



# Current Report

**EXTENSION**

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## 2022-2023 Small Grains Variety Performance Tests

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### Wheat Crop Overview

At the time of writing this report, 2023 Oklahoma wheat production is estimated to be approximately 54 million bushels, which is about 22% lower than 2022 production and 53% lower than 2021 production (Table 1). Approximately 4.6 million acres were planted for the 2023 crop year, larger than the 2022 crop but 4% lower than the previous 10-year average. Number of harvested acres is estimated at 2.15 million, which is 10% lower than in 2022 (Table 1). The statewide average yield is projected at 25 bu/ac. This is 3 bu/ac lower than the 2022 state average and 8 bu/ac lower than the previous 10-year average.

**Table 1. Oklahoma wheat production for 2021, 2022 and 2023 as estimated by USDA NASS, June 2022.**

	2021	2022	2023
Planted area (million acres)	4.4	4.3	4.6
Harvested area (million acres)	2.95	2.40	2.15
Yield (bushels/acre)	39	28	25
Total production (million bushels)	115	69	65

Dual-purpose wheat producers could not plant at the optimum time (mid-September) due to drought conditions in much of the state. Most of the wheat intended for dual-purpose was “dusted in” and emergence was delayed. Although dual-purpose wheat established well in some areas, October precipitation was insufficient to promote adequate fall forage production, and many producers were not able to graze the wheat in the fall. In some areas producers were able to use wheat for grazing in the spring with a lower stocking rate than usual. Oklahoma received rainfall in October, which helped the dual-purpose wheat to emerge and grow as well as enabled grain-only producers to plant under good soil moisture in some areas.

December was warmer than usual with large fluctuations

in temperature and a few days below 32 degrees. By the end of year, the wheat was small and showing signs of drought stress and could have benefited from additional moisture going into the winter. However, this moisture did not arrive until February except in the NW and NC regions.

Due to a lack of moisture late in the fall, wheat fields planted late, especially the northcentral, northwest, and Panhandle regions, did not emerge until February. This resulted in reduced growth and tillering. The continual lack of rainfall during the winter made conditions unsuitable for wheat, and growers could not take the crop to grain harvest. Many producers decided to cut wheat for hay or had to abandon the fields. There were few dryland wheat fields harvested in the Panhandle. In other parts of the state where the crop was established in October and received some rainfall in February, April, and May, yield potential was acceptable. However, with the exception of eastern OK, much of the wheat in the state was grown under chronic drought stress. No diseases or insects of any significance were observed in the fall.

Overall, average temperatures and extremely low rainfall resulted in small fall forage production (for more information see CR 2141 - Fall Forage Production and First Hollow Stem Date for Small Grain Varieties during the 2022-2023 Crop Year). Lack of moisture resulted in late wheat emergence, slow plant development, and delayed onset of first hollow stem for our region. This deficit also may have compressed differences among varieties for onset of first hollow stem. In the forage trials, the very early genotypes reached first hollow stem during the first week of March and most of the very late genotypes reached first hollow stem during the second week of March. By the end of March drought conditions became severe in many areas, and the crop was behind in growth in much of the state. Some parts of the state received decent rainfall at the beginning of April -- the most significant received since planting. This moisture saved many producers from not having a crop in 2023. However, some places, such as the panhandle and northwest regions, did

not receive significant amounts of precipitation. Moisture deficit during this critical plant developmental stage (from jointing to flag leaf stage) resulted in short wheat in many fields. Flag leaves turned blue and curled due to lack of moisture. The weather continued to be very hot and dry and prevented the emergence of many diseases. However, moderate infestations of brown wheat mites occurred in the northern part of the state.

Wheat started to head by mid-April in southwest OK and late April in southcentral OK. Freeze events occurred but the damage was minimal this year. Some fields showed heads with discoloration (i.e., bleached) due to different types of stresses (e.g., freeze, drought, and crown/root rots). By May, the crop received significant amounts of precipitation, which was crucial to help with grain filling and test weight.

Late in March, wheat soilborne mosaic and wheat spindle streak mosaic were observed in a few research trials in Stillwater and Lahoma. Symptoms of these viral diseases disappeared as temperatures increased in April. In contrast to 2022, wheat streak mosaic was rarely observed and only a couple of infected samples were reported in Payne and Woods Counties late in March. Barley yellow dwarf, which is a common viral disease in Oklahoma, occurred at moderate incidence and severity during mid-April to mid-May.

As in 2022, common root rot (caused by *Bipolaris sorokiniana*) and *Fusarium* root and crown rot were severe throughout the growing season in multiple wheat fields in western Oklahoma where drought was prevalent. Root rots were observed in fields in multiple counties including Jackson, Woods, Kingfisher, Washita, Grant, Ellis, Grady, and Garfield.

Fungal foliar diseases were not noticeable until May due to severe drought. The precipitation in May promoted the development of some foliar fungal diseases, but it was late in the growing season to cause significant impact on yield. Among these foliar fungal diseases, spot blotch, *Septoria tritici* blotch, and *Stagonospora* leaf and glume blotch were observed in moderate incidence and severity with occasional fields showing high severity. These leaf spotting diseases were reported in Payne, Garfield, Major, Okmulgee, Cleveland, and Grady counties. Powdery mildew was another foliar fungal disease that was observed in low incidence and severity in Payne and Okmulgee counties.

Stripe rust was first reported in low incidence and severity at the OSU South Central Research Station in Chickasha (Grady County) during the last week of April. Later in May, stripe rust was observed in trace levels at Stillwater (Payne County), but it was not a concern in Oklahoma wheat fields. The rainfall in May also favored the appearance of leaf rust that was observed in low incidence and severity at Stillwater and Lahoma. The highest incidence and severity of leaf rust were observed at the OSU South Central Research Station at Chickasha during mid- to late-May, with moderate to significant yield loss depending on resistance level. Leaf rust, however, did not appear to inflict widespread damage on the Oklahoma wheat crop. Stem rust, which is rarely observed in Oklahoma, was first reported at Chickasha during the third week of May. Stem rust hot spots were found on the wheat cultivar 'LCS Galloway AX' and a few other susceptible breeding lines from the Great Plains. Infected stem rust samples were sent to the USDA-ARS Cereal Disease Lab in Minnesota for race identification. The stem rust pathogen race was confirmed to be QFCSC which has been a dominant race in the USA for many years. This race was also found from earlier collections this year in Louisiana and Texas. There were

no other reports of stem rust in Oklahoma wheat fields.

There were reports of nematodes and bacterial diseases in a few wheat fields in Oklahoma. During late March-early April, plant parasitic nematode species were recovered from a couple of soil and wheat samples collected from yellowing spots in wheat fields in Blaine and Ellis Counties. There were not many reports of nematode problems in wheat in Oklahoma in previous years, so future investigations will continue in coming seasons. Precipitation during May also favored the appearance of bacterial diseases including bacterial leaf streak that was confirmed in a sample from Morris (Okmulgee County). Bacterial leaf blight was observed in a couple of samples collected in Stillwater (Payne County) and Morris; however, this disease is not of major economic importance as the causal bacterium is considered a weak pathogen.

In summary, this year's crop was thin and short, with small head size due to the severe drought it experienced throughout the season. Kernel size, however, benefitted from precipitation events during May. Overall, the Oklahoma wheat crop was severely affected by lack of moisture, and some fields were not harvested.

Most of the rain in the state came in the first two weeks of May and continued until July. Consequently, harvest was delayed by a couple of weeks in some areas and weed pressure was problematic. According to the Oklahoma Wheat Commission report, grain yields of harvested wheat ranged from meager yields (10 bu/ac) in drought-stressed fields to higher yields (60-80 bu/ac) in intensively managed and irrigated fields. Test weight was good as harvest began, with values ranging from 58 to 61 lbs/bu. Wheat protein varied from 11 to 14% across the state, with a state average of 13%.

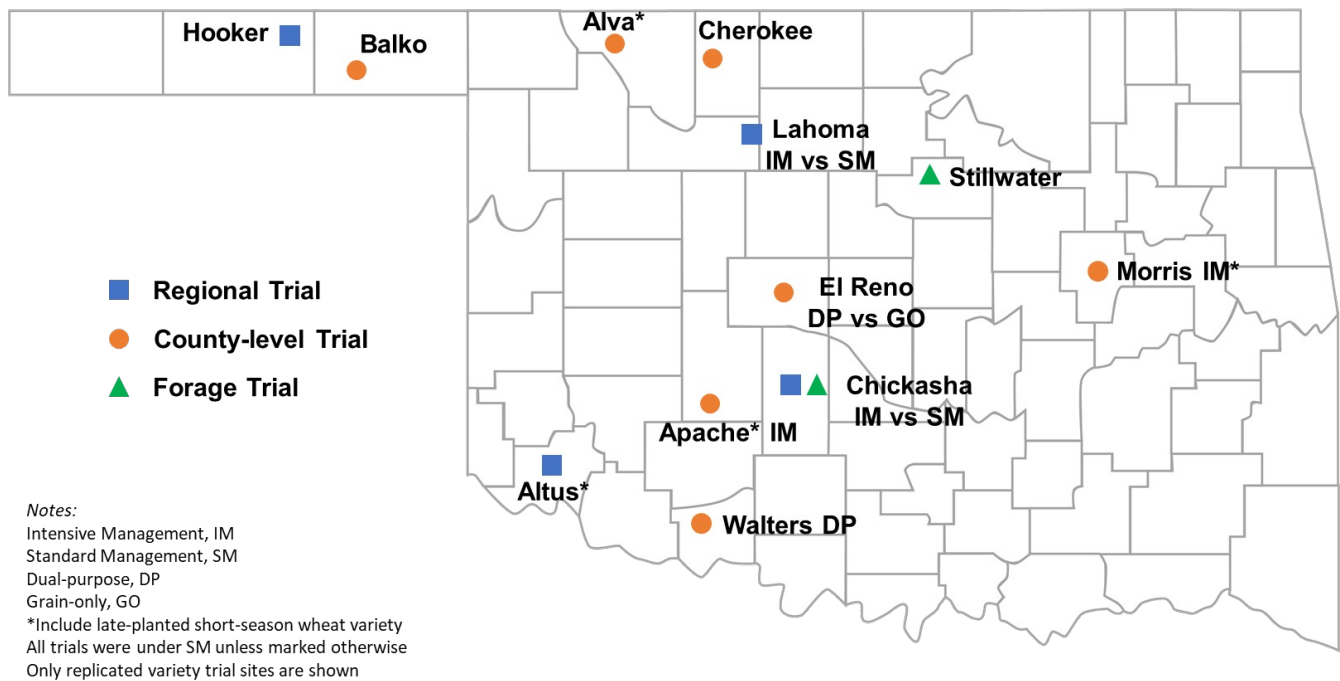
## Testing Methods and Data Interpretation

### Testing Methods

Seed was packaged and planted in the same condition as delivered from the respective seed companies. Most seed was treated with an insecticide plus a fungicide, but the formulation and rate of seed treatment used was not confirmed or reported in this document.

Plots were seven rows wide with 7.5-inch row spacing and were sown with a Great Plains no-till drill modified for cone-seeded, small-plot research. Except for dryland locations in the Panhandle, plots were planted 25 feet long and trimmed to 19 feet at harvest with the plot combine. Panhandle dryland locations were 35 feet long at planting and trimmed to 29 feet at harvest. Wheel tracks were included in the plot area for yield calculation for a total plot width of 60 inches. The experimental design for all sites was a randomized complete block with four replicates. The intensive management trials at Apache, Morris, Chickasha, and Lahoma received two fungicide applications, additional topdress nitrogen application in the spring, and were planted on a seeds per acre basis at 1.2 million seeds per acre. Fungicide was applied at Feekes 6 (jointing) and Feekes 9 (flag leaf completely emerged). Additional information on product name, rate and date of application is included in the tables for the respective sites.

Plots received 5 gal/ac of 10-34-0 at planting. All variety trial locations were sown at 60 pounds per acre, except for the dual-purpose trials at El Reno and Walters, which were sown at 120 pounds per acre. The intensive wheat management trials at Apache, Chickasha, Lahoma, and Morris were sown at 1.2 million



**Figure 1.** Performance test locations.

seeds per acre. Grazing intensity, nitrogen fertilization, and insect and weed control decisions were made on a location-by-location basis and reflect standard management practices for the area. In general, the spring-applied N rate was calculated for a 70 bu/ac yield goal for the standard management trials and 100 bu/ac yield goal for the intensive management trials.

