	* 114	58.5	* 115	57.8	* 115	60.2	* 123	59.7	97	56.8	--	--
	KWS495	104	58.2	99	57.3	106	60.3	108	59.2	* 102	57.6	--	--
L-Brand (Ag Pro)	L-410	102	59.7	106	58.8	* 111	61.7	109	61.2	87	58.1	--	--
	L-425	102	59.7	102	58.7	108	61.9	106	61.0	91	58.3	--	--
	L-435	101	59.1	105	58.2	106	61.4	105	60.5	84	57.6	--	--
	L-440	95	58.8	101	57.7	97	61.3	109	60.0	74	58.0	--	--
	L-444	111	58.4	108	57.3	* 113	60.8	* 127	59.9	93	57.9	--	--
	L-447	103	60.5	102	59.9	108	62.2	111	61.8	94	59.1	103	60.6
	L-450	103	57.9	106	57.3	102	59.9	106	58.4	85	56.3	--	--
	L-452	109	58.1	108	57.9	110	60.0	* 120	59.0	* 99	56.6	112	58.6
	L-Star	95	58.7	99	57.8	101	61.2	100	59.5	81	58.1	110	58.7
Legacy	LW 2021	106	57.7	* 114	56.8	108	60.0	110	59.0	92	56.6	107	58.7
	LW 2023	106	58.5	107	57.9	107	60.4	113	59.7	89	56.8	107	58.6
	LW 2024	105	58.8	105	58.2	107	60.5	111	60.0	90	57.1	110	59.3
	LW 2026	111	58.1	110	57.4	110	59.7	116	59.1	* 100	56.6	113	58.1
	LWS-P38	109	55.9	106	55.4	110	57.7	118	56.4	* 102	55.9	--	--
	LWXB-1012	105	58.0	107	57.3	100	59.0	* 120	59.5	91	56.8	--	--
	LWXB-305	111	57.1	109	56.6	103	58.8	* 122	58.2	* 103	56.6	--	--
	LWXS-815	105	58.2	107	57.6	106	60.4	110	59.4	90	56.7	--	--
	LWXS-P24	99	57.4	96	55.9	102	59.8	104	59.1	84	56.6	--	--
OSIA	Starburst	99	59.6	98	59.1	106	61.8	109	60.9	84	57.0	103	61.4
Pioneer	25R28	92	59.8	94	59.5	80	62.0	102	61.0	90	58.1	107	59.4
	25R64	111	57.6	107	57.1	105	59.5	118	58.7	* 100	55.6	--	--
	25R76	105	58.3	104	58.0	108	60.5	118	59.4	92	56.2	107	58.7

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

[1] 4-test sites were Arlington, Chilton, Fond du Lac, and Waterloo

[2] 4-test sites were Arlington (non-fungicide only), Chilton, Fond du Lac, and Waterloo

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Table 3. 2023 Combined Winter Wheat Performance Trial Results

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Brand (Entrant)	Entry	2023 4-test average[1] Yield (bu/a)	2023 4-test average[1] Test wt. (lb/bu)	Arlington Yield (bu/a)	Arlington Test wt. (lb/bu)	Chilton Yield (bu/a)	Chilton Test wt. (lb/bu)	Fond du Lac Yield (bu/a)	Fond du Lac Test wt. (lb/bu)	Waterloo Yield (bu/a)	Waterloo Test wt. (lb/bu)	2022 4-test average[2] Yield (bu/a)	2022 4-test average[2] Test wt. (lb/bu))
PiP	701	104	58.2	105	57.7	107	60.2	112	59.4	90	56.4	--	--
	702	*112	57.3	* 114	56.6	104	59.2	* 121	58.6	* 101	56.2	113	56.8
	705	105	57.6	109	56.7	106	59.8	115	58.7	89	55.9	110	58.7
	708	111	58.1	108	57.7	109	60.0	118	59.3	* 98	56.4	112	58.6
	712	*113	56.9	* 114	55.6	*111	59.0	* 122	58.4	* 101	56.4	--	--
	713	103	57.8	101	57.3	107	59.8	109	59.1	93	56.4	--	--
	715	103	57.9	102	57.4	109	60.2	117	59.1	83	55.9	108	58.8
	753	109	57.9	111	57.4	107	59.7	113	58.7	94	56.2	--	--
	762	103	58.9	107	57.9	103	60.6	107	60.5	89	57.1	109	59.4
	763	108	58.2	108	57.8	97	60.1	* 119	59.2	* 99	57.0	--	--
	775	110	58.7	112	57.9	110	60.7	111	59.8	* 99	56.4	*114	58.9
	776	105	58.2	109	57.7	108	60.5	105	59.1	88	56.3	--	--
	777	99	59.2	99	58.4	103	61.2	110	61.0	84	56.8	--	--
	778	107	58.0	104	57.4	108	59.5	* 119	59.5	* 103	57.2	--	--
	779	107	58.8	108	58.3	107	60.3	117	60.1	97	57.8	--	--
	781	*117	56.7	* 119	55.8	*118	58.3	* 126	57.9	* 107	56.3	*115	56.6
	785	108	58.7	110	58.0	105	60.5	112	60.2	95	57.2	109	59.2
	790	108	58.5	110	57.9	106	60.5	113	59.9	* 101	57.2	110	58.8
	791	105	60.2	107	59.5	103	61.9	110	61.1	97	59.4	110	59.7
	796	*113	58.3	* 114	57.8	109	59.8	* 123	59.4	* 98	56.5	113	58.3
	798	107	58.0	107	57.2	107	60.2	113	58.9	91	55.9	--	--
	799	*113	57.4	* 114	57.1	*115	59.3	* 123	58.1	* 100	56.6	--	--
Pro Seed Genetics	PRO 330A	100	59.3	99	58.3	101	61.2	106	60.4	81	57.7	--	--
	PRO 410	106	59.2	110	58.5	105	61.1	113	60.6	* 99	56.8	104	59.6
	PRO 490A	108	58.5	108	57.8	109	60.2	114	59.7	95	57.2	107	58.0
Public	Sunburst	99	59.2	97	58.3	108	62.2	102	60.5	82	56.1	100	61.3
VA Tech	16VDH-SRW03-023	108	57.8	107	56.6	109	59.9	115	59.2	90	56.4	--	--
	VA19FHB-36	107	59.8	105	58.9	110	61.8	115	61.0	91	58.1	--	--
Van Treeck's	L 024	107	59.0	108	58.0	108	61.9	111	60.0	90	56.7	*117	59.9
	L 920	103	58.6	98	57.4	*111	61.2	105	59.2	91	58.3	105	59.3
	Sittin' Pretty	*114	58.3	* 118	56.8	*113	61.0	118	59.3	96	57.5	107	58.8
Viking	801	106	59.2	109	58.2	107	60.9	114	60.7	90	58.1	105	59.7
Williamsfield Seed Company	WSC 3804	96	60.1	102	59.1	103	62.9	99	61.0	78	57.3	--	--
	WSC 3906	102	58.9	102	58.1	109	61.0	110	59.8	87	58.0	--	--
	Mean	**106**	**58.5**	**107**	**57.7**	**107**	**60.5**	**113**	**59.7**	**93**	**57.1**	**107**	**58.8**
	LSD(.10)	**5**	**0.5**	**6**	**0.6**	**8**	**0.6**	**8**	**0.7**	**9**	**0.6**	**4**	**0.4**

