



Current Report

EXTENSION

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2021-2022 Small Grains Variety Performance Tests

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Wheat Crop Overview

At the time of writing this report, 2022 Oklahoma wheat production is estimated to be approximately 65 million bushels, which is about 44% lower than 2021 production and 38% lower than 2020 production (Table 1). Approximately 4.4 million acres were planted for the 2022 crop year, similar to the 2021 crop but 14% lower than the previous 10-year average. Number of harvested acres is estimated at 2.4 million, which is 19% lower than in 2021 (Table 1). The statewide average yield is projected at 27 bu/ac. This is 12 bu/ac lower than the 2021 state average and 5 bu/ac lower than the previous 10-year average.

Table 1. Oklahoma wheat production for 2020, 2021 and 2022 as estimated by USDA NASS, June 2022.

	2020	2021	2022
Planted area (million acres)	4.3	4.4	4.4
Harvested area (million acres)	2.60	2.95	2.40
Yield (bushels/acre)	40	39	27
Total production (million bushels)	104	115	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 the emergence was delayed, but plants established well. Oklahoma received good 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. Although dual-purpose wheat was planted later than desired, the October moisture enabled moderate fall forage production. By December 15, Oklahoma had not received 0.25” of rainfall for almost two months (since October) in some parts of the state and the wheat was showing signs of drought stress. Some fields were also showing symptoms of nitrogen

(N) deficiency. There were multiple reports of fall armyworm infestations during the summer, but the later planting date of wheat limit the impact this pest had on the crop.

December was warmer than usual with large fluctuations in temperature. By the end of year, the wheat crop was showing signs of drought stress and could benefit from additional moisture going into the winter. However, this moisture did not come until March.

Due to a lack of moisture late in the fall, wheat fields planted late, especially in southwest OK, did not emerge until February. This resulted in a lack of cold accumulation “vernalization requirement,” 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 yield. In other parts of the state where the crop was established in October and received some rainfall in March and April, yield potential was acceptable. However, with the exception of eastern OK, much of the wheat in the state was grown under drought stress. No diseases of any significance were observed in the fall.

Overall, average temperatures and low rainfall resulted in low to moderate fall forage production (for more information see CR 2141 - Fall Forage Production and First Hollow Stem Date for Small Grain Varieties during the 2020-2021 Crop Year). In the forage trials, the very early genotypes reached first hollow stem during the second week of February. 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 rain on March 21, the most significant rain since planting. This rain saved many producers from not having a crop this year. However, some places, such as the panhandle and southwest regions, did not receive significant amount of rain. The lack of moisture 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, heavy infestations of brown wheat mites occurred throughout the state, except for the Panhandle and Eastern OK, and many producers decided to spray for it.

Wheat started to head by mid-April in southwest OK and late April in southcentral OK. Freeze occurred but the damage was minimal this year. Some fields showed heads with discoloration (i.e., bleached) or a dark chocolate color due to different types of stresses (e.g., freeze, drought and crown/root rots). By May, the crop looked good in some areas; it needed rainfall to help with grain filling and test weight.

Viral diseases were the most common wheat diseases through April and May in Oklahoma. Wheat streak mosaic virus transmitted by wheat curl mite was widespread and severe in multiple fields. In previous years, wheat streak mosaic virus was reported mainly in northwestern OK; however, this season, it reached severe levels in several areas across the state. High plains, another viral disease, was reported at lower incidence in western and northwestern Oklahoma. Barley yellow dwarf occurred at moderate incidence and severity, with occasional fields showing high incidence. Barley yellow dwarf was reported in fields in Canadian, Payne, Grady, Cleveland and Garfield Counties.

Drought during this wheat growing season reduced the presence of many foliar fungal diseases. Low incidence of leaf rust was reported in Stillwater and east central Oklahoma in mid-May, whereas powdery mildew was relatively more prominent. Moderate incidence and severity of *Septoria tritici* blotch were observed in some no-till fields in Kay and Okmulgee counties after the rain events mid-May. The moist conditions in Okmulgee County also favored bacterial streak, black chaff and *Fusarium* head blight diseases. Spot blotch was another fungal disease found at low to moderate incidence and severity in some fields in Payne, Garfield and Okmulgee Counties.

The lack of rain promoted *Fusarium* root, crown and foot rots across the state in moderate to high incidence and severity. Symptoms of these dryland diseases were noticeable during May. Common root rot, caused by *Bipolaris sorokiniana* and favored by drought, was found at lower incidence in fields in Alfalfa, Beaver, Blaine and Oklahoma Counties.

In summary, this year's crop was thin and short, with a small head size and poor kernel set due to the severe drought it experienced throughout the season. 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 June. Consequently, harvest was delayed by a couple of weeks. 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 (65 bu/ac) in intensively managed fields in northcentral Oklahoma. Test weight was good as harvest began, with values ranging from 58 to 61 lbs/bu. However, the continuing rainfall events during late June caused a slight decline in test weight and greater sprout damage in some areas. Sprout damage was rated 5-7%. Wheat protein varied from 10 to 16% across the state, with a state average of 12%.

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 and were planted on a seeds per acre basis. 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 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, N rate was calculated for 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 Wintersteiger 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 Altus trial experienced severe drought stress throughout the growing season, with significant plant or tiller mortality and reduced kernel set, generating excessive variability across the field. This data would not be meaningful and misrepresent comparisons among varieties; thus, this site was not harvested in 2022.

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

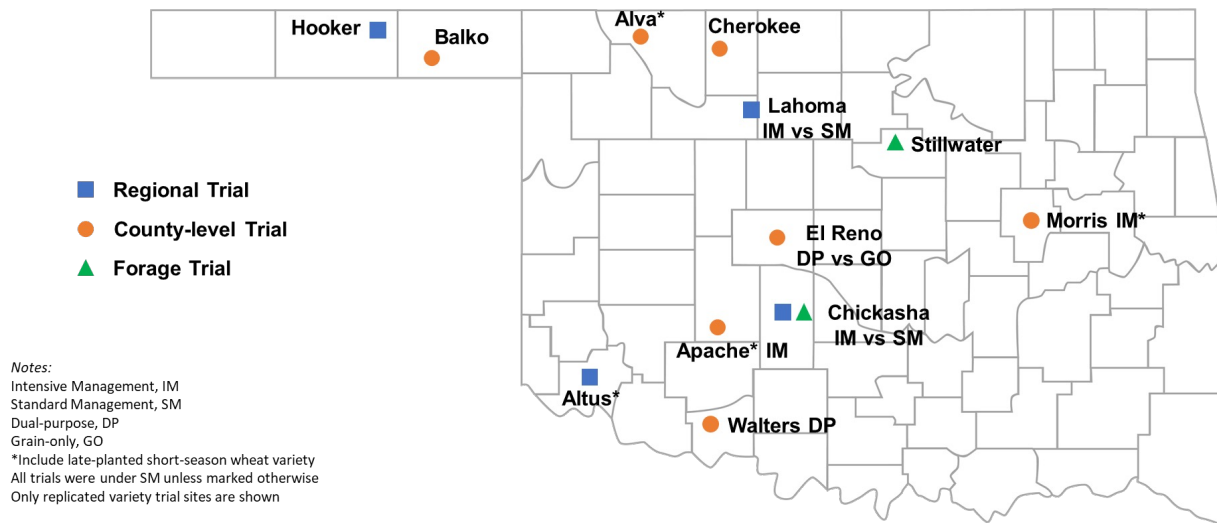


Figure 1. Performance test locations.