Plots were harvested with a Winterstieger Delta small plot combine. Grain weight, test weight, protein concentration, and moisture content were collected from each plot, and grain yields and protein concentration were corrected to 12% moisture content. Grain moisture at all sites was generally below 12%, and maximum and minimum grain moisture for all plots at a location typically ranged no more than 2%. Similar to many wheat fields in the region, the Hooker trial experienced severe drought stress throughout the growing season, with significant plant mortality. Thus, this site was not harvested in 2023.

### Data Interpretation

Yield, test weight, and protein data for each location and regional summary were analyzed using the appropriate statistical methods. At the bottom of each table, the mean and least significant difference (LSD) values are reported. The LSD is a test statistic that aids in determining whether there is a true difference in yield, test weight, and protein. In this report, one can be 95% confident that the difference between two varieties is real if the difference is greater than the LSD value. Data that is not significantly different is indicated by “NS”. For example, if the LSD value is 4 bu/ac in a trial where Variety A yielded 30 bu/ac and Variety B yielded 25, then Variety A would be considered to have a statistically higher yield. However, if Variety C yielded 27 bu/ac, then Variety A and Variety C would be considered to have a similar yield. In that same example trial, there is a 5% chance that the 4 bu/ac difference between Variety A and Variety B does not truly exist, but random chance caused the


5 bushel difference. These chance factors may include differences in fertility, moisture availability, and diseases. To aid in visualizing the varieties with the highest yields, test weights, and proteins, values highlighted in gray do not differ statistically from the highest value within a column. The performance of a variety may vary from year to year, even at the same location. Tests over two or more years and over multiple locations more accurately predict the performance of a variety.


### Additional Information on the Web

A copy of this publication as well as additional information about wheat management can be found at:

**Website:** [www.wheat.okstate.edu](http://www.wheat.okstate.edu)

**Blog:** [www.osuwheat.com](http://www.osuwheat.com)

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## Summary of All Individual Locations

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Licensee	Variety	Altus	Alva	Apache IM	Balko	Cherokee	Chikasha	Chikasha IM
-----grain yield (bu/ac)-----								
AgriMAXX	AM Cartwright	37	26	65	52	42	79	84
AGSECO	AG Golden	43	32	75	53	—	82	92
AGSECO	AG Radical	41	—	—	—	40	72	82
AgriPro	AP Bigfoot	48	—	72	—	—	77	92
AgriPro	AP EverRock	—	—	—	—	32	73	85
AgriPro	AP Longjack	35	—	—	—	—	71	79
AgriPro	AP Prolific	—	—	—	—	—	85	91
AgriPro	Bob Dole	—	34	—	—	37	87	94
AgriPro	SY Wolverine	—	33	—	54	40	—	—
Croplan	CP7017AX	50	34	74	51	44	75	88
Croplan	CP7266AX	44	—	74	—	—	73	92
KWA	KS Ahearn	38	34	—	56	47	75	91
KWA	KS Providence	43	34	79	48	49	83	93
LCS	LCS Atomic AX	55	26	74	41	41	75	86
LCS	LCS Chrome	46	—	—	—	—	76	79
LCS	LCS Galloway AX	43	—	—	—	—	71	82
LCS	LCS Helix AX	48	—	—	—	38	77	93
LCS	LCS Julep	42	—	69	—	44	80	84
LCS	LCS Photon AX	57	23	66	39	—	72	79
LCS	LCS Steel AX	41	—	—	—	—	81	84
OGI	Baker's Ann	—	29	—	33	39	—	—
OGI	Bentley	48	—	—	47	—	—	—
OGI	Big Country	—	30	—	—	32	83	87
OGI	Breakthrough	—	—	—	37	—	—	—
OGI	Butler's Gold	42	20	56	—	25	70	78
OGI	Butker's Gold (late-planted)	34	—	39	39	—	—	—
OGI	Doublestop CL+	48	35	75	—	43	80	81
OGI	Gallagher	40	32	70	50	35	82	91
OGI	Green Hammer	47	30	73	—	34	72	81
OGI	High Cotton	47	32	78	45	31	73	88
OGI	Iba	41	31	75	37	39	—	—
OGI	Lonerider	—	—	—	41	—	—	—
OGI	OK Corral	38	28	67	46	35	78	91
OGI	Showdown	47	36	81	53	42	82	93
OGI	Smith's Gold	39	29	66	46	42	76	87
OGI	Strad CL+	45	34	69	—	41	71	74
OGI	Uncharted	42	30	75	—	35	70	77
PlainsGold	Breck	47	—	—	63	—	83	94
PlainsGold	Canvas	49	38	75	48	46	78	85
PlainsGold	Crescent AX	46	30	72	45	45	76	88

PlainsGold	Kivari AX	43	—	—	—	—	83	90
Watley	TAM112	—	—	—	—	—	—	—
Watley	TAM 115	—	—	—	52	—	—	—
Watley	TAM204	—	—	—	—	—	—	—
Westbred	WB4401	38	23	64	—	34	76	90
Westbred	WB4422	51	—	—	—	38	86	94
Westbred	WB4632	49	30	—	—	31	84	90
Westbred	WB4792	47	33	77	63	40	72	88
<b>Experimentals</b>								
OSU	OK15DMASBx7 ARS 6-8	48	28	77	—	39	66	82
OSU	OK15MASBx7 ARS 8-29	35	32	71	48	43	83	92
OSU	OK16103083	—	—	—	—	—	—	—
OSU	OK16107133-19-3	34	28	74	—	35	80	80
OSU	OK18205	44	—	—	—	—	—	—
OSU	OK19225	—	—	75	—	—	86	87
<b>Mean LSD (0.05)</b>		<b>44</b>	<b>30</b>	<b>71</b>	<b>47</b>	<b>39</b>	<b>77</b>	<b>86</b>
		<b>9</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>7</b>	<b>7</b>	<b>7</b>



## Summary of All Individual Locations

Wheat.okstate.edu								
Licensee	Variety	El Reno DP	El Reno GO	Kildare	Lahoma	Lahoma IM	Morris IM	Walters
-----grain yield (bu/ac)-----								
AgriMAXX	AM Cartwright	62	39	25	64	76	95	37
AGSECO	AG Golden	—	—	—	67	76	—	46
AGSECO	AG Radical	65	52	27	73	75	87	46
AgriPro	AP Bigfoot	—	—	—	59	69	105	—
AgriPro	AP EverRock	48	33	22	59	66	102	—
AgriPro	AP Longjack	—	—	—	63	74	—	—
AgriPro	AP Prolific	66	54	28	71	82	—	—
AgriPro	Bob Dole	—	—	—	72	77	108	—
AgriPro	SY Wolverine	—	—	—	68	77	—	—
Croplam	CP 7017AX	61	36	—	63	73	83	34
Croplan	CP 7266AX	—	—	12	69	75	—	—
KWA	KS Ahearn	50	40	31	65	79	98	37
KWA	KS Providence	—	—	30	77	85	105	—
LCS	LCS Atomic AX	59	45	16	66	73	105	45
LCS	LCS Chrome	—	—	—	65	73	—	46
LCS	LCS Galloway AX	—	—	—	67	81	—	—
LCS	LCS Helix AX	—	—	14	69	74	—	—
LCS	LCS Julep	—	—	—	68	78	103	—
LCS	LCS Photon AX	—	—	—	58	69	96	37
LCS	LCS Steel AX	—	—	11	62	67	—	—
OGI	Baker's Ann	—	—	20	58	69	—	—
OGI	Bentley	—	—	27	60	75	—	—
OGI	Big Country	60	47	21	68	78	99	—
OGI	Breakthrough	—	—	—	—	—	—	—
OGI	Butler's Gold	40	35	20	55	64	—	—
OGI	Butler's Gold (late-planted)	—	—	—	31	35	—	—
OGI	Doublestop CL+	65	45	32	59	75	—	45
OGI	Gallagher	60	37	30	66	85	96	41
OGI	Green Hammer	61	45	27	67	80	—	44
OGI	High Cotton	70	30	24	61	74	105	41
OGI	Iba	—	—	26	62	76	—	41
OGI	Lonerider	—	—	—	—	—	—	—
OGI	OK Corral	50	36	26	60	82	106	37
OGI	Showdown	67	56	22	67	82	—	50
OGI	Smith's Gold	52	30	23	59	70	98	41
OGI	Strad CL+	55	23	36	55	71	—	36
OGI	Uncharted	62	39	26	51	65	101	38
PlainsGold	Breck	64	42	33	70	81	—	—
PlainsGold	Canvas	—	—	—	70	83	—	46
PlainsGold	Crescent AX	61	49	22	70	77	85	45
PlainsGold	Kivari AX	—	—	—	71	79	—	—

Watley	TAM112	—	—	—	—	—	—	—
Watley	TAM115	—	—	—	—	—	—	—
Watley	TAM204	—	—	—	—	—	—	—
Westbred	WB4401	60	36	28	63	76	118	43
Westbred	WB4422	67	47	—	69	79	—	46
Westbred	WB4632	63	46	28	72	82	108	—
Westbred	WB4792	—	—	—	57	62	—	40
<b>Experimentals</b>								
OSU	OK15DMASBx7 ARS 6-8	58	45	21	60	75	—	43
OSU	OK15MASBx7 ARS 8-29	60	39	33	69	83	103	43
OSU	OK16103083	—	—	27	—	—	92	—
OSU	OK16107133-19-3	60	42	20	60	64	105	41
OSU	OK18205	58	56	—	—	—	—	49
OSU	OK19225	—	—	—	—	—	85	—
<b>Mean</b>		<b>59</b>	<b>42</b>	<b>25</b>	<b>64</b>	<b>74</b>	<b>99</b>	<b>44</b>
<b>LSD (0.05)</b>		<b>9</b>	<b>9</b>	<b>4</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>8</b>

Notes: Grain yield was adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column, NS= not significant. IM; Intensive Management, DP; dual purpose, GO; grain-only. Em Dash "—" = data not available.



## Altus Regional Wheat Variety Trial

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<b>Cooperator: OSU Southwest Res. &amp; Ext. Center</b> <b>Planting &amp; Harvest Dates: 11/03/2022 &amp; 05/31/2023</b> <b>Management: Grain-Only</b> <b>Tillage: Conventional</b>				<b>Extension Educator: Gary Strickland</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Hollister Silt Clay Loam</b> <b>Soil Test: pH=6.5, N=30, P=183, K=1214</b>		
Licensee	Variety	Grain Yield			Test Weight	Protein
		2022-23	2-Year	3-Year	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
LCS	LCS Photon AX	57	63	52	60.3	17.9
LCS	LCS Atomic AX	55	62	—	60.1	16.5
Westbred	WB4422	51	—	—	58.8	18.8
Croplan	CP7017AX	50	58	—	58.3	16.4
PlainsGold	Canvas	49	62	64	58.1	17.6
Westbred	WB4632	49	—	—	58.3	18.7
OGI	Bentley	48	57	48	56.8	17.3
OGI	Doublestop CL+	48	53	57	61.6	18.3
AgriPro	AP Bigfoot	48	56	—	60.2	17.0
LCS	LCS Helix AX	48	57	—	60.6	17.2
OGI	Green Hammer	47	56	47	59.8	18.9
Westbred	WB4792	47	59	60	60.1	16.8
OGI	High Cotton	47	—	—	59.3	18.1
OGI	Showdown	47	62	63	58.0	18.8
PlainsGold	Breck	47	—	—	58.9	18.0
PlainsGold	Crescent AX	46	56	45	58.1	17.3
LCS	LCS Chrome	46	57	57	56.3	18.8
OGI	Strad CL+	45	—	—	59.6	17.7
Croplan	CP7266AX	44	—	—	57.8	17.1
PlainsGold	Kivari AX	43	—	—	59.0	17.1
AGSECO	AG Golden	43	—	—	54.8	18.1
KWA	KS Providence	43	—	—	58.9	18.4
LCS	LCS Galloway AX	43	—	—	57.4	19.3
LCS	LCS Julep	42	50	—	59.6	18.5
OGI	Uncharted	42	52	44	59.0	17.0
OGI	Butler's Gold	42	—	—	60.3	18.9
LCS	LCS Steel AX	41	—	—	59.4	17.7
AGSECO	AG Radical	41	58	—	55.6	20.6
OGI	Iba	41	—	—	60.3	17.7
OGI	Gallagher	40	50	47	59.2	18.3
Westbred	WB4523	40	—	—	56.6	17.8
OGI	Smith's Gold	39	51	49	59.4	17.7
KWA	KS Ahearn	38	48	—	56.6	18.9
OGI	OK Corral	38	50	54	53.5	19.2
Westbred	WB4401	38	45	39	57.1	18.4
AgriMAXX	AM Cartwright	37	47	—	58.4	18.6
AgriPro	AP Longjack	35	—	—	52.5	18.7
OGI	Butler's Gold	34	—	—	60.5	17.8



<b>Experimentals</b>						
OSU	OK15DMASBx7 ARS 6-8	48	—	—	58.6	18.7
OSU	OK18205	44	—	—	56.7	19.6
OSU	OK15MASBx7 ARS 8-29	35	—	—	57.4	18.9
OSU	OK16107133-19-3	34	—	—	59.3	18.3
<b>Mean</b>		<b>44</b>	<b>55</b>	<b>52</b>	<b>58.3</b>	<b>18.1</b>
<b>LSD (0.05)</b>		<b>9</b>	<b>6</b>	<b>14</b>	<b>1.2</b>	<b>0.8</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column. In 2022, there was no harvest results from this location due to the severe drought. Thus, 2-year and 3-year averages represent results from 2023, 2021, and 2020 harvest years. Em Dash "—" = data not available."