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

[1] 4-test sites were Arlington, Chilton, Fond du Lac, and Waterloo

[2] 4-test sites were Arlington (non-fungicide only), Chilton, Fond du Lac, and Waterloo

Table 4. 2023 Arlington Winter Wheat Performance Trial Results

For the 2022 and 2023 season, additional replications were added only at the Arlington location to allow for a fungicide application during anthesis (Feekes 10.5.1) on half of the replications. This was intended to provide data on how different varieties respond to an anthesis timed fungicide application. A fungicide column is not shown for 2023 because no significant differences were found.

			2023 means				2022 means		
							Fungicide	No-fungicide	
Brand (Entrant)	Entry	Head Type	Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	Yield[1] (bu/a)	Yield (bu/a)	Test wt. (lb/bu)
AgriMAXX	498	Awnless	109	55.8	34	1.0	^ 109	99	55.7
	503	Awnless	109	56.5	32	1.0	105	102	56.2
	505	Awned	104	59.9	32	1.0	100	102	57.5
	513	Awned	99	58.6	31	1.0	105	98	56.2
	516	Awned	101	57.8	29	1.0	102	102	54.9
	525	Awned	109	57.7	31	1.0	115	*112	55.9
	531	Awnless	105	58.1	34	1.0	--	--	--
	Exp 2302	Awnless	108	57.0	31	1.0	--	--	--
AgriPro	GP 463	Awnless	97	56.3	30	1.0	100	97	55.5
	SY Viper	Awnless	111	57.8	35	1.0	103	96	58.1
CROPLAN	CP8007	Awnless	109	56.9	28	1.0	^ 118	*104	55.2
	CP8045	Awned	106	57.8	29	1.0	106	103	55.4
	CP8224	Awnless	108	58.3	29	1.0	^ 114	*105	56.8
	CP9203	Awnless	*113	57.0	32	1.0	--	--	--
Diener	D491W	Awned	*115	57.1	30	1.0	^ 107	99	54.9
	D504W	Awned	111	58.0	30	1.0	105	100	55.6
	DXW2022	Awned	*113	57.5	30	1.0	113	*109	54.8
	DXW2023	Awned	104	56.7	31	1.0	--	--	--
	DXW2024	Awned	108	58.0	31	1.0	--	--	--
	DXW2025	Awnless	97	57.0	33	1.0	--	--	--
Dyna-Gro	9120	Awned	108	59.4	30	1.0	104	100	57.2
	9151	Awned	107	59.6	30	1.0	100	100	57.7
	9172	Awned	109	57.6	30	1.0	106	101	55.1
	9182	Awnless	107	56.8	32	1.0	108	*106	56.6
	9290	Awned	109	58.0	32	1.0	--	--	--
	9481	Awnless	107	57.5	32	1.0	--	--	--
	9862	Awnless	104	56.2	29	1.0	90	94	55.8
	WX23444	Awnless	106	55.4	32	1.0	--	--	--
FS InSPIRE Wheat	FS 597	Awned	107	58.1	32	1.0	--	--	--
	FS 600	Awned	107	60.0	32	1.0	95	97	57.7
	FS 603	Awned	110	58.8	32	1.0	98	93	56.3
	FS 606	Awnless	110	58.7	35	1.0	--	--	--
	FS 617	Awned	108	58.0	30	1.0	--	--	--
	FS 623	Awnless	111	56.3	33	1.0	102	*106	56.5
	FS 624	Awnless	109	57.8	34	1.0	^ 109	102	56.2