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

Blog: www.osuwheat.com



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Summary of All Individual Locations

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Licensee	Variety	Alva	Apache IM	Balko	Cherokee	Chickasha	Chickasha IM
----- grain yield (bu/ac) -----							
AgriMAXX	AM Cartwright	7	37	43	12	60	69
AGSECO	AG Golden	--	--	--	--	69	81
AGSECO	AG Icon	20	52	38	18	60	69
AGSECO	AG Radical	--	--	--	--	61	73
Croplan	CP7017AX	22	52	37	26	69	77
Croplan	CP7266AX	--	--	--	--	61	68
KWA	KS Ahearn	--	--	--	19	69	74
KWA	KS Hamilton	23	51	26	--	66	71
KWA	KS Western Star	14	47	35	20	63	65
KWA	KS Providence	--	--	--	--	68	71
LCS	LCS Atomic AX	22	56	43	25	76	77
LCS	LCS Chrome	--	--	--	--	55	66
LCS	LCS Helix AX	--	--	--	27	70	77
LCS	LCS Julep	--	33	--	18	65	67
LCS	LCS Photon AX	18	52	42	--	63	67
LCS	LCS Runner	--	--	--	--	63	73
LCS	LCS Steel AX	--	--	--	--	65	70
LCS	LCS Valiant	15	--	40	--	64	72
OGI	Baker's Ann	--	--	34	17	64	70
OGI	Bentley	--	--	46	--	--	--
OGI	Big Country	11	39	--	14	47	56
OGI	Breakthrough	--	--	36	--	--	--
OGI	Butler's Gold	14	35	45	17	66	70
OGI	Butler's Gold (late-planted)	--	--	--	--	--	--
OGI	Doublestop CL+	15	45	--	24	57	66
OGI	Duster	--	--	--	--	64	73
OGI	Gallagher	16	44	36	21	67	75
OGI	Green Hammer	14	48	--	17	59	66
OGI	Iba	--	--	32	18	--	--
OGI	Lonerider	--	--	38	--	--	--
OGI	OK Corral	18	41	32	9	61	73
OGI	Showdown	21	60	32	21	67	71
OGI	Skydance	11	36	--	--	59	67
OGI	Smith's Gold	20	43	37	22	65	71
OGI	Spirit Rider	--	--	--	--	--	--
OGI	Strad CL+	14	45	32	20	60	64
OGI	Uncharted	--	43	--	--	59	66
PlainsGold	Breck	--	--	--	--	69	74
PlainsGold	Canvas	26	56	38	30	69	72
PlainsGold	Crescent AX	17	--	30	--	71	82
PlainsGold	Guardian	17	49	33	26	63	73
PlainsGold	Sunshine	--	--	--	--	69	74
Syngenta	AP EverRock	15	--	--	--	68	75
Syngenta	AP Roadrunner	14	47	39	--	66	78
Syngenta	AP18 AX	--	53	32	15	65	73
Syngenta	Bob Dole	15	--	--	19	66	75
Syngenta	AP Prolific	--	--	--	--	61	73
Syngenta	SY Achieve CL2	--	--	--	24	57	66
Westbred	WB4401	11	43	--	17	62	67
Westbred	WB4422	--	--	--	--	66	78
Westbred	WB4523	--	--	--	--	63	74
Westbred	WB4699	15	--	--	20	67	70
Westbred	WB4792	21	38	27	--	68	78
Experimentals							
	OK15DMASBx7 ARS 6-8	--	52	--	--	50	63
	OK15MASBx7 ARS 8-29	--	--	--	--	69	76
	OK16103083	--	--	--	--	--	--
Mean		16	45	36	20	64	71
LSD (0.05)		5	6	11	3	6	6

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. Double-dashes "--" = data not available.



Summary of All Individual Locations

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Licensee	Variety	El Reno DP	El Reno GO	Lahoma	Lahoma IM	Morris IM	Walters DP
grain yield (bu/ac)							
AgriMAXX	AM Cartwright	32	52	83	75	77	16
AGSECO	AG Golden	--	--	92	85	--	--
AGSECO	AG Icon	46	59	74	73	79	19
AGSECO	AG Radical	49	64	87	85	73	22
Croplan	CP7017AX	57	62	88	86	77	25
Croplan	CP7266AX	--	--	76	76	--	--
KWA	KS Ahearn	40	57	79	85	80	18
KWA	KS Hamilton	--	--	72	73	--	--
KWA	KS Western Star	--	--	78	78	--	22
KWA	KS Providence	--	--	76	91	--	--
LCS	LCS Atomic AX	49	62	78	89	83	22
LCS	LCS Chrome	46	58	75	78	--	19
LCS	LCS Helix AX	--	--	89	85	--	--
LCS	LCS Julep	--	--	77	77	78	--
LCS	LCS Photon AX	48	56	76	78	73	21
LCS	LCS Runner	--	--	78	78	--	--
LCS	LCS Steel AX	--	--	84	83	--	--
LCS	LCS Valiant	--	--	78	84	--	--
OGI	Baker's Ann	--	--	74	68	73	--
OGI	Bentley	--	--	81	74	--	--
OGI	Big Country	30	41	61	61	88	--
OGI	Breakthrough	--	--	--	--	--	--
OGI	Butler's Gold	--	--	64	71	72	--
OGI	Butler's Gold (late-planted)	--	--	48	47	66	--
OGI	Doublestop CL+	42	57	71	75	--	22
OGI	Duster	--	--	73	79	--	--
OGI	Gallagher	41	56	76	83	84	19
OGI	Green Hammer	40	55	66	74	--	15
OGI	Iba	--	--	--	--	--	--
OGI	Lonerider	--	--	--	--	--	--
OGI	OK Corral	42	54	75	70	85	15
OGI	Showdown	57	60	85	86	--	23
OGI	Skydance	--	--	71	71	80	--
OGI	Smith's Gold	38	58	75	79	74	20
OGI	Spirit Rider	--	--	--	--	70	--
OGI	Strad CL+	36	57	68	72	--	19
OGI	Uncharted	42	58	65	65	84	18
PlainsGold	Breck	--	--	82	83	--	--
PlainsGold	Canvas	--	--	85	88	--	22
PlainsGold	Crescent AX	50	68	77	86	78	--
PlainsGold	Guardian	--	--	71	75	--	20
PlainsGold	Sunshine	--	--	79	82	--	--
Syngenta	AP EverRock	35	51	67	72	74	--
Syngenta	AP Roadrunner	42	59	78	90	--	20
Syngenta	AP18 AX	--	--	78	87	--	20
Syngenta	Bob Dole	--	--	80	85	91	--
Syngenta	AP Prolific	--	--	90	85	--	--
Syngenta	SY Achieve CL2	--	--	63	74	72	--
Westbred	WB4401	35	50	79	78	76	11
Westbred	WB4422	--	--	93	95	--	--
Westbred	WB4523	--	--	73	79	--	--
Westbred	WB4699	48	60	80	82	84	--
Westbred	WB4792	--	--	75	78	--	21
	Experimentals	--	--	--	--	--	--
	OK15DMASBx7 ARS 6-8	--	--	--	--	--	21
	OK15MASBx7 ARS 8-29	41	58	85	85	--	--
	OK16103083	--	--	--	--	78	--
	Mean	43	57	76	79	78	20
	LSD (0.05)	5	5	9	9	6	3

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. Double-dashes "--" = data not available.



Alva Wheat Variety Trial

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Cooperator: Joe Shirley

Extension Educator: Greg Highfill

Planting & harvest dates: 10/22/2021 & 06/13/2022

Previous crop: Wheat

Management: Grain-only

Soil Type: Bethany silt loam

Tillage: Conventional

Soil test: pH=6.2, N= 71, P= 29, K= 455

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2-Year	3-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
PlainsGold	Canvas	26	--	--	57.7	17.7
KWA	KS Hamilton	23	--	--	56.0	17.8
Croplan	CP7017AX	22	--	--	56.2	17.3
LCS	LCS Atomic AX	22	--	--	57.2	16.8
OGI	Showdown	21	43	53	55.5	18.0
Westbred	WB4792	21	41	--	59.1	17.1
AGSECO	AG Icon	20	39	51	53.8	18.8
OGI	Smith's Gold	20	37	46	56.2	18.6
OGI	OK Corral	18	41	--	51.1	17.9
LCS	LCS Photon AX	18	36	--	56.4	19.3
PlainsGold	Crescent AX	17	41	--	54.8	18.9
PlainsGold	Guardian	17	42	--	58.3	17.6
OGI	Gallagher	16	36	48	54.0	19.3
OGI	Doublestop CL+	15	30	48	53.7	20.1
AgriPro	Bob Dole	15	36	55	54.5	20.3
Westbred	WB4699	15	39	--	53.5	18.0
LCS	LCS Valiant	15	--	--	51.7	21.6
AgriPro	AP EverRock	15	--	--	54.9	19.7
OGI	Butler's Gold	14	--	--	49.3	19.4
KWA	KS Western Star	14	37	--	57.9	17.8
AgriPro	AP Roadrunner	14	--	--	53.9	19.3
OGI	Green Hammer	14	--	--	57.0	21.5
OGI	Strad CL+	14	--	--	53.3	19.4
Westbred	WB4401	11	34	--	54.5	20.0
OGI	Big Country	11	37	--	55.1	21.4
OGI	Skydance	11	30	44	50.3	20.2
OGI	Butler's Gold (late-planted)	11	--	--	54.9	20.2
AgriMAXX	AM Cartwright	7	27	--	51.3	21.3
	Experimentals					
	OK15DMASBx7 ARS 8-29	17	--	--	53.4	19.7
	Mean	16	33	49	54.7	19.1
	LSD (0.05)	5	4	5	5.3	1.7

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 and moderate pressure of fusarium crown/root rot disease. Both grain yield and test weight were heavily impacted. In 2020, there were no harvest results from this location. Thus, the 3-year average represent results from 2019, 2021, and 2022 harvest years. Butler's Gold late-planted was planted on 11/30/21 at 1.4 million seeds/acre. Double-dashes"--" = data not available.