## Alva Wheat Variety Trial

Wheat.okstate.edu						
<b>Cooperator: Joe Shirley</b> <b>Planting &amp; Harvest Dates: 10/13/2022 &amp; 06/27/2023</b> <b>Management: Grain-Only</b> <b>Tillage: Conventional</b>			<b>Extension Educator: Greg Highfill</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Bethany Silt Loam</b> <b>Soil Test: pH=6.6, N=140, P=31, K=526</b>			
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2-Year	3-Year	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
PlainsGold	Canvas	38	33	—	62.5	14.9
OGL	Showdown	36	29	42	60.8	15.9
OIG	Doublestop CL+	35	26	34	60.6	18.0
AgriPro	Bob Dole	34	26	37	59.6	16.7
KWA	KS Ahearn	34	—	—	60.2	15.8
Croplan	CP7017AX	34	29	—	60.7	15.0
KWA	KS Providence	34	—	—	60.4	16.4
OGL	Strad CL+	34	25	—	60.1	17.4
Westbred	WB4792	33	28	40	62.8	15.6
Agripro	SY Wolverine	33	—	—	61.0	17.0
AGSECO	AG Golden	32	—	—	60.2	14.8
OGL	Gallagher	32	25	36	60.6	16.3
OGL	High Cotton	32	—	—	59.9	16.2
OGL	Iba	31	—	—	61.4	15.0
OGL	Big Country	30	22	36	60.4	16.7
OGL	Uncharted	30	—	—	60.0	16.2
PlainsGold	Cresecent AX	30	24	39	58.8	17.4
OGL	Green Hammer	30	23	—	59.3	18.4
Wesbred	WB4632	30	—	—	60.9	16.8
OGL	Smith's Gold	29	25	36	60.1	17.1
OGL	Baker's Ann	29	—	—	60.6	16.7
OGL	OK Corral	28	24	38	58.8	16.1
Westbred	WB4523	27	—	—	61.2	14.6
AgriMAXX	AM Cartwright	26	18	29	58.8	17.1
LCS	LCS Atomic AX	26	24	—	60.2	16.5
LCS	LCS Photon AX	23	21	33	59.4	18.0
Westbred	WB4401	23	18	32	59.0	16.6
OGL	Butler's Gold	20	18	—	59.2	19.3
<b>Experimentals</b>						
OSU	OK15MASBx7 ARS 8-29	32	26	—	60.4	16.2
OSU	OK15DMASBx7 ARS 6-8	28	—	—	61.4	16.5
OSU	OK16107133-19-3	28	—	—	61.6	17.4
<b>Mean</b>		<b>30</b>	<b>24</b>	<b>36</b>	<b>60.3</b>	<b>16.5</b>
<b>LSD (0.05)</b>		<b>5</b>	<b>4</b>	<b>8</b>	<b>2.1</b>	<b>1.0</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced severe drought stress during the season and moderate pressure of weeds at the end of the season. The weeds present were Buckwheat, Buffalo Bur, Crabgrass, Downy brome, Foxtail, Johnson grass, and Kocia. Em Dash "—" = data not available.



## Apache Intensive Wheat Management Variety Trial

Wheat.okstate.edu

<b>Cooperator: Bryan Vail</b> <b>Planting &amp; Harvest Dates: 10/14/2022 &amp; 06/09/2023</b> <b>Management: Grain-Only, conventional tillage</b> <b>Seeding Rate: 1.2 million seeds/acre</b> <b>Nitrogen: 6 lbs/acre 10-34-0, 75 lbs/ac around 01/25/23</b> <b>Fungicide: 2 fl oz/ac Tebucure 3.6 at jointing on 03/23/23 and 7 fl oz/ac MiCrop at flag leaf-boot stage on 04/12/23</b>	<b>Extension Educator: Alyson Pitmon</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Hollister silt loam</b> <b>Soil Test: pH=5.5, N=103, P=37, K=336</b>
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Licensee	Variety	Grain Yield		Test Weight	Wheat Protein
		2022-23 Intensive Manag.	2-year Intensive Manag.	2022-23 Intensive Manag.	2022-23 Intensive Manag.
		-----bu/ac-----		-- lb/bu --	-- % --
OGI	Showdown	81	70	58.9	12.7
KWA	KS Providence	79	—	58.8	13.5
OGI	High Cotton	78	—	60.7	13.4
Westbred	WB4792	77	57	61.1	12.7
AGSECO	AG Golden	75	—	57.8	12.5
PlainsGold	Canvas	75	66	58.4	13.0
OGI	Iba	75	—	60.2	13.0
Croplan	CP7017AX	75	63	57.2	12.5
OGI	Uncharted	75	59	59.1	13.3
OGI	Doublestop CL+	75	60	62.2	13.9
Croplan	CP7266AX	74	—	58.6	12.8
LCS	LCS Atomic AX	74	65	59.1	12.9
OGI	Green Hammer	73	61	58.7	14.7
AgriPro	AP Bigfoot	72	—	58.0	12.7
PlainsGold	Crescent AX	72	—	58.4	12.9
OGI	Gallagher	70	57	58.8	13.0
LCS	LCS Julep	69	51	62.4	13.5
OGI	Strad CL+	69	57	60.2	14.1
OGI	OK Corral	67	54	57.0	12.9
OGI	Smith's Gold	66	54	60.0	13.7
LCS	LCS Photon AX	66	59	60.6	14.3
AgriMAXX	AM Cartwright	65	51	58.9	14.2
Westbred	WB4523	65	—	57.3	12.5
Westbred	WB4401	64	53	59.5	12.6
OGI	Butler's Gold	56	46	60.3	14.0
OGI	Butler's Gold (late-planted)	39	34	58.2	15.4
Experimentals					
OSU	OK15DMASBx7 ARS 6-8	77	64	60.5	13.8
OSU	OK19225	75	—	61.7	13.5
OSU	OK16107133-19-3	74	—	60.1	14.0
OSU	OK15MASBx7 ARS 8-29	71	—	59.2	13.0
<b>Mean</b>		<b>71</b>	<b>57</b>	<b>59.4</b>	<b>13.4</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>5</b>	<b>1.7</b>	<b>0.8</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column. This is the second year we have conducted an intensive management trial at Apache. For this reason, there is no data to calculate 3-year average. Butler's Gold late-planted was planted on 12/06/2022. There were no diseases observed and the crop was impacted by a drought stress during the season. Em Dash "—" = data not available."



## Balko Wheat Variety Trial

Wheat.okstate.edu						
<b>Cooperator: Kenton Patzkowsky</b> <b>Planting &amp; Harvest Dates: 10/10/2022 &amp; 06/28/2023</b> <b>Management: Grain-Only</b> <b>Tillage: Conventional</b>			<b>Extension Educator: Loren Sizelove</b> <b>Previous Crop: Fallow</b> <b>Soil Type: Dale silt loam</b> <b>Soil Test: pH=7.3, N=51, P=28, K=810</b>			
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2-Year	3-year	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
PlainsGold	Breck	63	—	—	60.7	14.2
Westbred	WB4792	63	47	52	59.2	13.6
KWA	KS Ahearn	56	—	—	58.8	14.3
AgriPro	SY Wolverine	54	—	—	59.1	14.9
AGSECO	AG Golden	53	—	—	59.0	13.2
OGI	Showdown	53	44	49	58.4	14.1
AgriMAXX	AM Cartwright	52	48	—	58.1	14.5
Watley	TAM115	52	—	—	60.2	14.5
Croplan	CP7017AX	51	45	—	59.1	13.2
OGI	Gallagher	50	44	44	58.9	14.1
PlainsGold	Canvas	48	44	49	57.7	14.2
KWA	KS Providence	48	—	—	58.2	14.5
OGI	Bentley	47	46	51	59.0	15.1
OGI	OK Corral	46	40	46	57.8	14.5
OGI	Smith's Gold	46	42	46	58.2	14.6
OGI	High Cotton	45	—	—	58.9	14.4
PlainsGold	Crescent AX	45	38	44	59.2	14.7
LCS	LCS Atomic AX	41	42	—	59.5	15.4
OGI	Lonerider	41	40	46	58.6	15.7
OGI	Butler's Gold (late-planted)	39	—	—	58.8	17.4
LCS	LCS Photon AX	39	40	—	59.5	16.3
OGI	Breakthrough	37	37	43	57.7	14.4
OGI	Iba	37	35	40	58.8	13.7
OGI	Baker's Ann	33	34	40	58.5	15.6
Experimentals						
OSU	OK15MASBx7 ARS 8-29	48	—	—	58.9	14.1
<b>Mean</b>		<b>47</b>	<b>42</b>	<b>46</b>	<b>58.8</b>	<b>14.6</b>
<b>LSD (0.05)</b>		<b>8</b>	<b>8</b>	<b>10</b>	<b>NS</b>	<b>0.5</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column. The crop experienced severe drought stress during the season and moderate pressure of weeds at the end of the season. The weeds present were Buffalo Bur, Cheatgrass, Crabgrass, Foxtail, Rescuegrass, Tumble weed, and Kocia. Butler's Gold late-planted was planted on 11/16/2022. Em Dash "—" = data not available.