1 Only yield showed a possible significant difference with fungicide

^ Significant yield increase with Feekes 10.5.1 fungicide application (0.10 level)

* Yield not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 4. 2023 Arlington Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means				2022 means		
							Fungicide	No-fungicide	
			Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	Yield[1] (bu/a)	Yield (bu/a)	Test wt. (lb/bu)
	FS 745	Awned	112	57.8	32	1.0	103	103	55.5
KF Brand	KF 667	Awnless	110	58.0	33	1.0	^ 107	99	57.2
	KF 809	Awnless	*114	57.2	32	1.0	105	101	55.6
	KF 819	Awnless	104	55.4	28	1.0	--	--	--
	KF 839	Awned	103	59.5	32	1.0	103	*104	56.6
	KF 849	Awnless	105	58.1	30	1.0	100	102	55.8
	KF 869	Awnless	108	58.5	35	1.0	--	--	--
	KF 898	Awnless	105	58.3	32	1.0	--	--	--
	EX KF 848	Awnless	106	58.4	33	1.0	--	--	--
	EX KF 861	Awnless	104	58.2	33	1.0	--	--	--
	EX KF 908	Awnless	101	57.3	30	1.0	--	--	--
	EX KF 952	Awnless	103	57.0	34	1.0	--	--	--
KWS Cereals	KWS472	Awned	92	57.8	26	1.0	--	--	--
	KWS490	Awned	*115	57.8	30	1.0	--	--	--
	KWS495	Awned	99	57.3	29	1.0	--	--	--
L-Brand (Ag Pro)	L-410	Awnletted	106	58.8	34	1.0	--	--	--
	L-425	Awnless	102	58.7	37	1.0	--	--	--
	L-435	Awnless	105	58.2	34	1.0	--	--	--
	L-440	Awnless	101	57.7	33	1.0	--	--	--
	L-444	Awnless	108	57.3	33	1.0	--	--	--
	L-447	Awned	102	59.9	31	1.0	^ 106	95	56.7
	L-450	Awnless	106	57.3	32	1.0	--	--	--
	L-452	Awnless	108	57.9	34	1.0	^ 113	101	56.0
	L-Star	Awnletted	99	57.8	35	1.0	101	*106	56.5
Legacy	LW 2021	Awnless	*114	56.8	32	1.0	105	102	56.4
	LW 2023	Awned	107	57.9	31	1.0	103	102	55.3
	LW 2024	Awned	105	58.2	29	1.0	110	*109	56.7
	LW 2026	Awned	110	57.4	31	1.0	110	*106	54.6
	LWS-P38	Awnless	106	55.4	33	1.0	--	--	--
	LWXB-1012	Awned	107	57.3	30	1.0	--	--	--
	LWXB-305	Awned	109	56.6	33	1.0	--	--	--
	LWXS-815	Awnless	107	57.6	31	1.0	--	--	--
	LWXS-P24	Awnless	96	55.9	31	1.0	--	--	--
OSIA	Starburst	Awnless	98	59.1	28	1.0	^ 108	97	58.0
Pioneer	25R28	Awned	94	59.5	29	1.0	99	*104	56.2
	25R64	Awned	107	57.1	29	1.0	--	--	--
	25R76	Awned	104	58.0	31	1.0	101	101	56.6

1 Only yield showed a possible significant difference with fungicide

^ Significant yield increase with Feekes 10.5.1 fungicide application (0.10 level)

* Yield not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 4. 2023 Arlington Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means				2022 means		
							Fungicide	No-fungicide	
			Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	Yield[1] (bu/a)	Yield (bu/a)	Test wt. (lb/bu)
PiP	701	Awnless	105	57.7	31	1.0	--	--	--
	702	Awnless	*114	56.6	33	1.0	116	*109	54.6
	705	Awnless	109	56.7	30	1.0	108	*108	56.4
	708	Awnless	108	57.7	33	1.0	113	*106	56.3
	712	Awnless	*114	55.6	33	1.0	--	--	--
	713	Awned	101	57.3	32	1.0	--	--	--
	715	Awned	102	57.4	34	1.0	101	103	56.1
	753	Awned	111	57.4	31	1.0	--	--	--
	762	Awned	107	57.9	32	1.0	106	99	56.1
	763	Awned	108	57.8	31	1.0	--	--	--
	775	Awned	112	57.9	30	1.0	105	*106	55.4
	776	Awned	109	57.7	32	1.0	--	--	--
	777	Awned	99	58.4	33	1.0	--	--	--
	778	Awned	104	57.4	30	1.0	--	--	--
	779	Awned	108	58.3	30	1.0	--	--	--
	781	Awned	*119	55.8	34	1.0	111	*107	54.6
	785	Awned	110	58.0	30	1.0	104	102	56.5
	790	Awned	110	57.9	30	1.0	^ 113	*105	55.3
	791	Awned	107	59.5	31	1.0	^ 105	97	57.0
	796	Awned	*114	57.8	30	1.0	^ 113	*104	54.8
	798	Awned	107	57.2	32	1.0	--	--	--
	799	Awned	*114	57.1	32	1.0	--	--	--
Pro Seed Genetics	PRO 330A	Awned	99	58.3	35	1.0	--	--	--
	PRO 410	Awnless	110	58.5	34	1.0	101	96	55.9
	PRO 490A	Awned	108	57.8	31	1.0	102	101	55.1
Public	Sunburst	Awnless	97	58.3	30	1.0	96	93	58.2
VA Tech	16VDH-SRW03-023	Awnletted	107	56.6	31	1.0	--	--	--
	VA19FHB-36	Awned	105	58.9	33	1.0	--	--	--
Van Treeck's	L 024	Awnless	108	58.0	31	1.0	^ 116	*109	56.7
	L 920	Awnless	98	57.4	32	1.0	96	98	57.2
	Sittin' Pretty	Awnless	*118	56.8	31	1.0	^ 106	99	55.8
Viking	801	Awned	109	58.2	32	1.0	102	98	56.6
Williamsfield Seed Company	WSC 3804	Awnless	102	59.1	36	1.0	--	--	--
	WSC 3906	Awned	102	58.1	31	1.0	--	--	--
		Mean	**107**	**57.7**	**32**	**1.0**	**105**	**100**	**55.9**
		LSD (.10)	**6**	**0.6**	**2**	**--**	**8**	**8**	**0.6**