Apache Intensive Wheat Management Variety Trial

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Cooperator: Bryan Vail

Extension Educator: Cade Miller

Planting & harvest dates: 10/26/2021 & 06/06/2022

Previous crop: Wheat

Management: Grain-Only, conventional tillage

Soil Type: Hollister silt loam

Seeding rate: 1.2 million seeds/acre

Soil test: pH=5.8, N= 49, P= 26, K= 383

Nitrogen: 6 lbs/acre 10-34-0, 75 lbs/ac on 12/07/21, and 70 lbs/ac on 03/03/22

Fungicide: 4 fl oz/ac Tebucure 3.6 at jointing on 04/01/22 and 9 fl oz/ac Trivapro at flag leaf-boot stage on 04/14/22

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2020-21	2020-21	2021-22	2021-22
		Intensive Manag.	No Fungicide	Fungicide		
		----- bu/ac -----			-- lb/bu --	-- % --
OGI	Showdown	60	61	66	58.8	13.3
LCS	LCS Atomic AX	56	--	--	58.1	13.3
PlainsGold	Canvas	56	75	78	59.9	13.6
AgriPro	AP18 AX	53	--	--	57.4	13.9
LCS	LCS Photon AX	52	58	59	60.1	15.3
AGSECO	AG Icon	52	--	--	58.2	15.2
Croplan	CP7017AX	52	--	--	58.1	13.5
KWA	KS Hamilton	51	--	--	59.5	13.6
PlainsGold	Guardian	49	--	--	61.2	14.7
OGI	Green Hammer	48	46	51	58.7	16.3
AgriPro	AP Roadrunner	47	--	--	58.2	14.2
KWA	KS Western Star	47	75	73	60.7	14.4
OGI	Strad CL+	45	--	--	58.5	15.4
OGI	Doublestop CL+	45	55	60	60.6	16.7
OGI	Gallagher	44	56	60	58.4	15.4
OGI	Uncharted	43	35	39	58.0	15.1
Westbred	WB4401	43	--	--	55.8	14.0
OGI	Smith's Gold	43	49	53	60.1	15.4
OGI	OK Corral	41	51	56	53.3	15.1
OGI	Big Country	39	54	58	58.8	16.4
Westbred	WB4792	38	66	70	60.1	15.3
AgriMAXX	AM Cartwright	37	--	--	57.7	16.8
OGI	Skydance	36	53	53	59.5	16.3
OGI	Butler's Gold	35	--	--	59.2	15.7
LCS	LCS Julep	33	--	--	56.7	16.0
OGI	Butler's Gold (late-planted)	29	--	--	59.7	17.7
Experimentals						
	OK15DMASBx7 ARS 6-8	52	--	--	59.9	15.1
Mean		45	55	60	58.7	15.1
LSD (0.05)		6	6	7	1.2	0.5

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 first year we have conducted an intensive management trial at Apache. For this reason, data from previous years were not combined. Data from the trials conducted at Apache with and without fungicide in the 2020-2021 growing season are shown only for varieties planted in the 2021-2022 growing season. Butler's Gold late-planted was planted on 12/07/2021. There were no diseases observed and the crop was impacted by a severe drought stress during the season. Double-dashes"--" = data not available.



Balko Wheat Variety Trial

wheat.okstate.edu

Cooperator: Teryl Rorabaugh	Extension Educator: Loren Sizelove
Planting & harvest dates: 10/5/2021 & 06/21/2022	Previous crop: Fallow
Management: Grain-only	Soil Type: Dale silt loam
Tillage: Conventional	Soil test: pH=7.1, N= 46, P= 36, K= 854

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2-Year	3-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
OGI	Bentley	46	53	55	59.1	13.9
OGI	Butler's Gold	45	--	--	60.3	13.6
AgriMAXX	AM Cartwright	43	--	--	59.7	14.8
LCS	LCS Atomic AX	43	--	--	58.8	12.5
LCS	LCS Photon AX	42	--	--	58.3	13.2
LCS	LCS Valiant	40	--	--	58.7	13.8
AgriPro	AP Roadrunner	39	--	--	59.0	13.6
OGI	Lonerider	38	49	50	58.3	15.0
PlainsGold	Canvas	38	50	54	59.0	12.4
AGSECO	AG Icon	38	50	51	59.1	13.5
Croplan	CP7017AX	37	--	--	57.2	12.7
OGI	Smith's Gold	37	46	50	57.6	13.0
OGI	Breakthrough	36	47	49	57.7	12.8
OGI	Gallagher	36	41	47	57.8	13.4
KWA	KS Western Star	35	48	--	57.8	13.4
OGI	Baker's Ann	34	44	47	57.8	13.2
PlainsGold	Guardian	33	51	--	58.9	13.4
OGI	Iba	32	41	48	58.4	12.8
OGI	Strad CL+	32	--	--	58.4	13.8
OGI	OK Corral	32	46	48	58.8	13.0
OGI	Showdown	32	47	50	58.6	12.8
AgriPro	AP18 AX	32	--	--	58.7	12.7
PlainsGold	Crescent AX	30	44	50	58.9	12.1
Westbred	WB4792	27	45	51	57.1	12.8
KWA	KS Hamilton	26	--	--	57.6	12.2
Mean		36	47	50	58.5	13.2
LSD (0.05)		11	NS	NS	NS	1.1

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. Double-dashes "--" = data not available.



Cherokee Wheat Variety Trial

wheat.okstate.edu

Cooperator: Kenneth Failes	Extension Educator: Tommy Puffinbarger
Planting & harvest dates: 10/22/2021 & 06/10/2022	Previous crop: Wheat
Management: Grain-only	Soil Type: Dale silt loam
Tillage: Conventional	Soil test: pH=6.5, N= 97, P= 52, K= 435

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2020-21	2-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
PlainsGold	Canvas	30	71	79	62.7	17.1
LCS	LCS Helix AX	27	--	--	56.4	17.2
PlainsGold	Guardian	26	68	--	60.7	17.2
Croplan	CP7017AX	26	--	--	57.0	16.9
LCS	LCS Atomic AX	25	--	--	57.8	17.7
AgriPro	SY Achieve CL2	24	64	--	53.9	18.6
OGI	Doublestop CL+	24	57	72	55.8	19.0
OGI	Smith's Gold	22	65	76	55.5	18.6
OGI	Gallagher	21	65	79	55.1	18.9
OGI	Showdown	21	81	90	54.9	19.2
KWA	KS Western Star	20	64	--	57.1	16.9
Westbred	WB4699	20	64	80	52.4	17.6
OGI	Strad CL+	20	--	--	54.8	18.8
AgriPro	Bob Dole	19	64	72	53.6	20.4
KWA	KS Ahearn	19	--	--	54.1	18.8
LCS	LCS Julep	18	--	--	59.2	19.4
OGI	Iba	18	72	79	57.5	18.1
AGSECO	AG Icon	18	--	--	51.7	19.5
OGI	Green Hammer	17	--	--	57.4	21.5
Westbred	WB4401	17	62	--	56.3	18.5
OGI	Butler's Gold	17	--	--	57.2	20.5
OGI	Baker's Ann	17	63	75	58.0	19.8
AgriPro	AP18 AX	15	--	--	48.0	19.2
OGI	Big Country	14	64	68	54.9	21.5
AgriMAXX	AM Cartwright	12	54	--	53.9	20.6
OGI	OK Corral	9	61	75	46.0	20.8
	Experimentals					
	OK15DMASBx7 ARS 8-29	20	--	--	54.4	18.4
	Mean	20	65	77	55.4	18.9
	LSD (0.05)	3	5	6	3.8	0.6

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, and high pressure of brown wheat mites and fusarium root rots. 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. The 2-year yield averages include the 2020 and 2021 harvest years. Double-dashes "--" = data not available.