## Cherokee Wheat Variety Trial

Wheat.okstate.edu						
<b>Cooperator: Kenneth Failes</b> <b>Planting &amp; Harvest Dates: 10/13/2022 &amp; 06/20/2023</b> <b>Management: Grain-Only</b> <b>Tillage: Conventional</b>			<b>Extension Educator: Tommy Puffinbarger</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Dale silt loam</b> <b>Soil Test: pH=6.5, N=132, P=50, K=562</b>			
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2021-22	2020-2021	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
KWA	KS Providence	49	—	—	58.5	16.7
KWA	KS Ahearn	47	19	—	58.4	15.6
PlainsGold	Canvas	46	30	71	59.6	15.0
PlainsGold	Crescent AX	45	—	71	57.4	15.3
Croplan	CP7017AX	44	26	—	58.5	15.1
LCS	LCS Julep	44	18	—	59.6	15.8
OGI	Doublestop CL+	43	24	57	59.6	17.4
OGI	Showdown	42	21	81	57.5	16.4
OGI	Smith's Gold	42	22	65	59.3	16.3
AgriMAXX	AM Cartwright	42	12	54	58.9	16.6
OGI	Strad CL+	41	20	—	58.8	16.2
LCS	LCS Atomic AX	41	25	—	58.9	15.7
Westbred	WB4792	40	—	72	61.0	15.4
AGSECO	AG Radical	40	—	—	57.4	16.0
AgriPro	SY Wolverine	40	—	—	58.6	16.5
OGI	Baker's Ann	39	17	63	58.8	16.6
OGI	Iba	39	18	72	58.9	14.9
Westbred	WB4422	38	—	—	60.0	16.9
LCS	LCS Helix AX	38	27	—	57.8	15.2
Agripro	Bob Dole	37	19	64	57.4	17.4
OGI	Uncharted	35	—	—	57.4	15.9
OGI	OK Corral	35	9	61	54.0	17.1
OGI	Gallagher	35	21	65	58.2	16.8
OGI	Green Hammer	34	17	—	58.3	19.2
Westbred	WB4401	34	17	62	56.3	16.2
AgriPro	AP EverRock	32	—	—	58.0	17.5
OGI	Big Country	32	14	64	58.7	17.3
Westbred	WB4632	31	—	—	58.3	16.7
OGI	High Cotton	31	—	—	58.2	17.1
OGI	Butler's Gold	25	17	—	57.6	19.3
Experimentals						
OSU	OK15MASBx7 ARS 8-29	43	—	—	58.5	15.5
OSU	OK15DMASBx7 ARS 6-8	39	—	—	59.0	16.4
OSU	OK16107133-19-3	35	—	—	58.1	17.5
<b>Mean</b>		<b>39</b>	<b>20</b>	<b>65</b>	<b>58.3</b>	<b>16.5</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>3</b>	<b>5</b>	<b>0.9</b>	<b>1.3</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column. There was severe drought stress during the season. In 2021-2022, there was severe drought stress, and high pressure of brown wheat mites and fusarium root rots. In 2021-2022, we utilized a different statistical analysis for grain yield, test weight, and protein to reduce the impact of the spatial variability possibly caused by heavier fusarium root rots infestation on the north side of the experiment. Therefore, data from previous years will not be combined with the current year to provide long-term averages. Em Dash "—" = data not available.



## Chickasha Regional Wheat Variety Trial

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**Cooperator: OSU South Central Research Station**  
**Planting & Harvest Dates: 10/21/2022 & 06/07/2023**  
**Management: Grain-Only**  
**Tillage: Conventional**

**Extension Educator: Denise Wood**  
**Previous Crop: Austrian winter peas**  
**Soil Type: Dale silt loam**  
**Soil Test: pH=6.6, N=56, P=35, K=221**

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein	Leaf Rust
		2022-23	2-Year	3-year			
		-----bu/ac-----			-- lb/bu --	-- % --	-- CI --
AgriPro	Bob Dole	87	76	61	60.2	13.5	2
Westbred	WB4422	86	76	—	59.0	13.6	2
AgriPro	AP Prolific	85	73	—	60.3	13.8	16
Westbred	WB4632	84	—	—	58.5	12.8	8
PlainsGold	Breck	83	76	—	61.6	13.2	2
OGI	Big Country	83	65	63	58.9	14.5	2
KWA	KS Providence	83	75	—	58.9	13.3	2
PlainsGold	Kivari AX	83	—	—	58.6	12.3	50
OGI	Gallagher	82	75	59	59.0	13.7	4
AGSECO	AG Golden	82	76	—	57.1	12.8	24
OGI	Showdown	82	75	61	59.1	13.2	8
LCS	LCS Steel AX	81	73	—	59.8	13.3	4
OGI	Doublestop CL+	80	68	64	61.8	15.3	2
LCS	LCS Julep	80	73	59	61.2	13.7	50
AgriMAXX	AM Cartwright	79	70	60	58.2	14.1	2
PlainsGold	Canvas	78	74	63	58.8	13.6	8
OGI	OK Corral	78	69	58	57.8	13.6	16
LCS	LCS Helix AX	77	74	61	60.1	12.9	—
AgriPro	AP Bigfoot	77	—	—	59.1	13.2	—
LCS	LCS Chrome	76	66	61	58.8	14.9	0
Westbred	WB4401	76	69	55	57.7	12.9	4
PlainsGold	Crescent AX	76	73	56	59.5	13.1	4
OGI	Smith's Gold	76	70	58	59.7	13.7	0
Croplan	CP7017AX	75	72	59	57.5	13.2	24
LCS	LCS Atomic AX	75	76	59	58.9	13.1	—
KWA	KS Ahearn	75	72	58	56.7	13.9	2
AgriPro	AP EverRock	73	70	—	58.6	13.1	—
Croplan	CP7266AX	73	67	—	60.0	13.3	40
OGI	High Cotton	73	—	—	60.1	13.3	2
AGSECO	AG Radical	72	67	52	57.0	15.4	2
OGI	Green Hammer	72	66	54	59.7	15.8	2
LCS	LCS Photon AX	72	68	54	59.8	14.0	8
Westbred	WB4523	72	67	—	57.3	13.2	0
Westbred	WB4792	72	70	57	59.5	13.3	4
AgriPro	AP Longjack	71	—	—	58.6	14.7	0
OGI	Strad CL+	71	65	59	59.0	15.3	2
CLS	LCS Galloway AX	71	—	—	58.7	14.8	4

OGI	Uncharted	70	65	56	59.3	13.8	0
OGI	Butler's Gold	70	68	—	60.4	14.5	—
<b>Experimentals</b>							
OSU	OK19225	86	—	—	62.0	13.9	2
OSU	OK15MASBx7 ARS 8-29	83	76	—	59.5	13.3	0
OSU	OK16107133-19-3	80	—	—	60.6	14.2	40
OSU	OK15DMASBx7 ARS 6-8	66	58	—	60.1	14.8	2
<b>Mean</b>		<b>77</b>	<b>71</b>	<b>58</b>	<b>59.2</b>	<b>13.8</b>	<b>9</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>6</b>	<b>6</b>	<b>1.2</b>	<b>0.6</b>	<b>—</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received a few timely rains in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The rainfall events that occurred during the grain filling period resulted in increased pressure of Leaf rust and Septoria fungal diseases. Leaf rust was rated utilizing the Coefficient of Infection (CI) method. Coefficient of Infection = Severity (%) \* Constant for infection response. The greater the value the more susceptible a variety is to leaf rust. Em Dash "—" = data not available."



## Chickasha Regional Intensive Wheat Management Variety Trial

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Cooperator: OSU South Central Research Station  
 Planting & Harvest Dates: 10/21/2022 & 06/07/2023  
 Management: Grain-Only, conventional tillage  
 Seeding Rate: 1.2 million seeds/acre  
 Nitrogen: 6 lbs/acre 10-34-0, 87 lbs/ac on 2/20/23, 60 lbs/ac on 3/15/23  
 Fungicide: 2.6 fl oz/ac Tebucure 3.6 at jointing on 03/23/23 and 8.6 fl oz/ac Nexicor at flag leaf-boot stage on 04/12/23

Extension Educator: Denise Wood  
 Previous Crop: Austrian Winter Peas  
 Soil Type: Dale silt loam  
 Soil Test: pH=6.6, N=56, P=35, K=221

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2-Year	3-year		
		-----bu/ac-----			-- lb/bu --	-- % --
PlainsGold	Breck	94	84	—	62.2	13.8
AgriPro	Bob Dole	94	84	73	60.7	14.0
Westbred	WB4422	94	86	—	60.6	13.9
KWA	KS Providence	93	82	—	60.2	13.3
OGI	Showdown	93	82	69	58.6	13.2
LCS	LCS Helix AX	93	85	72	60.0	13.2
AgriPro	AP Bigfoot	92	—	—	59.6	13.7
Croplan	CP7266AX	92	80	—	60.6	13.7
AGSECO	AG Golden	92	86	—	59.1	12.9
KWA	KS Ahearn	91	83	72	59.2	13.5
AgriPro	AP Prolific	91	82	—	61.6	13.6
OGI	Gallagher	91	83	72	59.6	13.6
OGI	OK Corral	91	82	72	58.7	14.1
PlainsGold	Kicari AX	90	—	—	59.2	12.8
Westbred	WB4401	90	78	68	59.1	13.3
Westbred	WB4632	90	—	—	59.6	12.9
OGI	High Cotton	88	—	—	61.4	13.5
Croplan	CP7017AX	88	82	76	59.6	13.7
PlainsGold	Crescent AX	88	85	71	60.5	13.1
Westbred	WB4792	88	83	76	60.4	13.4
OGI	Big Country	87	72	69	59.5	15.0
OGI	Smith's Gold	87	79	69	60.6	14.1
LCS	LCS Atomic AX	86	81	65	60.1	12.8
PlainsGold	Canvas	85	79	77	59.9	13.4
AgriPro	AP EverRock	85	80	62	59.8	14.0
LCS	LCS Julep	84	76	74	60.0	14.2
LCS	LCS Steel AX	84	77	—	60.0	13.8
AgriMAXX	AM Cartwright	84	76	71	60.0	13.9
AGESECO	AG Radical	82	78	71	58.5	14.5
LCS	LCS Galloway AX	82	—	—	61.2	15.0
OGI	Green Hammer	81	74	64	59.7	16.0
OGI	Doublestop CL+	81	73	70	61.6	15.9
AgriPro	AP Longjack	79	—	—	58.3	15.5
Westbred	WB4523	79	77	—	58.0	13.6



LCS	LCS Chrome	79	72	73	60.3	14.4
LCS	LCS Photon AX	79	73	61	60.9	14.4
OGI	Butler's Gold	78	74	—	60.6	14.7
OGI	Uncharted	77	71	65	59.5	13.9
OGI	Strad CL+	74	69	66	59.5	15.9
<b>Experimentals</b>						
OSU	OK15MASBx7 ARS 8-29	92	84	—	61.0	13.7
OSU	OK19225	87	—	—	62.3	13.6
OSU	OK15DMASBx7 ARS 6-8	82	72	—	61.5	15.2
OSU	OK16107133-19-3	80	—	—	61.3	14.0
<b>Mean</b>		<b>86</b>	<b>79</b>	<b>70</b>	<b>60.1</b>	<b>14.0</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>5</b>	<b>7</b>	<b>1.1</b>	<b>0.7</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received a few timely rains in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The rainfall events that occurred during the grain filling period resulted in increased pressure of Leaf rust and Septoria fungal diseases. Em Dash "—" = data not available."