1 Only yield showed a possible significant difference with fungicide

^ Significant yield increase with Feekes 10.5.1 fungicide application (0.10 level)

* Yield not significantly different than that of the highest yielding cultivar (0.10 level)

Table 5. 2023 Chilton Winter Wheat Performance Trial Results

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	2022 means Yield (bu/a)	Test wt. (lb/bu)
AgriMAXX	498	Awnless	106	58.8	31	1.0	119	58.7
	503	Awnless	103	59.9	31	1.0	109	59.1
	505	Awned	108	62.4	32	1.0	115	62.1
	513	Awned	103	61.1	31	1.0	115	60.4
	516	Awned	107	60.1	29	1.0	117	59.7
	525	Awned	109	60.4	30	1.0	123	60.0
	531	Awnless	104	61.4	33	1.0	--	--
	Exp 2302	Awnless	108	59.9	31	1.0	--	--
AgriPro	GP 463	Awnless	105	59.3	32	1.0	105	59.0
	SY Viper	Awnless	* 111	61.6	34	1.0	110	60.6
CROPLAN	CP8007	Awnless	* 114	59.4	29	1.0	123	59.7
	CP8045	Awned	104	60.5	29	1.0	116	59.9
	CP8224	Awnless	* 111	61.6	29	1.0	* 126	61.1
	CP9203	Awnless	102	59.9	30	1.0	--	--
Diener	D491W	Awned	107	59.3	30	1.0	116	59.1
	D504W	Awned	* 112	60.4	31	1.0	117	60.2
	DXW2022	Awned	109	60.1	30	1.0	* 126	58.9
	DXW2023	Awned	109	59.5	32	1.0	--	--
	DXW2024	Awned	106	60.3	31	1.0	--	--
	DXW2025	Awnless	95	60.5	33	1.0	--	--
Dyna-Gro	9120	Awned	108	61.9	30	1.0	119	60.8
	9151	Awned	* 112	62.3	32	1.0	117	62.4
	9172	Awned	107	60.2	30	1.0	116	59.5
	9182	Awnless	105	60.1	32	1.0	115	59.0
	9290	Awned	106	60.8	31	1.0	--	--
	9481	Awnless	109	59.8	31	1.0	--	--
	9862	Awnless	104	59.7	29	1.0	108	59.7
	WX23444	Awnless	* 114	58.1	32	1.0	--	--
FS InSPIRE Wheat	FS 597	Awned	107	60.9	30	1.0	--	--
	FS 600	Awned	103	62.3	32	1.0	109	61.8
	FS 603	Awned	100	61.3	31	1.0	113	59.5
	FS 606	Awnless	* 114	62.2	35	1.0	--	--
	FS 617	Awned	109	60.5	29	1.0	--	--
	FS 623	Awnless	108	60.1	31	1.0	116	59.6
	FS 624	Awnless	106	61.6	32	1.0	115	60.9
	FS 745	Awned	* 113	60.5	31	1.0	116	59.6