Chickasha Regional Wheat Variety Trial

wheat.okstate.edu

Cooperator: OSU South Central Research Station

Extension Educator: Alexandra Minor

Planting & harvest dates: 10/25/2021 & 06/16/2022

Previous crop: Austrian winter peas

Management: Grain-only

Soil Type: Dale silt loam

Tillage: Conventional

Soil test: pH=6.6, N= 81, P= 43, K= 377

Licensee	Variety	Lodging 2021-22	Grain Yield			Test Weight 2021-22	Wheat Protein 2021-22	Sprouted kernels 2021-22
			2021-22	2-Year	3-Year			
			----- bu/ac -----			-- lb/bu --	-- % --	-- % --
LCS	LCS Atomic AX	2	76	51	--	57.3	13.7	4
PlainsGold	Crescent AX	3	71	46	44	57.1	12.8	2
LCS	LCS Helix AX	1	70	52	--	58.8	12.4	2
PlainsGold	Canvas	1	69	56	48	58.4	12.4	0
KWA	KS Ahearn	2	69	49	--	56.3	13.1	5
AGSECO	AG Golden	1	69	--	--	56.0	12.5	0
PlainsGold	Breck	1	69	--	--	58.6	13.8	0
PlainsGold	Sunshine	1	69	--	--	53.7	14.4	22
Croplan	CP7017AX	1	69	51	--	56.7	14.1	0
KWA	KS Providence	1	68	--	--	54.0	14.3	23
AgriPro	AP EverRock	2	68	--	--	56.4	12.8	0
Westbred	WB4792	1	68	50	47	60.2	13.3	0
OGI	Showdown	2	67	51	48	56.4	13.6	1
OGI	Gallagher	2	67	48	42	55.6	14.9	23
Westbred	WB4699	1	67	49	45	55.6	12.2	5
Westbred	WB4422	1	66	--	--	58.2	12.4	0
AgriPro	AP Roadrunner	1	66	62	--	55.9	13.0	0
AgriPro	Bob Dole	2	66	48	50	54.5	14.6	38
OGI	Butler's Gold	2	66	--	--	58.9	13.9	5
KWA	KS Hamilton	2	66	52	--	58.0	14.0	0
LCS	LCS Julep	1	65	48	--	58.7	14.2	2
LCS	LCS Steel AX	1	65	--	--	55.9	12.8	0
OGI	Smith's Gold	1	65	49	48	57.8	13.0	5
AgriPro	AP18 AX	1	65	47	--	56.1	13.2	10
OGI	Duster	2	64	53	47	55.8	14.8	2
LCS	LCS Valiant	1	64	50	--	57.5	14.2	0
OGI	Baker's Ann	1	64	44	43	56.6	14.0	0
LCS	LCS Photon AX	1	63	44	--	58.8	13.7	5
Westbred	WB4523	1	63	--	--	55.8	12.4	2
KWA	KS Western Star	2	63	55	--	57.9	12.7	0
LCS	LCS Runner	2	63	--	--	57.3	13.0	5
PlainsGold	Guardian	2	63	57	--	59.0	15.4	0
Westbred	WB4401	1	62	44	--	53.3	12.7	24
Croplan	CP72166AX	1	61	--	--	57.5	14.5	1
AGSECO	AG Radical	1	61	41	--	55.6	14.5	5
OGI	OK Corral	2	61	48	--	53.6	14.2	15
AgriPro	AP Prolific	1	61	--	--	55.9	13.5	20
AgriMAXX	AM Cartwright	4	60	50	44	55.7	14.9	5
AGSECO	AG Icon	1	60	48	48	56.5	14.9	2
OGI	Strad CL+	1	60	53	--	56.4	14.4	8
OGI	Skydance	2	59	43	47	59.1	14.1	5
OGI	Green Hammer	2	59	45	45	57.6	14.9	1
OGI	Uncharted	2	59	49	51	56.4	14.2	5
AgriPro	SY Achieve CL2	1	57	36	39	57.9	13.4	1
OGI	Doublestop CL+	2	57	56	57	59.3	15.8	5
LCS	LCS Chrome	1	55	54	49	56.0	14.6	9
OGI	Big Country	1	47	53	55	55.7	16.4	5
Experimentals								
	OK15MASBx7 ARS 8-29	2	69	--	--	55.8	13.1	2
	OK15DMASBx7 ARS 6-8	1	50	--	--	56.9	14.4	10
Mean		1	63	49	47	56.8	13.8	10
LSD (0.05)		--	6	9	7	1.1	1.7	--

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The high rainfall events that occurred after maturity resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. There were no diseases observed in this trial. Lodging is reported on a 1 to 5 scale, with 1 indicating no lodging. In 2020, there were no harvest results from this location due to late-spring freeze damage. Thus, the 3-year average represent results from 2019, 2021, and 2022 harvest years. Double-dashes"--" = data not available.



Chickasha Regional Intensive Wheat Management Variety Trial

wheat.okstate.edu

Cooperator: OSU South Central Research Station

Extension Educator: Alexanderia Minor

Planting & harvest dates: 10/25/2021 & 06/16/2022

Previous crop: Austrian winter peas

Management: Grain-only, conventional tillage

Soil Type: Dale silt loam

Seeding rate: 1.2 million seeds/acre

Soil test: pH=6.6, N= 81, P= 43, K= 377

Nitrogen: 6 lbs/ac 10-34-0 at planting, 87 lbs/ac on 2/15/22, 60 lbs/ac 3/14/22

Fungicide: 4 fl oz/ac Tebucure 3.6 at jointing on 4/1/22 and 9 fl oz/ac Trivapro at flag leaf-boot stage on 4/14/22