## Chickasha Wheat Variety Trial Standard vs. Intensive Management Comparison

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<b>Cooperator:</b> OSU South Central Research Station <b>Planting &amp; Harvest Dates:</b> 10/21/2022 & 06/07/2023 <b>Management:</b> Grain-Only, conventional tillage <b>Seeding Rate:</b> 1.2 million seeds/acre <b>Nitrogen for IM:</b> 6 lbs/acre 10-34-0 at planting, 80 lbs/ac on 2/20/23, 60 lbs/ac on 3/15/23 <b>Fungicide:</b> 2.6 fl oz/ac Tebucure 3.6 at jointing on 03/23/22 and 8.6 fl oz/ac Nexicor at flag leaf-boot stage on 04/12/23	<b>Extension Educator:</b> Denise Wood <b>Previous Crop:</b> Austrian Winter Peas <b>Soil Type:</b> Dale silt loam <b>Soil Test:</b> pH=6.6, N=56, P=35, K=221
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Licensee	Variety	Grain Yield			Test Weight			Wheat Protein			Leaf Rust
		Dual Purpose	Grain-Only	Diff	Dual Purpose	Grain-Only	Diff	Dual-Purpose	Grain-Only	Diff	Standard
		-----bu/ac-----			-----lb/bu-----			-----%-----			---Cl---
AgriPro	Bob Dole	87	94	7	60.2	60.7	0.6	13.5	14.0	0.4	2
Westbred	WB4422	86	94	8	59.0	60.6	1.6	13.6	13.9	0.4	2
AgriPro	AP Prolific	85	91	7	60.3	61.6	1.3	13.8	13.6	-0.2	16
Westbred	WB4632	84	90	5	58.5	59.6	1.1	12.8	12.9	0.1	8
PlainsGold	Breck	83	94	11	61.6	62.2	0.5	13.2	13.8	0.6	2
OGL	Big Country	83	87	5	58.9	59.5	0.6	14.5	15.0	0.5	2
KWA	KS Providence	83	93	10	58.9	60.2	1.3	13.3	13.3	0.0	2
PlainsGold	Kivari AX	83	90	7	58.6	59.2	0.5	12.3	12.8	0.5	50
OGL	Gallagher	82	91	9	59.0	59.6	0.6	13.7	13.6	-0.1	4
AGSECO	AG Golden	82	92	10	57.1	59.1	2.0	12.8	12.9	0.2	24
OGL	Showdown	82	93	11	59.1	58.6	-0.5	13.2	13.2	0.0	8
LCS	LCS Steel AX	81	84	4	59.8	60.0	0.2	13.3	13.8	0.5	4
OGL	Doublestop CL+	80	81	1	61.8	61.6	-0.2	15.3	15.9	0.5	2
LCS	LCS Julep	80	84	5	61.2	60.0	-1.2	13.7	14.2	0.5	50
AgriMAXX	AM Cartwright	79	84	5	58.2	60.0	1.8	14.1	13.9	-0.2	2
PlainsGold	Canvas	78	85	7	58.8	59.9	1.1	13.6	13.4	-0.2	8
OGL	OK Corral	78	91	13	57.8	58.7	1.0	13.6	14.1	0.5	16
LCS	LCS Helix AX	77	93	16	60.1	60.0	-0.1	12.9	13.2	0.3	—
AgriPro	AP Bigfoot	77	92	16	59.1	59.6	0.5	13.2	13.7	0.5	—
LCS	LCS Chrome	76	79	3	58.8	60.3	1.5	14.9	14.4	-0.6	0
Westbred	WB4401	76	90	14	57.7	59.1	1.4	12.9	13.3	0.4	4
PlainsGold	Crescent AX	76	88	12	59.5	60.5	1.1	13.1	13.1	0.0	4
OGL	Smith's Gold	76	87	11	59.7	60.6	0.8	13.7	14.1	0.4	0
Croplan	CP7017AX	75	88	13	57.5	59.6	2.2	13.2	13.7	0.5	24
LCS	LCS Atomic AX	75	86	11	58.9	60.1	1.2	13.1	12.8	-0.3	—
KWA	KS Ahearn	75	91	16	56.7	59.2	2.5	13.9	13.5	-0.4	2
AgriPro	AP EverRock	73	85	12	58.6	59.8	1.2	13.1	14.0	0.9	—
Croplan	CP7266AX	73	92	19	60.0	60.6	0.6	13.3	13.7	0.4	40
OGL	High Cotton	73	88	15	60.1	61.4	1.3	13.3	13.5	0.2	2
AGSECO	Ag Radical	72	82	10	57.0	58.5	1.5	15.4	14.5	-0.9	2

OGI	Green Hammer	72	81	9	59.7	59.7	0.0	15.8	16.0	0.3	2
LCS	LCS Photon AX	72	79	7	59.8	60.9	1.1	14.0	14.4	0.4	8
Westbred	WB4523	72	79	8	57.3	58.0	0.7	13.2	13.6	0.4	0
Westbred	WB4792	72	88	16	59.5	60.4	0.9	13.3	13.4	0.2	4
AgriPro	AP Longjack	71	79	9	58.6	58.3	-0.2	14.7	15.5	0.8	0
OGI	Strad CL+	71	74	3	59.0	59.5	0.5	15.3	15.9	0.6	2
LCS	LCS Galloway AX	71	82	12	58.7	61.2	2.4	14.8	15.0	0.2	4
OGI	Uncharted	70	77	7	59.3	59.5	0.3	13.8	13.9	0.1	0
OGI	Butler's Gold	70	78	8	60.4	60.6	0.2	14.5	14.7	0.2	—
<b>Experimentals</b>											
OSU	OK19225	86	87	1	62.0	62.3	0.3	13.9	13.6	-0.4	2
OSU	OK15MASBx7 ARS 8-29	83	92	9	59.5	61.0	1.5	13.3	13.7	0.4	0
OSU	OK16107133- 19-3	80	80	0	60.6	61.3	0.7	14.2	14.0	-0.1	40
OSU	OK15DMASBx7 ARS 6-8	66	82	16	60.1	61.5	1.4	14.8	15.2	0.4	2
<b>Mean</b>		<b>77</b>	<b>86</b>	<b>9</b>	<b>59.2</b>	<b>60.1</b>	<b>0.9</b>	<b>13.8</b>	<b>14.0</b>	<b>0.2</b>	<b>9</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>7</b>	<b>—</b>	<b>1.2</b>	<b>1.1</b>	<b>—</b>	<b>0.6</b>	<b>0.7</b>	<b>—</b>	<b>—</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received a few timely rains in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The rainfall events that occurred during the grain filling period resulted in increased pressure of Leaf rust and Septoria fungal diseases. Leaf rust was rated utilizing the Coefficient of Infection (CI) method. Coefficient of Infection = Severity (%) \* Constant for infection response. The greater the value the more susceptible a variety is to leaf rust. Em Dash "—" = data not available."



## El Reno Dual-Purpose Wheat Variety Trial

Wheat.okstate.edu						
<b>Cooperator: Jerry Lingo</b> <b>Planting &amp; Harvest Dates: 10/19/2022 &amp; 06/20/2023</b> <b>Management: Dual-Purpose</b> <b>Tillage: Conventional</b>			<b>Extension Educator: Kyle Worthington</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Bethany silt loam</b> <b>Soil Test: pH=5.6, N=106, P=63, K=365</b>			
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2-Year	3-year	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
OGI	High Cotton	70	—	—	58.7	13.1
OGI	Showdown	67	62	66	57.8	11.8
Westbred	WB4422	67	—	—	59.6	12.2
AgriPro	AP Prolific	66	—	—	57.7	12.1
OGI	Doublestop CL+	65	54	56	59.6	13.1
AGSECO	Ag Radical	65	57	—	57.3	12.3
PlainsGold	Breck	64	—	—	59.4	11.9
Westbred	WB4632	63	—	—	59.3	11.3
AgriMAXX	AM Cartwright	62	47	51	59.2	12.9
OGI	Uncharted	62	52	56	58.6	12.4
PlainsGold	Crescent AX	61	56	—	59.6	12.1
OGI	Green Hammer	61	50	51	58.9	13.7
Croplan	CP7017AX	61	59	—	56.7	12.5
OGI	Big Country	60	45	51	59.9	12.5
OGI	Gallagher	60	50	50	59.0	12.3
Westbred	WB4401	60	47	48	57.7	11.9
LCS	LCS Atomic AX	59	54	—	59.0	12.7
OGI	Strad CL+	55	46	48	58.4	13.7
OGI	Smith's Gold	52	45	50	59.3	12.2
KWA	KS Ahearn	50	45	—	56.2	12.7
OGI	OK Corral	50	46	52	57.6	12.3
AgriPro	AP EverRock	48	42	—	57.2	12.7
OGI	Butler's Gold	40	—	—	57.9	13.5
Experimentals						
OSU	OK15MASBx7 ARS 8-29	60	51	52	58.4	11.1
OSU	OK16107133-19-3	60	—	—	58.8	13.1
OSU	OK18205	58	—	—	57.8	12.4
OSU	OK15DMASBx7 ARS 6-8	58	—	—	58.2	12.9
<b>Mean</b>		<b>59</b>	<b>50</b>	<b>53</b>	<b>58.4</b>	<b>12.5</b>
<b>LSD (0.05)</b>		<b>9</b>	<b>6</b>	<b>9</b>	<b>1.6</b>	<b>0.7</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. Plots were grazed from 01/8/23 to 03/1/23 at an average stocking rate of 206 pounds of animal BW per acre. Em Dash “—” = data not available.”



## El Reno Late-Planted Grain-Only Wheat Variety Trial

Wheat.okstate.edu					
<b>Cooperator: Jerry Lingo</b> <b>Planting &amp; Harvest Dates: 11/21/2022 &amp; 06/20/2023</b> <b>Management: Grain-Only</b> <b>Tillage: Conventional</b>			<b>Extension Educator: Kyle Worthington</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Bethany silt loam</b> <b>Soil Test: pH=5.6, N=106, P=63, K=365</b>		
Licensee	Variety	Grain Yield			Weed Seed Incidence
		2022-23	2-Year	3-Year	2022-23
----- bu/ac -----					-- % --
OGI	Showdown	56	58	65	5
AgriPro	AP Prolific	54	—	—	5
AGSECO	AG Radical	52	58	—	6
PlainsGold	Crescent AX	49	59	—	7
OGI	Big Country	47	44	52	7
Westbred	WB4422	47	—	—	6
Westbred	WB4632	46	—	—	6
OGI	Green Hammer	45	50	55	6
LCS	LCS Atomic AX	45	54	—	8
OGI	Doublestop CL+	45	51	56	8
PlainsGold	Breck	42	—	—	8
KWA	KS Ahearn	40	49	—	9
AgriMAXX	AM Cartwright	39	46	52	7
OGI	Uncharted	39	48	53	10
OGI	Gallagher	37	46	52	8
OGI	OK Corral	36	45	52	9
Westbred	WB4401	36	43	51	10
Croplan	CP7017AX	36	49	—	11
OGI	Butler's Gold	35	—	—	16
AgriPro	AP EverRock	33	42	—	8
OGI	High Cotton	30	—	—	11
OGI	Smith's Gold	30	44	49	11
OGI	Strad CL+	23	40	49	16
Experimentals					
OSU	OK18205	56	—	—	5
OSU	OK15DMASBx7 ARS 6-8	45	—	—	8
OSU	OK16107133-19-3	42	—	—	7
OSU	OK15MASBx7 ARS 8-29	39	49	55	9
<b>Mean</b>		<b>42</b>	<b>49</b>	<b>53</b>	<b>8</b>
<b>LSD (0.05)</b>		<b>9</b>	<b>7</b>	<b>10</b>	<b>—</b>

Notes: Grain yield was adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The grain-only trial was planted and emerged much later than the optimal time due to lack of moisture in the fall. The late emerged and unacclimated wheat experienced very cold temperatures in late December and early February, which may have differentially reduced spring tillering ability among varieties. Also, freeze injury was not determined in March, which could have accounted for the uncharacteristic declines in grain yield between the dual-purpose and grain-only trials. These differences, therefore, should not be interpreted simply as a response to grazing or no grazing. There was high to moderate pressure of weed infestation across the trial. The weeds present were Wild Buckwheat, Jointed Goatgrass, Italian Ryegrass, and Rescuegrass. Most of them appeared after the rain events in late April and May. Weed pressure was assessed by estimating the percent of weed seeds within a sample. Due to the presence of weed seeds in the grain-only samples, test weight and grain protein concentration were not measured. Em Dash "—" = data not available."



## EI Reno Wheat Variety Trial Dual Purpose and Late-Planted Grain-Only

Wheat.okstate.edu

<b>Cooperator: Jerry Lingo</b> <b>Planting Date: 10/19/2022 (dual-purpose) &amp; 11/21/2022 (Grain-only)</b> <b>Harvest Date: 06/20/2023</b> <b>Tillage: Conventional</b>	<b>Extension Educator: Kyle Worthington</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Bethany silt loam</b> <b>Soil Test: pH=5.6, N=106, P=63, K=365</b>
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Licensee	Variety	Grain Yield			Weed Seed Incidence
		Dual Purpose	Grain-Only	Diff	Grain-Only
		-----bu/ac-----			--%--
OGI	High Cotton	70	30	40	11
OGI	Showdown	67	56	11	5
Westbred	WB4422	67	47	20	6
AgriPro	AP Prolific	66	54	12	5
OGI	Doublestop CL+	65	45	21	8
AGSECO	AG Radical	65	52	13	6
PlainsGold	Breck	64	42	22	8
Westbred	WB4632	63	46	17	6
AgriMAXX	AM Cartwright	62	39	23	7
OGI	Uncharted	62	39	24	10
PlainsGold	Crescent AX	61	49	12	7
OGI	Green Hammer	61	45	16	6
Croplan	CP7017AX	61	36	25	11
OGI	Big Country	60	47	13	7
OGI	Gallagher	60	37	23	8
Westbred	WB4401	60	36	24	10
LCS	LCS Atomic AX	59	45	14	8
OGI	Strad CL+	55	23	32	16
OGI	Smith's Gold	52	30	23	11
KWA	KS Ahearn	50	40	11	9
OGI	OK Corral	50	36	14	9
AgriPro	AP EverRock	48	33	15	8
OGI	Butler's Gold	40	35	5	16
<b>Experimentals</b>					
OSU	OK15MASBx7 ARS 8-29	60	39	21	9
OSU	OK16107133-19-3	60	42	18	7
OSU	OK18205	58	56	2	5
OSU	OK15DMASBx7 ARS 6-8	58	45	13	8
<b>Mean</b>		<b>59</b>	<b>42</b>	<b>17</b>	<b>8</b>
<b>LSD (0.05)</b>		<b>9</b>	<b>9</b>	<b>—</b>	<b>—</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. Dual-purpose plots were grazed from 01/8/23 to 03/1/23 at an average stocking rate of 206 pounds of animal BW per acre. The grain-only trial was planted and emerged much later than the optimal time due to lack of moisture in the fall. The late emerged and unacclimated wheat experienced very cold temperatures in late December and early February, which may have differentially reduced spring tillering ability among varieties. Also, freeze injury was not determined in March, which could have accounted for the uncharacteristic declines in grain yield between the dual-purpose and grain-only trials. These differences, therefore, should not be interpreted simply as a response to grazing or no grazing. There was high to moderate pressure of weed infestation across the trial. The weeds present were Wild Buckwheat, Jointed Goatgrass, Italian Ryegrass, and Rescuegrass. Most of them appeared after the rain events in late April and May. Weed pressure was assessed by estimating the percent of weed seeds within a sample. Due to the presence of weed seeds in the grain-only samples, test weight and grain protein concentration were not measured. Em Dash "—" = data not available."