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 5. 2023 Chilton Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	2022 means Yield (bu/a)	Test wt. (lb/bu)
KF Brand	KF 667	Awnless	* 118	61.4	33	1.0	115	60.2
	KF 809	Awnless	* 119	61.1	32	1.0	* 125	59.9
	KF 819	Awnless	* 115	58.5	30	1.0	--	--
	KF 839	Awned	110	62.5	32	1.0	108	61.8
	KF 849	Awnless	* 112	61.9	30	1.0	106	59.3
	KF 869	Awnless	110	62.2	35	1.0	--	--
	KF 898	Awnless	98	59.8	29	1.0	--	--
	EX KF 848	Awnless	106	61.4	34	1.0	--	--
	EX KF 861	Awnless	* 112	61.1	34	1.0	--	--
	EX KF 908	Awnless	105	60.4	30	1.0	--	--
	EX KF 952	Awnless	107	60.4	33	1.0	--	--
KWS Cereals	KWS472	Awned	102	59.7	27	1.0	--	--
	KWS490	Awned	* 115	60.2	30	1.0	--	--
	KWS495	Awned	106	60.3	30	1.0	--	--
L-Brand (Ag Pro)	L-410	Awnletted	* 111	61.7	36	1.0	--	--
	L-425	Awnless	108	61.9	35	1.0	--	--
	L-435	Awnless	106	61.4	33	1.0	--	--
	L-440	Awnless	97	61.3	34	1.0	--	--
	L-444	Awnless	* 113	60.8	31	1.0	--	--
	L-447	Awned	108	62.2	32	1.0	112	61.7
	L-450	Awnless	102	59.9	30	1.0	--	--
	L-452	Awnless	110	60.0	33	1.0	* 125	59.7
	L-Star	Awnletted	101	61.2	34	1.0	117	59.9
Legacy	LW 2021	Awnless	108	60.0	32	1.0	119	59.7
	LW 2023	Awned	107	60.4	30	1.0	113	59.7
	LW 2024	Awned	107	60.5	29	1.0	117	60.2
	LW 2026	Awned	110	59.7	30	1.0	* 128	59.0
	LWS-P38	Awnless	110	57.7	32	1.0	--	--
	LWXB-1012	Awned	100	59.0	29	1.0	--	--
	LWXB-305	Awned	103	58.8	31	1.0	--	--
	LWXS-815	Awnless	106	60.4	31	1.0	--	--
	LWXS-P24	Awnless	102	59.8	31	1.0	--	--
OSIA	Starburst	Awnless	106	61.8	27	1.0	110	62.6
Pioneer	25R28	Awned	80	62.0	30	1.0	117	60.1
	25R64	Awned	105	59.5	28	1.0	--	--
	25R76	Awned	108	60.5	30	1.0	110	59.3

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 5. 2023 Chilton Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	2023 means Test wt. (lb/bu)	2023 means Height (in.)	2023 means Lodging (1-5)	2022 means Yield (bu/a)	2022 means Test wt. (lb/bu)
PiP	701	Awnless	107	60.2	33	1.0	--	--
	702	Awnless	104	59.2	31	1.0	120	57.9
	705	Awnless	106	59.8	32	1.0	114	59.2
	708	Awnless	109	60.0	34	1.0	121	59.2
	712	Awnless	* 111	59.0	33	1.0	--	--
	713	Awned	107	59.8	32	1.0	--	--
	715	Awned	109	60.2	33	1.0	116	59.2
	753	Awned	107	59.7	31	1.0	--	--
	762	Awned	103	60.6	30	1.0	115	60.4
	763	Awned	97	60.1	29	1.0	--	--
	775	Awned	110	60.7	30	1.0	120	59.8
	776	Awned	108	60.5	32	1.0	--	--
	777	Awned	103	61.2	33	1.0	--	--
	778	Awned	108	59.5	30	1.0	--	--
	779	Awned	107	60.3	28	1.0	--	--
	781	Awned	* 118	58.3	32	1.0	* 124	57.1
	785	Awned	105	60.5	29	1.0	118	60.1
	790	Awned	106	60.5	28	1.0	116	59.9
	791	Awned	103	61.9	29	1.0	117	60.5
	796	Awned	109	59.8	29	1.0	122	59.0
	798	Awned	107	60.2	32	1.0	--	--
	799	Awned	* 115	59.3	33	1.0	--	--
Pro Seed Genetics	PRO 330A	Awned	101	61.2	32	1.0	--	--
	PRO 410	Awnless	105	61.1	32	1.0	111	60.7
	PRO 490A	Awned	109	60.2	30	1.0	117	59.0
Public	Sunburst	Awnless	108	62.2	29	1.0	110	62.4
VA Tech	16VDH-SRW03-023	Awnletted	109	59.9	29	1.0	--	--
	VA19FHB-36	Awned	110	61.8	35	1.0	--	--
Van Treeck's	L 024	Awnless	108	61.9	30	1.0	* 129	61.4
	L 920	Awnless	* 111	61.2	32	1.0	111	60.3
	Sittin' Pretty	Awnless	* 113	61.0	31	1.0	120	59.7
Viking	801	Awned	107	60.9	32	1.0	113	60.6
Williamsfield Seed Company	WSC 3804	Awnless	103	62.9	35	1.0	--	--
	WSC 3906	Awned	109	61.0	32	1.0	--	--
		Mean	**107**	**60.5**	**31**	**1.0**	**115**	**59.7**
		LSD (.10)	**8**	**0.6**	**2**	**--**	**5**	**0.5**