Licensee	Variety	Lodging 2021-22	Grain Yield			Test Weight 2021-22	Wheat Protein 2021-22	Sprouted kernels 2021-22
			2021-22	2-Year	3-Year			
			----- bu/ac -----			-- lb/bu --	-- % --	-- % --
PlainsGold	Crescent AX	4	82	62	65	58.1	14.6	1
AGSECO	AG Golden	1	81	--	--	56.5	14.0	0
Westbred	WB4792	2	78	70	72	58.8	14.2	0
AgriPro	AP Roadrunner	2	78	79	--	57.1	15.2	0
Westbred	WB4422	2	78	--	--	58.5	14.4	0
Croplan	CP7017AX	2	77	69	--	57.0	15.0	0
LCS	LCS Helix AX	2	77	61	--	59.0	14.6	0
LCS	LCS Atomic AX	2	77	54	--	58.0	14.0	5
OGI	Gallagher	2	75	62	67	57.8	15.7	0
AgriPro	Bob Dole	3	75	63	68	57.4	15.5	17
AgriPro	AP EverRock	2	75	51	--	56.6	14.6	15
PlainsGold	Breck	2	74	--	--	57.8	15.2	0
PlainsGold	Sunshine	2	74	--	--	56.0	15.4	15
KWA	KS Ahearn	3	74	63	--	56.7	15.0	0
Westbred	WB4523	2	74	--	--	56.1	13.9	0
OGI	OK Corral	2	73	63	--	55.9	14.5	10
AGSECO	AG Radical	2	73	66	--	56.2	16.2	0
AgriPro	AP18 AX	2	73	57	--	57.5	14.6	0
OGI	Duster	2	73	66	67	57.6	14.5	1
AgriPro	AP Prolific	3	73	--	--	57.4	15.5	15
PlainsGold	Guardian	3	73	68	--	59.7	15.3	0
LCS	LCS Runner	3	73	--	--	58.3	14.2	5
PlainsGold	Canvas	2	72	73	68	58.0	15.0	0
LCS	LCS Valiant	2	72	62	--	58.1	14.9	0
OGI	Showdown	2	71	56	59	57.1	14.3	0
KWA	KS Providence	2	71	--	--	56.0	15.5	10
OGI	Smith's Gold	2	71	60	61	59.1	14.7	5
KWA	KS Hamilton	3	71	71	--	57.8	15.0	5
OGI	Butler's Gold	3	70	--	--	59.2	15.0	8
LCS	LCS Steel AX	2	70	--	--	55.5	15.0	0
OGI	Baker's Ann	1	70	51	57	57.7	14.7	1
Westbred	WB4699	3	70	71	71	56.1	14.3	0
AGSECO	AG Icon	1	69	65	66	57.7	15.9	0
AgriMAXX	AM Cartwright	2	69	64	62	56.9	16.2	5
Croplan	CP7266AX	2	68	--	--	58.1	15.5	0
LCS	LCS Julep	1	67	69	--	56.8	15.7	0
Westbred	WB4401	2	67	58	--	56.0	13.7	13
LCS	LCS Photon AX	2	67	52	--	59.6	15.4	0
OGI	Skydance	2	67	50	57	59.0	15.4	0
AgriPro	SY Achieve CL2	2	66	50	58	58.2	14.9	1
OGI	Uncharted	2	66	60	64	56.7	14.8	4
OGI	Doublestop CL+	2	66	64	65	59.3	16.7	0
OGI	Green Hammer	2	66	55	61	57.9	17.2	0
LCS	LCS Chrome	2	66	71	66	56.6	15.9	10
KWA	KS Western Star	3	65	66	--	57.5	14.6	0
OGI	Strad CL+	1	64	62	--	58.3	15.7	2
OGI	Big Country	2	56	59	63	57.9	16.4	5
Experimentals								
	OK15MASBx7 ARS 8-29	3	76	--	--	57.1	15.2	0
	OK15DMASBx7 ARS 6-8	3	63	--	--	57.7	16.0	11
	Mean	2	71	62	64	57.5	15.1	8
	LSD (0.05)	--	6	10	8	1.0	1.4	--

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The high rainfall events that occurred after maturity resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. There were no diseases observed in this trial. Lodging is reported on a 1 to 5 scale, with 1 indicating no lodging. In 2020, there were no harvest results from this location due to late-spring freeze damage. Thus, the 3-year average represent results from 2019, 2021, and 2022 harvest years. Double-dashes "--" = data not available.



Chickasha Wheat Variety Trial

Standard vs. Intensive Management Comparison

wheat.okstate.edu

Cooperator: OSU South Central Research Station
 Planting & harvest dates: 10/25/2021 & 06/16/2022
 Management: Grain-only, conventional tillage
 Seeding rate for IM: 1.2 million seeds/acre

Extension Educator: Alexandria Minor
 Previous crop: Austrian winter peas
 Soil Type: Dale silt loam
 Soil test: pH=6.6, N= 81, P= 43, K= 377

Nitrogen for IM: 6 lbs/ac 10-34-0 at planting, 87 lbs/ac on 2/15/22, 60 lbs/ac 3/14/22

Fungicide for IM: 4 fl oz/ac Tebucure 3.6 at jointing on 4/1/22 and 9 fl oz/ac Trivapro at flag leaf-boot stage on 4/14/22

Licensee	Variety	Grain Yield			Test Weight			Wheat Protein		
		Standard	Intensive	Diff	Standard	Intensive	Diff	Standard	Intensive	Diff
		----- bu/ac -----			----- lb/bu -----			----- % -----		
LCS	LCS Atomic AX	76	77	0	57.3	58.0	0.7	13.7	14.0	0.2
PlainsGold	Crescent AX	71	82	12	57.1	58.1	1.1	12.8	14.6	1.9
LCS	LCS Helix AX	70	77	7	58.8	59.0	0.2	12.4	14.6	2.2
PlainsGold	Canvas	69	72	3	58.4	58.0	-0.4	12.4	15.0	2.7
KWA	KS Ahearn	69	74	5	56.3	56.7	0.4	13.1	15.0	1.9
AGSECO	AG Golden	69	81	12	56.0	56.5	0.5	12.5	14.0	1.5
PlainsGold	Breck	69	74	5	58.6	57.8	-0.7	13.8	15.2	1.4
PlainsGold	Sunshine	69	74	5	53.7	56.0	2.3	14.4	15.4	1.0
Croplan	CP7017AX	69	77	8	56.7	57.0	0.3	14.1	15.0	0.9
KWA	KS Providence	68	71	3	54.0	56.0	2.0	14.3	15.5	1.2
AgriPro	AP EverRock	68	75	7	56.4	56.6	0.2	12.8	14.6	1.8
Westbred	WB4792	68	78	10	60.2	58.8	-1.4	13.3	14.2	0.9
OGI	Showdown	67	71	4	56.4	57.1	0.7	13.6	14.3	0.7
OGI	Gallagher	67	75	8	55.6	57.8	2.2	14.9	15.7	0.8
Westbred	WB4699	67	70	3	55.6	56.1	0.5	12.2	14.3	2.1
Westbred	WB4422	66	78	11	58.2	58.5	0.3	12.4	14.4	1.9
AgriPro	AP Roadrunner	66	78	12	55.9	57.1	1.2	13.0	15.2	2.2
AgriPro	Bob Dole	66	75	9	54.5	57.4	2.8	14.6	15.5	0.9
OGI	Butler's Gold	66	70	5	58.9	59.2	0.3	13.9	15.0	1.1
KWA	KS Hamilton	66	71	5	58.0	57.8	-0.2	14.0	15.0	1.0
LCS	LCS Julep	65	67	2	58.7	56.8	-1.8	14.2	15.7	1.5
LCS	LCS Steel AX	65	70	5	55.9	55.5	-0.4	12.8	15.0	2.2
OGI	Smith's Gold	65	71	6	57.8	59.1	1.3	13.0	14.7	1.7
AgriPro	AP18 AX	65	73	9	56.1	57.5	1.5	13.2	14.6	1.4
OGI	Duster	64	73	9	55.8	57.6	1.8	14.8	14.5	-0.3
LCS	LCS Valiant	64	72	8	57.5	58.1	0.6	14.2	14.9	0.7
OGI	Baker's Ann	64	70	6	56.6	57.7	1.1	14.0	14.7	0.8
LCS	LCS Photon AX	63	67	3	58.8	59.6	0.9	13.7	15.4	1.7
Westbred	WB4523	63	74	11	55.8	56.1	0.2	12.4	13.9	1.5
KWA	KS Western Star	63	65	2	57.9	57.5	-0.4	12.7	14.6	1.9
LCS	LCS Runner	63	73	10	57.3	58.3	1.0	13.0	14.2	1.2
PlainsGold	Guardian	63	73	10	59.0	59.7	0.8	15.4	15.3	-0.2
Westbred	WB4401	62	67	5	53.3	56.0	2.7	12.7	13.7	1.0
Croplan	CP7266AX	61	68	6	57.5	58.1	0.6	14.5	15.5	1.1
AGSECO	AG Radical	61	73	12	55.6	56.2	0.6	14.5	16.2	1.7
OGI	OK Corral	61	73	13	53.6	55.9	2.3	14.2	14.5	0.3
AgriPro	AP Prolific	61	73	12	55.9	57.4	1.4	13.5	15.5	2.0
AgriMAXX	AM Cartwright	60	69	9	55.7	56.9	1.2	14.9	16.2	1.2
AGSECO	AG Icon	60	69	9	56.5	57.7	1.2	14.9	15.9	1.0
OGI	Strad CL+	60	64	4	56.4	58.3	1.9	14.4	15.7	1.3
OGI	Skydance	59	67	7	59.1	59.0	-0.1	14.1	15.4	1.3
OGI	Green Hammer	59	66	7	57.6	57.9	0.3	14.9	17.2	2.3
OGI	Uncharted	59	66	7	56.4	56.7	0.4	14.2	14.8	0.6
AgriPro	SY Achieve CL2	57	66	10	57.9	58.2	0.3	13.4	14.9	1.5
OGI	Doublestop CL+	57	66	9	59.3	59.3	0.0	15.8	16.7	0.9
LCS	LCS Chrome	55	66	11	56.0	56.6	0.6	14.6	15.9	1.3
OGI	Big Country	47	56	9	55.7	57.9	2.2	16.4	16.4	0.0
Experimentals										
OSU	OK15MASBx7 ARS 8-29	69	76	8	55.8	57.1	1.3	13.1	15.2	2.1
	OK15DMASBx7 ARS 6-8	50	63	14	56.9	57.7	0.8	14.4	16.0	1.6
Mean		63	71	8	56.8	57.5	0.8	13.8	15.1	1.3
LSD (0.05)		6	6	NS	1.1	1.0	1.3	1.7	1.4	NS

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. The high rainfall events that occurred after maturity resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. There were no diseases observed in this trial. Lodging is reported on a 1 to 5 scale, with 1 indicating no lodging. In 2020, there were no harvest results from this location due to late-spring freeze damage. Thus, the 3-year average represent results from 2019, 2021, and 2022 harvest years. IM= Intensive Management. Double-dashes"--" = data not available.