## Kildare Wheat Variety Trial

Wheat.okstate.edu						
<b>Cooperator: Don Schieber</b> <b>Planting &amp; Harvest Dates: 10/31/2022 &amp; 07/12/2023</b> <b>Management: Grain-Only</b> <b>Tillage: no-till</b>			<b>Extension Educator: Shannon Mallory</b> <b>Previous Crop: Soybean</b> <b>Soil Type: Tabler silt loam</b> <b>Soil Test: pH=5.4, N=84, P=74, K=408</b>			
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2022-23	2-Year	3-year	2022-23	2022-23
		-----bu/ac-----			-- lb/bu --	-- % --
OGI	Strad CL+	36	35	49	57.1	16.8
PlainsGold	Breck	33	—	—	58.1	15.9
OGI	Doublestop CL+	32	36	51	58.4	16.9
KWA	KS Ahearn	31	—	—	57.6	15.8
KWA	KS Providence	30	—	—	57.5	16.0
OGI	Gallagher	30	23	40	57.1	15.4
AgriPro	AP Prolific	28	—	—	57.3	16.1
Westbred	WB4401	28	—	—	56.7	15.5
Westbred	WB4632	28	—	—	55.5	17.3
AGSECO	AG Radical	27	—	—	56.7	14.9
OGI	Green Hammer	27	33	49	57.6	18.0
OGI	Bentley	27	23	46	57.2	16.2
Westbred	WB4523	27	—	—	56.9	15.1
OGI	Iba	26	—	—	57.5	16.1
OGI	Uncharted	26	27	44	56.1	16.2
OGI	OK Corral	26	24	41	55.7	16.3
AgriMAXX	AM Cartwright	25	—	—	56.3	17.5
OGI	High Cotton	24	—	—	57.3	15.6
OGI	Smith's Gold	23	22	40	56.9	15.8
OGI	Showdown	22	26	46	57.6	15.5
AgriPro	Ap EverRock	22	—	—	54.7	16.3
PlainsGold	Crescent AX	22	—	—	56.9	16.6
OGI	Big Country	21	23	43	57.2	15.7
OGI	Baker's Ann	20	30	47	57.7	16.4
OGI	Butler's Gold	20	—	—	56.1	18.9
LCS	LCS Atomic AX	16	—	—	56.7	15.8
LCS	LCS Helix AX	14	—	—	57.0	16.4
Croplan	CP7266AX	12	—	—	55.7	16.3
LCS	LCS Steel AX	11	—	—	56.1	15.9
<b>Experimentals</b>						
OSU	OK15MASBx7 ARS 8-29	33	—	—	56.3	16.3
OSU	OK16103083	27	—	—	56.4	17.8
OSU	OK15DMASBx7 ARS 6-8	21	—	—	57.2	16.7
OSU	OK16107133-19-3	20	—	—	55.5	18.3
<b>Mean</b>		<b>25</b>	<b>28</b>	<b>45</b>	<b>56.8</b>	<b>16.4</b>
<b>LSD (0.05)</b>		<b>4</b>	<b>7</b>	<b>6</b>	<b>1.4</b>	<b>1.6</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced severe drought stress during the season and severe pressure of Pigweed at the end of the season. In 2022, there was no harvest results from this location. Thus, 2-year and 3-year averages represent results from 2023, 2021, and 2020 harvest years. Em Dash "—" = data not available.



## Lahoma Regional Wheat Variety Trial

Wheat.okstate.edu

**Cooperator: OSU North Central Research Station**  
**Planting & Harvest Dates: 10/27/2022 & 06/15/2023**  
**Management: Grain-Only**  
**Tillage: Conventional**

**Extension Educator: Rick Nelson**  
**Previous Crop: Austrian winter peas**  
**Soil Type: Pond Creek silt loam**  
**Soil Test: pH=5.2, N=146, P=111, K=352**

Licensee	Variety	Grain Yield		Test Weight	Wheat Protein
		2022-23	2-Year	2022-23	2022-23
		-----bu/ac-----		-- lb/bu --	-- % --
KWA	KS Providence	77	77	59.8	15.0
AGSECO	AG Radical	73	80	59.2	15.0
AgriPro	Bob Dole	72	76	59.9	15.4
Westbred	WB4632	72	—	60.2	14.1
PlainsGold	Kivari AX	71	—	60.9	13.6
AgriPro	AP Prolific	71	80	59.8	14.9
PlainsGold	Breck	70	76	61.4	14.7
PlainsGold	Canvas	70	77	61.2	14.4
PlainsGold	Crescent AX	70	73	59.8	14.4
LCS	LCS Helix AX	69	79	58.9	14.2
Croplan	CP7266AX	69	72	60.2	14.7
Westbred	WB4422	69	81	61.1	15.4
OGL	Big Country	68	64	59.7	15.4
LCS	LCS Julep	68	72	62.4	15.5
AgriPro	SY Wolverine	68	—	59.7	15.7
AGSECO	AG Golden	67	79	59.5	13.4
OGL	Showdown	67	76	59.6	14.7
OGL	Green Hammer	67	66	60.9	16.9
LCS	LCS Galloway AX	67	—	60.0	15.4
OGL	Gallagher	66	71	60.5	14.7
LCS	LCS Atomic AX	66	72	58.7	13.9
KWA	KS Ahearn	65	72	59.1	15.2
LCS	LCS Chrome	65	70	60.8	15.6
AgriMAXX	AM Cartwright	64	73	59.6	15.1
Croplan	CP7017AX	63	75	59.4	14.5
Westbred	WB4401	63	71	59.2	14.3
AgriPro	AP Longjack	63	—	58.1	15.6
OGL	Iba	62	—	60.3	13.9
LCS	LCS Steel AX	62	73	59.9	15.0
OGL	High Cotton	61	—	60.5	14.7
OGL	Bentley	60	71	59.5	15.4
OGL	OK Corral	60	68	57.5	15.0
AgriPro	AP EverRock	59	63	59.2	15.9
OGL	Doublestop CL+	59	65	61.5	16.8
AgriPro	Ap Bigfoot	59	—	59.5	15.2
OGL	Smith's Gold	59	67	60.5	15.4
Westbred	WB4523	59	66	59.1	13.7



OGI	Baker's Ann	58	66	58.9	15.3
LCS	LCS Photon AX	58	67	59.9	15.7
Westbred	WB4792	57	66	62.9	15.1
OGI	Butler's Gold	55	59	58.9	16.8
OGI	Strad CL+	55	61	59.8	17.1
OGI	Uncharted	51	58	59.4	15.8
OGI	Butler's Gold (late-planted)	31	39	57.6	19.2
<b>Experimentals</b>					
OSU	OK15MASBx7 ARS 8-29	69	77	60.5	14.5
OSU	OK15DMASBx7 ARS 6-8	60	—	61.2	15.5
OSU	OK16107133-19-3	60	—	60.6	16.4
<b>Mean</b>		<b>64</b>	<b>70</b>	<b>59.9</b>	<b>15.2</b>
<b>LSD (0.05)</b>		<b>6</b>	<b>6</b>	<b>1.0</b>	<b>0.6</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received rain later in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. Septoria fungal disease was observed at moderate pressure and leaf rust appeared later in the season at low pressure. This is the second year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from the 2021 harvest year were not utilized to provide 3-year averages. Butler's Gold late-planted was planted on 12/5/2022 at 1.4 million seeds/acre. Em Dash "—" = data not available."



## Lahoma Regional Intensive Wheat Management Variety Trial

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Cooperator: OSU North Central Research Station  
 Planting & Harvest Dates: 10/27/2022 & 06/15/2023  
 Management: Grain-Only, conventional tillage  
 Seeding Rate: 1.2 million seeds/acre  
 Nitrogen: 6 lbs/acre 10-34-0 at planting, 96 lbs/ac on 8/11/22, 50 lbs/ac on 3/15/23  
 Fungicide: 2.9 fl oz/ac Tebucure 3.6 at jointing on 03/22/23 and 6.5 fl oz/ac Trivapro at flag leaf-boot stage on 04/14/23

Extension Educator: Rick Nelson  
 Previous Crop: Austrian winter peas  
 Soil Type: Pond creek silt loam  
 Soil Test: pH=5.3, N=110, P=118, K=412

Licensee	Variety	Grain Yield		Test Weight 2022-23	Wheat Protein 2022-23
		2022-23	2-year		
		-----bu/ac-----		-- lb/bu --	-- % --
KWA	KS Providence	85	88	59.6	14.8
OGL	Gallagher	85	84	60.6	14.7
PlainsGold	Canvas	83	85	60.6	14.8
Westbred	WB4632	82	—	60.0	14.2
OGL	Showdown	82	84	59.9	14.9
AgriPro	AP Prolific	82	83	59.6	15.0
OGL	OK Corral	82	76	58.8	15.1
PlainsGold	Breck	81	82	61.0	15.2
LCS	LCS Galloway AX	81	—	60.2	15.5
OGL	Green Hammer	80	77	60.2	16.8
PlainsGold	Kivari AX	79	—	60.6	14.7
KWA	KS Ahearn	79	82	60.2	15.6
Westbred	WB4422	79	87	60.9	16.3
OGL	Big Country	78	69	59.7	15.8
LCS	LCS Julep	78	77	61.2	15.8
AgriPro	Bob Dole	77	81	60.3	16.0
PlainsGold	Crescent AX	77	81	59.2	14.9
AgriPro	SY Wolverine	77	—	59.6	15.6
AgriMAXX	AM Cartwright	76	76	59.5	14.9
Westbred	WB4401	76	77	58.6	14.5
AGSECO	AG Golden	76	80	59.5	13.4
OGL	Iba	76	—	60.1	13.7
AGSECO	AG Radical	75	80	59.4	15.7
OGL	Bentley	75	74	59.5	15.4
Croplan	CP7266AX	75	76	59.5	15.1
OGL	Doublestop CL+	75	75	60.9	17.0
AgriPro	AP Longjack	74	—	59.1	15.3
Croplan	CP7017AX	74	80	59.7	15.1
OGL	High Cotton	74	—	60.0	14.8
LCS	LCS Helix AX	74	79	60.1	14.8
LCS	LCS Atomic AX	73	81	59.5	15.4
LCS	LCS Chrome	73	75	60.1	15.6
OGL	Strad CL+	71	72	60.7	16.5
OGL	Smith's Gold	70	75	60.1	15.4
OGL	Baker's Ann	69	69	59.7	15.4

AgriPro	AP Bigfoot	69	—	59.7	15.3
LCS	LCS Photon AX	69	73	60.0	15.9
LCS	LCS Steel AX	67	75	59.0	15.6
Westbred	WB4523	66	72	57.9	14.7
AgriPro	AP EverRock	66	69	59.5	16.8
OGI	Uncharted	65	65	59.3	15.5
OGI	Butler's Gold	64	67	59.7	17.7
Westbred	WB4792	62	70	61.2	15.2
OGI	Butler's Gold (late-planted)	35	41	58.5	19.4
<b>Experimentals</b>					
OSU	OK15MASBx7 ARS 8-29	83	84	61.1	14.2
OSU	OK15DMASBx7 ARS 6-8	75	—	60.7	15.2
OSU	OK16107133-19-3	64	—	60.0	16.6
<b>Mean</b>		<b>74</b>	<b>76</b>	<b>59.9</b>	<b>15.4</b>
<b>LSD (0.05)</b>		<b>7</b>	<b>10</b>	<b>0.9</b>	<b>0.5</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received rain later in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. Septoria fungal disease was observed at moderate pressure and leaf rust appeared later in the season at low pressure. This is the second year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from the 2021 harvest year were not utilized to provide 3-year averages. Butler's Gold lateplanted was planted on 12/5/2022 at 1.4 million seeds/acre. Em Dash "—" = data not available."