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

Table 6. 2023 Fond du Lac Winter Wheat Performance Trial Results

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	2023 means Test wt. (lb/bu)	2023 means Height (in.)	2023 means Lodging (1-5)	2022 means Yield (bu/a)	2022 means Test wt. (lb/bu)
AgriMAXX	498	Awnless	* 119	57.3	35	1.0	112	58.4
	503	Awnless	113	59.4	33	1.0	107	59.2
	505	Awned	108	62.0	34	1.0	105	61.4
	513	Awned	106	60.9	34	1.0	116	60.7
	516	Awned	* 126	60.3	32	1.0	113	59.5
	525	Awned	112	59.6	33	1.0	* 126	60.6
	531	Awnless	97	59.6	34	1.0	--	--
	Exp 2302	Awnless	109	59.2	33	1.0	--	--
AgriPro	GP 463	Awnless	105	58.9	32	1.0	102	58.7
	SY Viper	Awnless	110	60.3	37	1.0	101	60.6
CROPLAN	CP8007	Awnless	* 120	59.2	30	1.0	* 121	59.3
	CP8045	Awned	112	59.9	32	1.0	110	59.2
	CP8224	Awnless	117	60.4	32	1.0	117	60.6
	CP9203	Awnless	112	59.2	35	1.0	--	--
Diener	D491W	Awned	* 123	59.5	34	1.0	115	58.9
	D504W	Awned	116	59.8	34	1.0	114	59.7
	DXW2022	Awned	* 125	60.0	33	1.0	* 121	59.0
	DXW2023	Awned	* 125	57.6	34	1.0	--	--
	DXW2024	Awned	117	59.3	35	1.0	--	--
	DXW2025	Awnless	98	58.4	35	1.0	--	--
Dyna-Gro	9120	Awned	108	60.9	32	1.0	109	60.5
	9151	Awned	113	62.0	33	1.0	107	61.6
	9172	Awned	115	59.5	34	1.0	117	59.6
	9182	Awnless	* 122	59.6	36	1.0	107	59.6
	9290	Awned	110	59.8	35	1.0	--	--
	9481	Awnless	108	59.2	34	1.0	--	--
	9862	Awnless	115	59.3	33	1.0	102	59.6
	WX23444	Awnless	115	56.5	36	1.0	--	--
FS InSPIRE Wheat	FS 597	Awned	114	59.8	33	1.0	--	--
	FS 600	Awned	114	62.4	34	1.0	115	62.1
	FS 603	Awned	116	60.5	33	1.0	105	59.6
	FS 606	Awnless	115	61.5	37	1.0	--	--
	FS 617	Awned	110	60.3	32	1.0	--	--
	FS 623	Awnless	112	58.4	35	1.0	113	59.7
	FS 624	Awnless	* 122	60.7	37	1.0	107	60.2
	FS 745	Awned	* 119	59.9	33	1.0	111	59.3

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 6. 2023 Fond du Lac Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	2023 means Test wt. (lb/bu)	2023 means Height (in.)	2023 means Lodging (1-5)	2022 means Yield (bu/a)	2022 means Test wt. (lb/bu)
KF Brand	KF 667	Awnless	109	59.4	33	1.0	106	59.9
	KF 809	Awnless	* 124	59.1	33	1.0	108	59.3
	KF 819	Awnless	111	57.3	31	1.0	--	--
	KF 839	Awned	113	61.8	35	1.0	110	61.8
	KF 849	Awnless	113	60.1	32	1.0	102	58.9
	KF 869	Awnless	113	61.1	38	1.0	--	--
	KF 898	Awnless	111	59.8	34	1.0	--	--
	EX KF 848	Awnless	101	59.9	36	1.0	--	--
	EX KF 861	Awnless	103	59.1	35	1.0	--	--
	EX KF 908	Awnless	112	59.6	33	1.0	--	--
	EX KF 952	Awnless	103	58.7	35	1.0	--	--
KWS Cereals	KWS472	Awned	113	59.8	30	1.0	--	--
	KWS490	Awned	* 123	59.7	33	1.0	--	--
	KWS495	Awned	108	59.2	31	1.0	--	--
L-Brand (Ag Pro)	L-410	Awnletted	109	61.2	37	1.0	--	--
	L-425	Awnless	106	61.0	37	1.0	--	--
	L-435	Awnless	105	60.5	36	1.0	--	--
	L-440	Awnless	109	60.0	36	1.0	--	--
	L-444	Awnless	* 127	59.9	35	1.0	--	--
	L-447	Awned	111	61.8	35	1.0	108	61.5
	L-450	Awnless	106	58.4	33	1.0	--	--
	L-452	Awnless	* 120	59.0	37	1.0	* 119	59.4
	L-Star	Awnletted	100	59.5	35	1.0	106	59.0
Legacy	LW 2021	Awnless	110	59.0	34	1.0	108	59.3
	LW 2023	Awned	113	59.7	33	1.0	108	59.4
	LW 2024	Awned	111	60.0	32	1.0	115	60.1
	LW 2026	Awned	116	59.1	33	1.0	111	58.7
	LWS-P38	Awnless	118	56.4	35	1.0	--	--
	LWXB-1012	Awned	* 120	59.5	33	1.0	--	--
	LWXB-305	Awned	* 122	58.2	34	1.0	--	--
	LWXS-815	Awnless	110	59.4	34	1.0	--	--
	LWXS-P24	Awnless	104	59.1	34	1.0	--	--
OSIA	Starburst	Awnless	109	60.9	30	1.0	105	62.0
Pioneer	25R28	Awned	102	61.0	33	1.0	109	60.2
	25R64	Awned	118	58.7	32	1.0	--	--
	25R76	Awned	118	59.4	34	1.0	113	59.9