El Reno Dual-Purpose Wheat Variety Trial

wheat.okstate.edu

Cooperator: Jerry Lingo

Extension Educator: Kyle Worthington

Planting & harvest dates: 10/6/2021 & 06/16/2022

Previous crop: Wheat

Management: Dual-purpose

Soil type: Bethany silt loam

Tillage: Conventional

Soil test: pH=6, N= 79, P= 54, K= 437

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein	Sprouted kernels	Falling number
		2021-22	2-Year	3-Year				
		----- bu/ac -----			-- lb/bu --	-- % --	-- % --	-- seconds --
Croplan	CP7017AX	57	--	--	57.1	11.2	8	187
OGI	Showdown	57	66	67	57.9	12.1	3	173
PlainsGold	Crescent AX	50	--	--	57.7	11.7	7	191
AGSECO	AG Radical	49	--	--	57.5	12.8	3	154
LCS	LCS Atomic AX	49	--	--	56.4	11.6	30	122
LCS	LCS Photon AX	48	51	--	58.1	12.2	6	200
Westbred	WB4699	48	--	--	57.0	12.3	6	232
LCS	LCS Chrome	46	52	57	57.3	13.1	2	237
AGSECO	AG Icon	46	52	55	56.9	13.2	7	165
AgriPro	AP Roadrunner	42	--	--	56.5	12.4	2	170
OGI	Doublestop CL+	42	52	56	60.7	14.0	1	230
OGI	Uncharted	42	53	58	57.2	12.7	6	223
OGI	OK Corral	42	52	55	53.7	12.7	23	122
OGI	Gallagher	41	45	47	56.6	12.2	17	205
KWA	KS Ahearn	40	--	--	55.7	12.9	6	221
OGI	Green Hammer	40	46	49	59.1	14.4	0	223
OGI	Smith's Gold	38	48	52	57.9	13.4	20	172
OGI	Strad CL+	36	45	51	57.6	14.2	11	171
AgriPro	AP EverRock	35	--	--	55.5	13.9	24	155
Westbred	WB4401	35	42	--	55.3	13.5	19	117
AgriMAXX	AM Cartwright	32	45	--	56.8	15.6	4	237
OGI	Big Country	30	47	56	57.6	14.3	7	221
	Experimentals							
	OK15MASBx7 ARS 8-29	41	48	--	54.8	12.6	21	162
	Mean	43	50	55	57.0	13.0	10	187
	LSD (0.05)	5	5	4	0.8	1.1	--	--

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. There was low to moderate presence of Barley yellow dwarf disease observed in this trial. Plots were grazed from 12/06/21 to 02/28/22 at an average stocking rate of 310 pounds of animal BW per acre. The crop experienced high rainfall conditions after maturity, which resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. The Falling number test was conducted to measure the alpha amylase activity, an enzyme that breaks down starch. The lower the falling number, the higher the enzyme activity, indicating poor grain quality. A falling number above 300 seconds is most suitable for the bread-baking process. Double-dashes "--" = data not available.



El Reno Grain-Only Wheat Variety Trial

wheat.okstate.edu

Cooperator: Jerry Lingo	Extension Educator: Kyle Worthington
Planting & harvest dates: 10/26/2021 & 06/16/2022	Previous crop: Wheat
Management: Grain-only	Soil type: Bethany silt loam
Tillage: Conventional	Soil test: pH=6, N= 79, P= 54, K= 437

Licensee	Variety	Grain Yield		Test Weight 2021-22	Wheat Protein 2021-22	Sprouted kernels 2021-22	Falling Number 2021-22
		2021-22	2-Year				
		----- bu/ac -----		-- lb/bu --	-- % --	-- % --	-- seconds --
PlainsGold	Crescent AX	68	--	57.2	13.8	1	259
AGSECO	AG Radical	64	--	56.0	14.8	0	335
Croplan	CP7017AX	62	--	55.5	13.8	3	160
LCS	LCS Atomic AX	62	--	56.6	12.6	16	209
OGI	Showdown	60	69	56.5	14.1	2	212
Westbred	WB4699	60	--	56.2	14.0	2	256
AGSECO	AG Icon	59	60	56.7	14.9	3	148
AgriPro	AP Roadrunner	59	--	55.3	14.3	0	297
LCS	LCS Chrome	58	60	56.1	15.0	2	252
OGI	Uncharted	58	60	56.9	14.7	12	189
OGI	Smith's Gold	58	59	57.4	14.0	11	126
OGI	Doublestop CL+	57	62	59.5	15.8	1	258
KWA	KS Ahearn	57	--	54.2	14.4	1	203
OGI	Strad CL+	57	62	57.1	14.9	13	220
OGI	Gallagher	56	60	55.9	14.3	18	264
LCS	LCS Photon AX	56	59	58.1	14.8	6	317
OGI	Green Hammer	55	61	58.4	16.7	0	354
OGI	OK Corral	54	60	52.9	14.7	13	112
AgriMAXX	AM Cartwright	52	58	57.0	15.2	3	190
AgriPro	AP EverRock	51	--	55.0	14.7	26	177
Westbred	WB4401	50	58	54.1	13.6	18	152
OGI	Big Country	41	54	55.7	14.8	1	235
	Experimentals					--	--
	OK15MASBx7 ARS 8-29	58	64	55.5	14.4	7	246
	Mean	57	60	56.2	14.5	7	225
	LSD (0.05)	5	4	0.7	1.3	--	--

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. There was low to moderate presence of Barley yellow dwarf disease observed in this trial. The crop experienced high rainfall conditions after maturity, which resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. The Falling number test was conducted to measure the alpha amylase activity, an enzyme that breaks down starch. The lower the falling number, the higher the enzyme activity, indicating poor grain quality. A falling number above 300 seconds is most suitable for the bread-baking process. Double-dashes"--" = data not available.



El Reno Wheat Variety Trial Dual-purpose vs. Grain-Only Comparison

wheat.okstate.edu

Cooperator: Jerry Lingo

Extension Educator: Kyle Worthington

Planting date: 10/6/2021 (dual-purpose) & 10/26/22 (grain-only)