## Lahoma Wheat Variety Trial Standard vs. Intensive Management Comparison

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<b>Cooperator:</b> OSU North Central Research Station <b>Planting &amp; Harvest Dates:</b> 10/27/2022 & 06/15/2023 <b>Management:</b> Grain-Only, conventional tillage <b>Seeding Rate:</b> 1.2 million seeds/acre <b>Nitrogen:</b> 6 lbs/acre 10-34-0 at planting, 96 lbs/ac on 8/11/22, 50 lbs/ac on 3/15/23 <b>Fungicide:</b> 2.9 fl oz/ac Tebucure 3.6 at jointing on 03/22/23 and 6.5 fl oz/ac Trivapro at flag leaf-boot stage on 04/14/23	<b>Extension Educator:</b> Rick Nelson <b>Previous Crop:</b> Austrian winter peas <b>Soil Type:</b> Pond creek silt loam <b>Soil Test:</b> pH=5.2, N=146, P=111, K=352
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Licensee	Variety	Grain Yield			Test Weight			Wheat Protein		
		Standard	Intensive	Diff	Standard	Intensive	Diff	Standard	Intensive	Diff
		-----bu/ac-----			-----lb/bu-----			-----%-----		
KWA	KS Providence	77	85	8	59.8	59.6	-0.2	15.0	14.8	-0.2
AGSECO	AG Radical	73	75	2	59.2	59.4	0.2	15.0	15.7	0.7
AgriPro	Bob Dole	72	77	5	59.9	60.3	0.4	15.4	16.0	0.6
Westbred	WB4632	72	82	10	60.2	60.0	-0.2	14.1	14.2	0.1
PlainsGold	Kivari AX	71	79	8	60.9	60.6	-0.3	13.6	14.7	1.1
AgriPro	AP Prolific	71	82	11	59.8	59.6	-0.2	14.9	15.0	0.1
PlainsGold	Breck	70	81	11	61.4	61.0	-0.4	14.7	15.2	0.5
PlainsGold	Canvas	70	83	13	61.2	60.6	-0.6	14.4	14.8	0.4
PlainsGold	Crescent AX	70	77	7	59.8	59.2	-0.6	14.4	14.9	0.5
LCS	LCS Helix AX	69	74	5	58.9	60.1	1.2	14.2	14.8	0.6
Croplan	CP7266AX	69	75	6	60.2	59.5	-0.7	14.7	15.1	0.4
Westbred	WB4422	69	79	10	61.1	60.9	-0.2	15.4	16.3	0.9
OGI	Big Country	68	78	10	59.7	59.7	0.0	15.4	15.8	0.4
LCS	LCS Julep	68	78	10	62.4	61.2	-1.2	15.5	15.8	0.3
AgriPro	SY Wolverine	68	77	9	59.7	59.6	-0.1	15.7	15.6	-0.2
AGSECO	AG Golden	67	76	9	59.5	59.5	0.0	13.4	13.4	0.0
OGI	Showdown	67	82	15	59.6	59.9	0.3	14.7	14.9	0.2
OGI	Green Hammer	67	80	13	60.9	60.2	-0.7	16.9	16.8	-0.1
LCS	LCS Galloway AX	67	81	14	60.0	60.2	0.2	15.4	15.5	0.1
OGI	Gallagher	66	85	19	60.5	60.6	0.1	14.7	14.7	0.0
LCS	LCS Atomic AX	66	73	7	58.7	59.5	0.8	13.9	15.4	1.5
KWA	KS Ahearn	65	79	14	59.1	60.2	1.1	15.2	15.6	0.4
LCS	LCS Chrome	65	73	8	60.8	60.1	-0.7	15.6	15.6	0.0
AgriMAXX	AM Cartwright	64	76	12	59.6	59.5	-0.1	15.1	14.9	-0.2
Croplan	CP7017AX	63	74	11	59.4	58.7	-0.7	14.5	15.1	0.6
Westbred	WB4401	63	76	13	59.2	58.6	-0.6	14.3	14.5	0.2
AgriPro	AP Longjack	63	74	11	58.1	59.1	1.0	15.6	15.3	-0.3
OGI	Iba	62	76	14	60.3	60.1	-0.2	13.9	13.7	-0.2
LCS	LCS Steel AX	62	67	5	59.9	59.0	-0.9	15.0	15.6	0.6
OGI	High Cotton	61	74	13	60.5	60.0	-0.5	14.7	14.8	0.1
OGI	Bentley	60	75	15	59.5	59.5	0.0	15.4	15.4	0.0

OGI	OK Corral	60	82	22	57.5	58.8	1.3	15.0	15.1	0.1
AgriPro	AP EverRock	59	66	7	59.2	59.5	0.3	15.9	16.8	0.9
OGI	Doublestop CL+	59	75	16	61.5	60.9	-0.6	16.8	17.0	0.2
AgriPro	AP Bigfoot	59	69	10	59.5	59.7	0.2	15.2	15.3	0.1
OGI	Smith's Gold	59	70	11	60.5	60.1	-0.4	15.4	15.4	0.0
Westbred	WB4523	59	66	7	59.1	57.9	-1.2	13.7	14.7	1.0
OGI	Baker's Ann	58	69	11	58.9	59.7	0.8	15.3	15.4	0.1
LCS	LCS Photon AX	58	69	11	59.9	60.0	0.1	15.7	15.9	0.2
Westbred	WB4792	57	62	5	62.9	61.2	-1.7	15.1	15.2	0.1
OGI	Butler's Gold	55	64	9	58.9	59.7	0.8	16.8	17.7	0.9
OGI	Strad CL+	55	71	16	59.8	60.7	0.9	17.1	16.5	-0.6
OGI	Uncharted	51	65	14	59.4	59.3	-0.1	15.8	15.5	-0.3
OGI	Butler's Gold (late-planted)	51	35	4	57.6	58.5	0.9	19.2	19.4	0.2
<b>Experimentals</b>										
OSU	OK15MASBx7 ARS 8-29	69	83	14	60.5	61.1	0.6	14.5	14.2	-0.3
OSU	OK15DMASBx7 ARS 6-8	60	75	15	61.2	60.7	-0.5	15.5	15.2	-0.3
OSU	OK16107133-19-3	60	64	4	60.6	60.0	-0.6	16.4	16.6	0.2
<b>Mean</b>		<b>64</b>	<b>74</b>	<b>10</b>	<b>59.9</b>	<b>59.9</b>	<b>0.0</b>	<b>15.2</b>	<b>15.4</b>	<b>0.2</b>
<b>LSD (0.05)</b>		<b>6</b>	<b>10</b>	<b>—</b>	<b>1.0</b>	<b>0.9</b>	<b>—</b>	<b>0.6</b>	<b>0.5</b>	<b>—</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. The crop experienced drought stress during the season and received rain later in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. Septoria fungal disease was observed at moderate pressure and leaf rust appeared later in the season at low pressure. This is the second year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from the 2021 harvest year were not utilized to provide 3-year averages. Butler's Gold late-planted was planted on 12/5/2022 at 1.4 million seeds/acre. Em Dash "—" = data not available."



## Morris Intensive Wheat Management Variety Trial

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Cooperator: Chris Ledbetter  
 Planting & Harvest Dates: 11/1/2022 & 06/14/2023  
 Management: Grain-Only, conventional tillage  
 Seeding Rate: 1.2 million seeds/acre  
 K=279  
 Nitrogen: 6 lbs/acre 10-34-0 at planting, 45 lbs/ac on 2/06/23, 61 lbs/ac on 3/14/23  
 Other nutrient sources: 1.35 ton/acre chicken litter before planting on 9/8/22, 1 pt Boron, 1/2 pt Manganese, 1 pt Syntose sugar/ac on 3/20/23  
 Insecticide: 1.4 fl oz/ac Imidacioprid 4SC on 4/22/23  
 Fungicide: 6.2 fl oz/ac Prosoaro at flowering on 4/22/23

Extension Educator: Tanner Miller  
 Previous Crop: Corn  
 Soil Type: Taloka silt loam  
 Soil Test: pH=6.7, N=250, P=148,

Licensee	Variety	Lodging 2022-23	Grain Yield		Test Weight 2022-23	Wheat Protein 2022-23
			2022-2023	2-year		
			----bu/ac----		-- lb/bu --	--%--
Westbred	WB4401	1	118	97	60.4	12.3
AgriPro	Bob Dole	3	108	99	62.3	14.4
Westbred	WB4632	2	108	—	61.6	12.5
OGI	OK Corral	1	106	96	60.1	13.7
AgriPro	AP Bigfoot	0	105	—	61.7	13.2
OGI	High Cotton	0	105	—	62.6	13.7
KWA	KS Providence	3	105	—	60.4	13.4
LCS	LCS Atomic AX	1	105	94	60.6	13.3
LCS	LCS Julep	2	103	90	62.7	14.2
AgriPro	AP EverRock	1	102	88	60.9	14.5
OGI	Uncharted	2	101	92	61.5	13.6
OGI	Big Country	3	99	94	63.4	15.2
Westbred	WB4523	0	98	—	61.3	13.1
KWA	KS Ahearn	1	98	89	61.3	13.4
OGI	Smith's Gold	3	98	86	62.8	13.9
OGI	Gallagher	3	96	90	63.4	13.9
LCS	LCS Photon AX	1	96	85	61.5	15.0
AgriMAXX	AM Cartwright	0	95	86	59.7	15.0
AGSECO	AG Radical	4	87	80	58.7	14.2
PlainsGOld	Crescent AX	4	85	81	60.8	14.0
Croplan	CP7017AX	4	83	80	59.8	14.0
<b>Experimentals</b>						
OSU	OK16107133-19-3	0	105	—	63.1	14.1
OSU	OK15MASBx7 ARS 8-29	3	103	—	59.9	13.2
OSU	OK16103083	4	92	85	61.3	14.9
OSU	OK19225	4	85	—	62.4	14.6
<b>Mean</b>		<b>2</b>	<b>99</b>	<b>89</b>	<b>61.4</b>	<b>13.9</b>
<b>LSD (0.05)</b>		<b>—</b>	<b>8</b>	<b>7</b>	<b>2.5</b>	<b>0.5</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values were not statistically different from the highest value within a column. Lodging is reported on a 0 to 5 scale, with 0 indicating no lodging. Em Dash "—" = data not available.