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 6. 2023 Fond du Lac Winter Wheat Performance Trial Results

continued from previous page

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	2023 means Test wt. (lb/bu)	2023 means Height (in.)	2023 means Lodging (1-5)	2022 means Yield (bu/a)	2022 means Test wt. (lb/bu)
PiP	701	Awnless	112	59.4	35	1.0	--	--
	702	Awnless	* 121	58.6	34	1.0	108	57.2
	705	Awnless	115	58.7	34	1.0	109	59.3
	708	Awnless	118	59.3	35	1.0	112	59.3
	712	Awnless	* 122	58.4	37	1.0	--	--
	713	Awned	109	59.1	35	1.0	--	--
	715	Awned	117	59.1	36	1.0	115	60.0
	753	Awned	113	58.7	32	1.0	--	--
	762	Awned	107	60.5	33	1.0	115	60.1
	763	Awned	* 119	59.2	34	1.0	--	--
	775	Awned	111	59.8	32	1.0	* 120	59.9
	776	Awned	105	59.1	35	1.0	--	--
	777	Awned	110	61.0	37	1.0	--	--
	778	Awned	* 119	59.5	33	1.0	--	--
	779	Awned	117	60.1	32	1.0	--	--
	781	Awned	* 126	57.9	36	1.0	* 121	57.6
	785	Awned	112	60.2	32	1.0	117	60.3
	790	Awned	113	59.9	32	1.0	117	59.8
	791	Awned	110	61.1	32	1.0	114	60.5
	796	Awned	* 123	59.4	33	1.0	* 122	59.3
	798	Awned	113	58.9	35	1.0	--	--
	799	Awned	* 123	58.1	34	1.0	--	--
Pro Seed Genetics	PRO 330A	Awned	106	60.4	36	1.0	--	--
	PRO 410	Awnless	113	60.6	35	1.0	107	60.4
	PRO 490A	Awned	114	59.7	34	1.0	110	58.8
Public	Sunburst	Awnless	102	60.5	32	1.0	103	61.8
VA Tech	16VDH-SRW03-023	Awnletted	115	59.2	33	1.0	--	--
	VA19FHB-36	Awned	115	61.0	37	1.0	--	--
Van Treeck's	L 024	Awnless	111	60.0	33	1.0	116	60.3
	L 920	Awnless	105	59.2	32	1.0	108	60.0
	Sittin' Pretty	Awnless	118	59.3	32	1.0	106	59.4
Viking	801	Awned	114	60.7	35	1.0	104	60.6
Williamsfield Seed Company	WSC 3804	Awnless	99	61.0	37	1.0	--	--
	WSC 3906	Awned	110	59.8	33	1.0	--	--
		Mean	**113**	**59.7**	**34**	**1.0**	**110**	**59.6**
		LSD (.10)	**8**	**0.7**	**1**	**--**	**7**	**0.7**

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

Table 7. 2023 Waterloo Winter Wheat Performance Trial Results

Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	2022 means Yield (bu/a)	Test wt. (lb/bu)
AgriMAXX	498	Awnless	91	55.6	33	1.0	106	57.4
	503	Awnless	86	55.9	34	1.0	104	58.6
	505	Awned	95	58.6	33	1.0	91	59.9
	513	Awned	90	57.8	33	1.0	108	58.6
	516	Awned	89	56.9	30	1.0	98	57.7
	525	Awned	91	56.9	31	1.0	* 112	59.1
	531	Awnless	87	57.7	35	1.0	--	--
	Exp 2302	Awnless	* 102	57.5	32	1.0	--	--
AgriPro	GP 463	Awnless	89	56.6	33	1.0	95	57.5
	SY Viper	Awnless	93	57.8	36	1.0	95	59.5
CROPLAN	CP8007	Awnless	* 105	56.4	30	1.0	104	58.7
	CP8045	Awned	88	57.1	31	1.0	103	58.0
	CP8224	Awnless	97	57.2	31	1.0	104	59.0
	CP9203	Awnless	95	56.7	34	1.0	--	--
Diener	D491W	Awned	* 98	56.8	33	1.0	103	57.1
	D504W	Awned	92	57.1	32	1.0	100	57.8
	DXW2022	Awned	94	56.4	31	1.0	* 111	58.2
	DXW2023	Awned	* 98	56.6	32	1.0	--	--
	DXW2024	Awned	95	56.7	34	1.0	--	--
	DXW2025	Awnless	80	55.2	33	1.0	--	--
Dyna-Gro	9120	Awned	91	59.2	31	1.0	105	60.2
	9151	Awned	90	58.3	33	1.0	96	60.3
	9172	Awned	93	56.8	32	1.0	100	57.7
	9182	Awnless	87	56.1	33	1.0	96	58.7
	9290	Awned	91	57.7	33	1.0	--	--
	9481	Awnless	* 99	57.0	33	1.0	--	--
	9862	Awnless	94	56.5	31	1.0	100	58.8
	WX23444	Awnless	* 104	56.3	34	1.0	--	--
FS InSPIRE Wheat	FS 597	Awned	91	57.5	33	1.0	--	--
	FS 600	Awned	92	58.6	33	1.0	92	59.8
	FS 603	Awned	96	58.5	32	1.0	99	58.6
	FS 606	Awnless	86	58.1	35	1.0	--	--
	FS 617	Awned	* 98	57.3	30	1.0	--	--
	FS 623	Awnless	90	56.0	34	1.0	100	58.8
	FS 624	Awnless	* 98	56.9	34	1.0	101	59.8
	FS 745	Awned	95	56.9	32	1.0	102	57.8

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 7. 2023 Waterloo Winter Wheat Performance Trial Results