Previous crop: Wheat

Harvest date: 06/16/2022

Soil type: Bethany silt loam

Tillage: Conventional

Soil test: pH=6, N= 79, P= 54, K= 437

Licensee	Variety	Grain Yield			Test Weight			Wheat Protein		
		Dual-purpose	Grain-Only	Diff	Dual-purpose	Grain-Only	Diff	Dual-purpose	Grain-Only	Diff
		----- bu/ac -----			----- lb/bu -----			----- % -----		
Croplan	CP7017AX	57	62	-6	57.1	55.5	1.6	11.2	13.8	-2.6
OGI	Showdown	57	60	-4	57.9	56.5	1.4	12.1	14.1	-2.1
PlainsGold	Crescent AX	50	68	-18	57.7	57.2	0.4	11.7	13.8	-2.1
AGSECO	AG Radical	49	64	-15	57.5	56.0	1.5	12.8	14.8	-2.0
LCS	LCS Atomic AX	49	62	-13	56.4	56.6	-0.1	11.6	12.6	-1.1
LCS	LCS Photon AX	48	56	-8	58.1	58.1	0.0	12.2	14.8	-2.6
Westbred	WB4699	48	60	-12	57.0	56.2	0.9	12.3	14.0	-1.7
LCS	LCS Chrome	46	58	-12	57.3	56.1	1.2	13.1	15.0	-1.9
AGSECO	AG Icon	46	59	-13	56.9	56.7	0.2	13.2	14.9	-1.6
AgriPro	AP Roadrunner	42	59	-17	56.5	55.3	1.2	12.4	14.3	-1.9
OGI	Doublestop CL+	42	57	-15	60.7	59.5	1.2	14.0	15.8	-1.8
OGI	Uncharted	42	58	-16	57.2	56.9	0.4	12.7	14.7	-2.0
OGI	OK Corral	42	54	-13	53.7	52.9	0.8	12.7	14.7	-2.0
OGI	Gallagher	41	56	-15	56.6	55.9	0.8	12.2	14.3	-2.1
KWA	KS Ahearn	40	57	-18	55.7	54.2	1.5	12.9	14.4	-1.5
OGI	Green Hammer	40	55	-16	59.1	58.4	0.7	14.4	16.7	-2.3
OGI	Smith's Gold	38	58	-20	57.9	57.4	0.5	13.4	14.0	-0.6
OGI	Strad CL+	36	57	-21	57.6	57.1	0.5	14.2	14.9	-0.8
AgriPro	AP EverRock	35	51	-16	55.5	55.0	0.5	13.9	14.7	-0.8
Westbred	WB4401	35	50	-15	55.3	54.1	1.2	13.5	13.6	-0.1
AgriMAXX	AM Cartwright	32	52	-21	56.8	57.0	-0.2	15.6	15.2	0.5
OGI	Big Country	30	41	-11	57.6	55.7	1.9	14.3	14.8	-0.5
	Experimentals									
	OK15MASBx7 ARS 8-29	41	58	-17	54.8	55.5	-0.6	12.6	14.4	-1.8
	Mean	43	57	-14	57.0	56.2	0.8	13.0	14.5	-1.5
	LSD (0.05)	5	5	7	0.8	0.7	1.1	1.1	1.3	1.6

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. There was low to moderate presence of Barley yellow dwarf disease observed in this trial. Plots were grazed from 12/06/21 to 02/28/22 at an average stocking rate of 310 pounds of animal BW per acre. The crop experienced high rainfall conditions after maturity, which resulted in pre-harvest sprouting damage in some varieties. Sprouting damage was assessed by counting visibly sprouted kernels among 4000 kernels. The Falling number test was conducted to measure the alpha amylase activity, an enzyme that breaks down starch. The lower the falling number, the higher the enzyme activity, indicating poor grain quality. A falling number above 300 seconds is most suitable for the bread-baking process. Double-dashes"--" = data not available.



Hooker Regional Wheat Variety Trial

wheat.okstate.edu

Cooperator: Ernest and Dan Herald				Extension Educator: Dr. Britt Hicks		
Planting & harvest dates: 10/04/2021 & 06/21/2022				Previous crop: Grain sorghum		
Management: Grain-only				Soil Type: Dalhart fine sandy loam		
Tillage: Conventional				Soil test: pH=6.9, N= 149, P= 208, K= 635		
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2-Year	3-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
AGSECO	AG Golden	24	--	--	56.0	14.3
KWA	KS Hamilton	22	--	--	55.2	15.6
OGI	Gallagher	22	43	48	56.6	15.4
LCS	LCS Valiant	21	--	--	57.1	16.3
KWA	KS Ahearn	21	--	--	55.8	14.9
OGI	Duster	19	--	--	57.1	15.0
AGSECO	AG Icon	19	49	50	54.6	15.2
Croplan	CP7266AX	19	--	--	56.3	15.4
KWA	KS Providence	18	--	--	53.9	15.7
PlainsGold	Canvas	18	44	49	49.6	14.1
PlainsGold	Guardian	18	40	--	56.4	16.1
OGI	Showdown	18	40	45	54.6	15.2
OGI	Smith's Gold	18	42	45	56.6	15.7
Westbred	WB4523	17	--	--	56.4	15.0
LCS	LCS Steel AX	17	--	--	54.2	14.7
Westbred	WB4422	17	--	--	54.7	16.1
Westbred	WB4401	17	--	--	56.1	15.1
OGI	Lonerider	17	42	45	55.7	16.5
Croplan	CP7017AX	17	--	--	56.4	15.2
OGI	Bentley	16	45	48	55.8	15.7
AgriPro	AP Roadrunner	16	--	--	53.7	14.6
OGI	OK Corral	16	42	--	54.4	15.6
AGSECO	AG Radical	16	--	--	56.1	16.0
OGI	Baker's Ann	16	42	46	54.4	16.2
PlainsGold	Breck	15	--	--	58.2	15.5
LCS	LCS Chrome	15	43	45	56.3	16.0
LCS	LCS Runner	15	--	--	58.3	14.3
OGI	Iba	14	41	48	55.4	14.4
KWA	KS Western Star	14	45	--	57.5	15.1
Westbred	WB4792	14	37	45	54.9	14.6
LCS	LCS Helix AX	13	--	--	57.5	14.8
PlainsGold	Sunshine	12	--	--	56.6	16.0
OGI	Breakthrough	12	34	41	56.6	15.4
PlainsGold	Crescent AX	12	42	45	55.2	14.8
LCS	LCS Julep	11	--	--	55.3	16.1
LCS	LCS Photon AX	10	--	--	58.9	16.2
AgriPro	AP18 AX	10	--	--	55.8	15.3
LCS	LCS Atomic AX	10	--	--	54.6	14.8
OGI	Strad CL+	9	--	--	54.4	15.9
AgriMAXX	AM Cartwright	8	--	--	59.1	15.5
Mean		16	42	46	55.8	15.3
LSD (0.05)		NS	NS	NS	NS	0.9

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 to high pressure of Fusarium root/crown rot disease. Due to the high variability of the data in 2021 and 2022, no significant (NS) statistical differences were detected among varieties for yield and test weight. Double-dashes"--" = data not available.



Lahoma Regional Wheat Variety Trial

wheat.okstate.edu

Cooperator: OSU North Central Research Station				Extension Educator: Rick Nelson		
Planting & harvest dates: 10/20/2021 & 06/14/2022				Previous crop: Wheat		
Management: Grain-only				Soil Type: Pond Creek silt loam		
Tillage: Conventional				Soil test: pH=5.3, N= 110, P= 118, K= 412		
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2020-21	2-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
Westbred	WB4422	93	--	--	59.6	15.1
AGSECO	AG Golden	92	--	--	59.3	12.8
AgriPro	AP Prolific	90	--	--	60.5	14.1
LCS	LCS Helix AX	89	60	--	61.1	13.6
Croplan	CP7017AX	88	79	--	57.8	13.4
AGSECO	AG Radical	87	57	--	59.3	14.3
OGI	Showdown	85	60	74	59.4	13.7
PlainsGold	Canvas	85	52	72	59.8	13.9
LCS	LCS Steel AX	84	--	--	58.7	13.8
AgriMAXX	AM Cartwright	83	58	80	58.9	14.3
PlainsGold	Breck	82	--	--	61.4	14.1
OGI	Bentley	81	68	78	58.7	14.1
AgriPro	Bob Dole	80	58	75	60.3	14.9
Westbred	WB4699	80	70	83	58.7	13.5
PlainsGold	Sunshine	79	--	--	60.4	14.2
KWA	KS Ahearn	79	61	--	57.8	13.9
Westbred	WB4401	79	59	79	59.6	13.6
KWA	KS Western Star	78	56	67	59.7	13.6
AgriPro	AP Roadrunner	78	80	--	58.2	14.2
LCS	LCS Runner	78	--	--	60.0	13.6
LCS	LCS Valiant	78	59	--	60.3	14.5
AgriPro	AP18 AX	78	55	--	58.3	14.5
LCS	LCS Atomic AX	78	68	--	59.8	14.3
PlainsGold	Crescent AX	77	55	73	60.3	13.8
LCS	LCS Julep	77	57	--	62.0	15.1
Croplan	CP7266AX	76	--	--	59.7	14.0
LCS	LCS Photon AX	76	58	75	59.9	15.1
KWA	KS Providence	76	--	--	58.5	14.9
OGI	Gallagher	76	61	74	59.4	14.7
OGI	OK Corral	75	60	76	57.5	14.3
OGI	Smith's Gold	75	66	75	60.1	14.4
Westbred	WB4792	75	64	81	60.2	13.9
LCS	LCS Chrome	75	64	76	58.9	15.6
OGI	Baker's Ann	74	63	77	59.4	14.9
AGSECO	AG Icon	74	56	74	58.5	15.7
OGI	Duster	73	56	64	57.8	14.2
Westbred	WB4523	73	--	--	58.0	13.5
KWA	KS Hamilton	72	68	--	58.5	14.0
PlainsGold	Guardian	71	58	71	60.4	14.8
OGI	Doublestop CL+	71	53	74	61.7	16.1
OGI	Skydance	71	60	--	61.1	15.6
OGI	Strad CL+	68	61	80	59.0	16.8
AgriPro	AP EverRock	67	57	73	59.0	14.8
OGI	Green Hammer	66	66	77	59.1	17.1
OGI	Uncharted	65	68	76	58.4	15.1
OGI	Butler's Gold	64	--	--	60.5	15.9
AgriPro	SY Achieve CL2	63	59	74	59.8	15.4
OGI	Big Country	61	61	67	57.8	15.8
OGI	Butler's Gold (late-planted)	48	--	--	59.8	17.0
Experimentals						
	OK15MASBx7 ARS 8-29	85	57	--	58.8	13.9
	Mean	76	61	76	59.4	14.6
	LSD (0.05)	9	NS	8	1.0	0.5