## Walters Grain-Only Wheat Variety Trial

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<b>Cooperator: Jimmy Kinder</b> <b>Planting &amp; Harvest Dates: 10/11/2022 &amp; 06/01/2023</b> <b>Management: Grain-Only</b> <b>Tillage: No-till</b>			<b>Extension Educator: Kimbreley Davis</b> <b>Previous Crop: Wheat</b> <b>Soil Type: Foard Silt Loam</b> <b>Soil Test: pH=4.9, N=56, P=101, K=337</b>			
Licensee	Variety	Grain Yield			Test Weight 2023-22	Wheat Protein 2023-22
		2023-22 <i>grain-only</i>	2022-21 <i>dual purpose</i>	2021-20 <i>dual purpose</i>		
		-----bu/ac-----			-- lb/bu --	-- % --
OGI	Showdown	50	23	59	59.6	10.2
AGSECO	AG Radical	46	22	—	58.9	10.1
LCS	LCS Chrome	46	19	40	58.7	12.0
Westbred	WB4422	46	—	—	59.1	10.9
AGSECO	AG Golden	46	—	—	57.2	9.4
PlainsGold	Canvas	46	22	44	58.6	10.0
PlainsGold	Crescent AX	45	—	—	59.4	10.1
OGI	Doublestop CL+	45	22	48	61.9	12.0
LCS	LCS Atomic AX	45	22	—	59.5	10.2
OGI	Green Hammer	44	15	41	60.7	12.2
Westbred	WB4401	43	11	—	58.8	9.8
OGI	High Cotton	41	—	—	60.1	10.7
OGI	Smith's Gold	41	20	45	59.7	10.8
OGI	Gallagher	41	19	42	59.5	11.0
OGI	Iba	41	—	—	60.1	11.2
Westbred	WB4792	40	21	44	59.1	10.1
OGI	Uncharted	38	18	46	59.8	11.9
LCS	LCS Photon AX	37	21	35	60.4	11.6
AgriMAXX	AM Cartwright	37	16	—	59.0	11.2
OGI	OK Corral	37	15	46	56.3	10.9
KWA	KS Ahearn	37	18	—	57.9	11.0
OGI	Strad CL+	36	19	—	60.9	11.8
Croplan	CP7017AX	34	25	—	57.8	10.6
<b>Experimentals</b>						
OSU	OK18205	49	—	—	59.9	10.9
OSU	OK15DMASBx7 ARS 6-8	43	21	—	60.2	11.1
OSU	OK15MASBx7 ARS 8-29	43	—	—	57.9	10.5
OSU	OK16107133-19-3	41	—	—	59.9	12.1
<b>Mean</b>		<b>44</b>	<b>20</b>	<b>43</b>	<b>59.3</b>	<b>10.9</b>
<b>LSD (0.05)</b>		<b>8</b>	<b>3</b>	<b>5</b>	<b>1.5</b>	<b>0.7</b>

Notes: Grain yield and protein concentration were adjusted to 12% moisture content. Shaded values are not statistically different from the highest value within a column. Due to the drought, plots were not grazed during the 2022-2023 growing season. Therefore, data from previous years were not be combined with the current year to provide long-term averages. Em Dash “—” = data not available.”



## Heading Date and Plant Height

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Licensee	Variety	Altus	Chickasha	Lahoma	Stillwater	Altus	Chickasha	Lahoma	Stillwater
----- 50% heading-----					----- plant height at harvest (in)-----				
AgriMAXX	AM Cartwright	4/15	4/24	4/29	4/20	59	83	63	57
AGSECO	AG Golden	4/16	4/24	4/29	4/24	60	85	72	56
AGSECO	AG Radical	4/15	4/24	4/24	4/20	62	82	64	59
AgriPro	AP Bigfoot	4/11	4/17	4/19	4/19	68	80	66	62
AgriPro	AP EverRock	—	4/17	4/28	4/18	—	73	60	56
AgriPro	AP Longjack	4/14	4/21	4/21	4/20	67	83	70	59
AgriPro	AP Prolific	—	4/21	4/19	4/19	—	84	65	63
AgriPro	Bob Dole	—	4/19	4/23	4/18	—	96	73	70
AgriPro	SY Wolverine	—	—	4/21	4/19	—	—	62	57
Croplan	CP7017AX	4/13	4/21	4/28	4/20	62	80	70	58
Croplan	CP7266AX	4/17	4/24	4/28	4/21	64	90	79	64
KWA	KS Ahearn	4/14	4/24	4/25	4/20	67	74	60	58
KWA	KS Providence	4/13	4/19	4/23	4/19	72	80	68	64
LCS	LCS Atomic AX	4/8	4/17	4/19	4/18	71	78	64	60
LCS	LCS Chrome	4/19	4/27	4/28	4/26	61	95	80	72
LCS	LCS Galloway AX	4/14	4/21	4/24	4/21	68	87	71	61
LCS	LCS Helix AX	4/8	4/17	4/19	4/18	67	76	58	60
LCS	LCS Julep	4/19	4/27	4/28	4/26	64	93	73	67
LCS	LCS Photon AX	4/9	4/17	4/19	4/17	76	85	68	60
LCS	LCS Steel AX	4/14	4/21	4/25	4/21	64	90	74	63
OGI	Baker's Ann	—	—	4/19	4/17	—	—	64	66
OGI	Bentley	4/14	—	4/21	4/19	77	—	74	71
OGI	Big Country	—	4/24	4/25	4/20	—	91	81	74
OGI	Breakthrough	—	—	—	4/18	—	—	—	59
OGI	Butler's Gold	4/7	4/14	4/19	—	74	81	62	—
OGI	Butler's gold (late-planted)	4/14	—	4/23	—	64	—	55	—
OGI	Doublestop CL+	4/14	4/21	4/21	4/20	62	92	68	76
OGI	Gallagher	4/11	4/21	4/24	4/20	58	80	67	77
OGI	Green Hammer	4/13	4/19	4/21	4/19	75	90	81	69
OGI	High Cotton	4/15	4/19	4/23	4/19	63	80	60	69
OGI	Iba	4/14	—	4/21	4/19	57	—	69	68
OGI	Lonerider	—	—	—	4/19	—	—	—	60
OGI	OK Corral	4/14	4/18	4/24	4/20	59	83	64	68
OGI	Showdown	4/13	4/21	4/21	4/19	76	89	72	73
OGI	Smith's Gold	4/13	4/21	4/23	4/19	57	80	71	65
OGI	Strad CL+	4/11	4/21	4/20	4/20	68	92	73	74
OGI	Uncharted	4/12	4/19	4/24	4/19	74	81	60	67
PlainsGold	Breck	4/15	4/21	4/28	4/24	66	85	73	61
PlainsGold	Canvas	4/17	4/21	4/29	4/27	64	84	73	65
PlainsGold	Crescent AX	4/10	4/17	4/20	4/18	74	80	64	62



PlainsGold	Kivari AX	4/14	4/24	4/27	4/20	69	88	78	62
Watley	TAM112	—	—	—	4/19	—	—	—	57
Watley	TAM115	—	—	—	4/27	—	—	—	61
Watley	TAM204	—	—	—	4/20	—	—	—	60
Westbred	WB4401	4/10	4/17	4/20	4/18	63	75	63	64
Westbred	WB4422	4/15	4/21	4/21	4/20	67	93	64	61
Westbred	WB4632	4/15	4/19	4/23	4/19	62	78	66	62
Westbred	WB4792	4/17	4/21	4.27	4/24	57	85	74	64
<b>Experimentals</b>									
OSU	OK15DMASBx7 ARS 6-8	4/15	4/19	4/20	4/19	68	87	72	67
OSU	OK15MASBx7 ARS 8-29	4/12	4/21	4/23	4/21	58	76	68	70
OSU	OK16103083	—	—	—	4/22	—	—	—	71
OSU	OK16107133- 19-3	4/15	4/21	4/28	4/20	63	82	73	61
OSU	OK18205	4/15	—	—	4/18	71	—	—	61
OSU	OK19225	—	4/21	—	4/22	—	91	—	63
<b>Mean</b>		<b>4/13</b>	<b>4/20</b>	<b>4/23</b>	<b>4/20</b>	<b>3/5</b>	<b>3/24</b>	<b>3/8</b>	<b>3/3</b>

Em Dash "—" = data not available."



## Seed Size and Seeding Rate 2021-2022 Wheat Variety Trials

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Licensee	Variety		Grain Only		Dual Purpose
			Standard Management	Intensive Management	
		--seeds/lb--	-----seeds/ac-----		
AgriMAXX	AM Cartwright	11792	707,520	1,200,000	1,415,040
Westbred	WB4792	11823	709,380	1,200,000	1,418,760
PlainsGold	Crescent AX	12011	720,660	1,200,000	1,441,320
Watley	TAM112	12237	734,220	1,200,000	1,468,440
AgriPro	AP Longjack	12507	750,420	1,200,000	1,500,840
Croplan	CP7266AX	12682	760,920	1,200,000	1,521,840
OGI	Bentley	12861	771,660	1,200,000	1,543,320
AgriPro	AP Prolific	12934	776,040	1,200,000	1,552,080
Westbred	WB4401	13084	785,040	1,200,000	1,570,080
AgriPro	SY Wolverine	13084	785,040	1,200,000	1,570,080
AGSECO	AG Golden	13198	791,880	1,200,000	1,583,760
AgriPro	Bob Dole	13314	798,840	1,200,000	1,597,680
PlainsGold	Breck	13353	801,180	1,200,000	1,602,360
Croplan	CP7017AX	13353	801,180	1,200,000	1,602,360
OGI	High Cotton	13392	803,520	1,200,000	1,607,040
KWA	KS Providence	13552	813,120	1,200,000	1,626,240
PlainsGold	Canvas	13593	815,580	1,200,000	1,631,160
OGI	Doublestop CL+	13799	827,940	1,200,000	1,655,880
OGI	Strad CL+	13926	835,560	1,200,000	1,671,120
Westbred	WB4422	13969	838,140	1,200,000	1,676,280
OGI	Smith's Gold	14056	843,360	1,200,000	1,686,720
PlainsGold	Klvari AX	14099	845,940	1,200,000	1,691,880
AgriPro	AP Roadrunner	14367	862,020	1,200,000	1,724,040
LCS	LCS Photon AX	14693	881,580	1,200,000	1,763,160
OGI	Butler's Gold	14740	884,400	1,200,000	1,768,800
KWA	KS Ahearn	14740	884,400	1,200,000	1,768,800
OGI	Uncharted	14788	887,280	1,200,000	1,774,560
OGI	Big Country	14885	893,100	1,200,000	1,786,200
Westbred	WB4523	15133	907,980	1,200,000	1,815,960
AgriPro	AP EverRock	15235	914,100	1,200,000	1,828,200
LCS	LCS Atomic AX	15286	917,160	1,200,000	1,834,320
OGI	Baker's Ann	15390	923,400	1,200,000	1,846,800
Watley	TAM204	15390	923,400	1,200,000	1,846,800
AGSECO	AG Radical	15601	936,060	1,200,000	1,872,120
OGI	Iba	15764	945,840	1,200,000	1,891,680
OGI	Green Hammer	15764	945,840	1,200,000	1,891,680
LCS	LCS Steel AX	15764	945,840	1,200,000	1,891,680
Watley	TAM115	15819	949,140	1,200,000	1,898,280
OGI	OK Corral	15986	959,160	1,200,000	1,918,320
AgriPro	AP Bigfoot	15986	959,160	1,200,000	1,918,320

OGI	Gallagher	16042	962,520	1,200,000	1,925,040
LCS	LCS Julep	16331	979,860	1,200,000	1,959,720
LCS	LCS Chrome	16877	1,012,620	1,200,000	2,025,240
Westbred	WB4632	17132	1,027,920	1,200,000	2,055,840
OGI	Showdown	17462	1,047,720	1,200,000	2,095,440
LCS	LCS Galloway AX	18088	1,085,280	1,200,000	2,170,560
LCS	LCS Helix AX	19156	1,149,360	1,200,000	2,298,720
OGI	Breakthrough	19569	1,174,140	1,200,000	2,348,280
OGI	Lonerider	19654	1,179,240	1,200,000	2,358,480
<b>Experimentals</b>					
OSU	OK19225	14012	942,540	1,200,000	1,885,080
OSU	OK15DMASBx7 ARS 6-8	14056	843,360	1,200,000	1,686,720
OSU	OK16103083	14143	955,800	1,200,000	1,911,600
OSU	OK15MASBx7 ARS 8-29	15495	929,700	1,200,000	1,859,400
OSU	OK16107133-19-3	15819	827,940	1,200,000	1,655,880
OSU	OK18205	15986	955,801	1,200,000	1,911,602
<b>Mean</b>		<b>14796</b>	<b>889,287</b>	<b>1,200,000</b>	<b>1,778,575</b>

Notes: The seeding rate column "Grain-only standard management" represents the number of seeds per acre for each variety when planted at 60 pounds per acre. Thus, seeding rate was estimated by multiplying the amount of seeds per pound by 60 pounds per acre per variety. The reported seeds per pound reflect only the seed source used to plant the 2023 trials and may not approximate the long-term average for a given variety. All variety trial locations were sown at 60 pounds per acre, except for the dual-purpose trials at El Reno and Walters that were sown at 120 pounds per acre and the intensive wheat management trials at Apache, Chickasha, Lahoma, and Morris that were sown at 1.2 million seeds per acre.

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