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Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	2022 means Yield (bu/a)	Test wt. (lb/bu)
KF Brand	KF 667	Awnless	97	58.4	34	1.0	* 110	59.4
	KF 809	Awnless	* 100	57.1	32	1.0	103	58.1
	KF 819	Awnless	* 99	55.5	30	1.0	--	--
	KF 839	Awned	89	58.9	33	1.0	93	59.6
	KF 849	Awnless	96	56.6	32	1.0	99	57.8
	KF 869	Awnless	86	58.2	35	1.0	--	--
	KF 898	Awnless	* 99	57.4	32	1.0	--	--
	EX KF 848	Awnless	85	58.1	34	1.0	--	--
	EX KF 861	Awnless	86	57.2	35	1.0	--	--
	EX KF 908	Awnless	88	56.5	32	1.0	--	--
	EX KF 952	Awnless	91	57.6	34	1.0	--	--
KWS Cereals	KWS472	Awned	96	57.5	30	1.0	--	--
	KWS490	Awned	97	56.8	31	1.0	--	--
	KWS495	Awned	* 102	57.6	31	1.0	--	--
L-Brand (Ag Pro)	L-410	Awnletted	87	58.1	36	1.0	--	--
	L-425	Awnless	91	58.3	36	1.0	--	--
	L-435	Awnless	84	57.6	33	1.0	--	--
	L-440	Awnless	74	58.0	34	1.0	--	--
	L-444	Awnless	93	57.9	33	1.0	--	--
	L-447	Awned	94	59.1	33	1.0	95	59.5
	L-450	Awnless	85	56.3	33	1.0	--	--
	L-452	Awnless	* 99	56.6	35	1.0	104	58.5
	L-Star	Awnletted	81	58.1	32	1.0	* 110	59.8
Legacy	LW 2021	Awnless	92	56.6	34	1.0	100	58.7
	LW 2023	Awned	89	56.8	31	1.0	102	58.0
	LW 2024	Awned	90	57.1	31	1.0	102	58.8
	LW 2026	Awned	* 100	56.6	31	1.0	106	58.2
	LWS-P38	Awnless	* 102	55.9	35	1.0	--	--
	LWXB-1012	Awned	91	56.8	32	1.0	--	--
	LWXB-305	Awned	* 103	56.6	33	1.0	--	--
	LWXS-815	Awnless	90	56.7	33	1.0	--	--
	LWXS-P24	Awnless	84	56.6	32	1.0	--	--
OSIA	Starburst	Awnless	84	57.0	30	1.0	94	61.0

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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Table 7. 2023 Waterloo Winter Wheat Performance Trial Results

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Brand (Entrant)	Entry	Head Type	2023 means Yield (bu/a)	Test wt. (lb/bu)	Height (in.)	Lodging (1-5)	2022 means Yield (bu/a)	Test wt. (lb/bu)
Pioneer	25R28	Awned	90	58.1	31	1.0	100	59.3
	25R64	Awned	* 100	55.6	30	1.0	--	--
	25R76	Awned	92	56.2	33	1.0	106	58.4
PiP	701	Awnless	90	56.4	33	1.0	--	--
	702	Awnless	* 101	56.2	33	1.0	106	56.1
	705	Awnless	89	55.9	33	1.0	101	58.7
	708	Awnless	* 98	56.4	35	1.0	100	58.3
	712	Awnless	* 101	56.4	34	1.0	--	--
	713	Awned	93	56.4	33	1.0	--	--
	715	Awned	83	55.9	34	1.0	98	58.3
	753	Awned	94	56.2	32	1.0	--	--
	762	Awned	89	57.1	32	1.0	* 109	58.8
	763	Awned	* 99	57.0	33	1.0	--	--
	775	Awned	* 99	56.4	32	1.0	* 116	59.1
	776	Awned	88	56.3	33	1.0	--	--
	777	Awned	84	56.8	34	1.0	--	--
	778	Awned	* 103	57.2	33	1.0	--	--
	779	Awned	97	57.8	31	1.0	--	--
	781	Awned	* 107	56.3	34	1.0	* 113	55.7
	785	Awned	95	57.2	31	1.0	104	59.0
	790	Awned	* 101	57.2	32	1.0	104	58.1
	791	Awned	97	59.4	32	1.0	105	60.0
	796	Awned	* 98	56.5	31	1.0	107	58.4
	798	Awned	91	55.9	33	1.0	--	--
	799	Awned	* 100	56.6	33	1.0	--	--
Pro Seed Genetics	PRO 330A	Awned	81	57.7	34	1.0	--	--
	PRO 410	Awnless	* 99	56.8	34	1.0	97	59.6
	PRO 490A	Awned	95	57.2	33	1.0	103	57.8
Public	Sunburst	Awnless	82	56.1	31	1.0	95	61.7
VA Tech	16VDH-SRW03-023	Awnletted	90	56.4	32	1.0	--	--
	VA19FHB-36	Awned	91	58.1	34	1.0	--	--
Van Treeck's	L 024	Awnless	90	56.7	31	1.0	* 111	60.0
	L 920	Awnless	91	58.3	33	1.0	106	58.8
	Sittin' Pretty	Awnless	96	57.5	33	1.0	103	58.3
Viking	801	Awned	90	58.1	34	1.0	105	59.5
Williamsfield Seed Company	WSC 3804	Awnless	78	57.3	35	1.0	--	--
	WSC 3906	Awned	87	58.0	32	1.0	--	--
		Mean	**93**	**57.1**	**33**	**1.0**	**102**	**58.5**
		LSD (.10)	**9**	**0.6**	**1**	**--**	**7**	**0.6**

* Yield is not significantly different than that of the highest yielding cultivar (0.10 level)

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