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. There were no diseases observed in this trial. This was the first year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from previous years were not be combined with the current year to provide long-term averages. Data from the trials conducted at Lahoma with and without fungicide in the 2020-2021 growing season are shown only for varieties planted in the 2021-2022 growing season. The 2-year yield averages include the 2020 and 2021 harvest years. Butler's Gold late-planted was planted on 12/3/2021 at 1.4 million seeds/acre. Double-dashes"--" = data not available.



Lahoma Regional Intensive Wheat Management Variety Trial

wheat.okstate.edu

Cooperator: OSU North Central Research Station				Extension Educator: Rick Nelson		
Planting & harvest dates: 10/20/2021 & 06/14/2022				Previous crop: Wheat		
Management: Grain-only, conventional tillage				Soil Type: Pond Creek silt loam		
Seeding rate: 1.2 million seeds/acre				Soil test: pH=5.3, N= 110, P= 118, K= 412		
Nitrogen: 6 lbs/ac 10-34-0 at planting, 40 lbs/ac on 2/14/22 , 50 lbs/ac 3/15/22.						
Fungicide: 4 fl oz/ac Tebucure 3.6 at jointing on 3/29/22 and 13 fl oz/ac Nexicor at flag leaf-boot stage on 4/14/22						
Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2020-21	2-Year	2021-22	2021-22
			Fungicide	Fungicide		
		----- bu/ac -----			-- lb/bu --	-- % --
Westbred	WB4422	95	--	--	60.7	14.9
KWA	KS Providence	91	--	--	59.7	14.4
AgriPro	AP Roadrunner	90	84	--	59.5	14.2
LCS	LCS Atomic AX	89	84	--	60.4	14.4
PlainsGold	Canvas	88	73	90	60.6	14.1
AgriPro	AP18 AX	87	81	--	59.2	14.7
OGI	Showdown	86	85	88	60.2	14.1
Croplan	CP7017AX	86	80	--	57.8	13.4
PlainsGold	Crescent AX	86	75	88	60.6	14.1
AgriPro	Bob Dole	85	74	83	61.0	15.1
AgriPro	AP Prolific	85	--	--	60.3	14.4
AGSECO	AG Radical	85	71	--	59.6	14.9
KWA	KS Ahearn	85	--	--	58.8	14.3
LCS	LCS Helix AX	85	76	--	61.1	13.7
AGSECO	AG Golden	85	--	--	59.2	13.6
LCS	LCS Valiant	84	79	--	60.5	14.1
PlainsGold	Breck	83	--	--	61.7	14.4
OGI	Gallagher	83	71	84	59.9	14.4
LCS	LCS Steel AX	83	--	--	59.4	14.0
PlainsGold	Sunshine	82	--	--	60.6	14.4
Westbred	WB4699	82	88	96	59.3	14.0
OGI	Smith's Gold	79	75	81	60.0	14.5
OGI	Duster	79	71	78	58.5	14.1
Westbred	WB4523	79	--	--	58.4	14.5
LCS	LCS Runner	78	--	--	60.0	13.8
Westbred	WB4792	78	82	97	61.1	14.3
LCS	LCS Chrome	78	80	85	59.0	15.3
LCS	LCS Photon AX	78	74	84	61.1	14.9
KWA	KS Western Star	78	73	83	60.6	14.3
Westbred	WB4401	78	77	88	59.1	14.0
LCS	LCS Julep	77	74	--	62.5	15.0
Croplan	CP7266AX	76	--	--	59.6	14.3
PlainsGold	Guardian	75	81	87	60.8	14.4
AgriMAXX	AM Cartwright	75	75	88	58.8	15.1
OGI	Doublestop CL+	75	67	82	61.4	15.5
OGI	Green Hammer	74	82	86	59.9	16.8
AgriPro	SY Achieve CL2	74	79	84	60.0	15.2
OGI	Bentley	74	78	89	58.9	14.9
AGSECO	AG Icon	73	74	87	59.0	15.6
KWA	KS Hamilton	73	83	--	58.1	14.4
OGI	Strad CL+	72	79	95	59.7	16.1
AgriPro	AP EverRock	72	82	86	59.9	15.5
OGI	Butler's Gold	71	--	--	61.0	16.0
OGI	Skydance	71	80	--	61.0	16.2
OGI	OK Corral	70	78	86	56.7	15.0
OGI	Baker's Ann	68	78	85	59.7	15.8
OGI	Uncharted	65	76	79	58.6	15.1
OGI	Big Country	61	82	78	58.3	16.0
OGI	Butler's Gold (late-planted)	47	--	--	60.1	17.5
Experimentals						
	OK15MASBx7 ARS 8-29	85	81	--	58.8	14.0
Mean		79	78	87	59.4	14.7
LSD (0.05)		9	NS	8	1.0	0.9

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. There were no diseases observed in this trial. This was the first year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from previous years were not be combined with the current year to provide long-term averages. Data from the trials conducted at Lahoma with and without fungicide in the 2020-2021 growing season are shown only for varieties planted in the 2021-2022 growing season. The 2-year yield averages include the 2020 and 2021 harvest years. Butler's Gold late-planted was planted on 12/3/2021 at 1.4 million seeds/acre. Double-dashes"--" = data not available.



Lahoma Wheat Variety Trial

Standard vs. Intensive Management Comparison

wheat.okstate.edu

Cooperator: OSU North Central Research Station

Extension Educator: Rick Nelson

Planting & harvest dates: 10/20/2021 & 06/14/2022

Previous crop: Wheat

Management: Grain-only, conventional tillage

Soil Type: Pond Creek silt loam

Seeding rate: 1.2 million seeds/acre

Soil test: pH=5.3, N= 110, P= 118, K= 412

Nitrogen: 6 lbs/ac 10-34-0 at planting, 40 lbs/ac on 2/14/22, 50 lbs/ac 3/15/22.

Fungicide: 4 fl oz/ac Tebucure 3.6 at jointing on 3/29/22 and 13 fl oz/ac Nexicor at flag leaf-boot stage on 4/14/22

Licensee	Variety	Grain Yield			Test Weight			Wheat Protein		
		Standard	Intensive	Diff	Standard	Intensive	Diff	Standard	Intensive	Diff
		----- bu/ac -----			----- lb/bu -----			----- % -----		
Westbred	WB4422	93	95	1	59.6	60.7	1.1	15.1	14.9	-0.2
AGSECO	AG Golden	92	85	-7	59.3	59.2	-0.1	12.8	13.6	0.9
AgriPro	AP Prolific	90	85	-5	60.5	60.3	-0.2	14.1	14.4	0.4
LCS	LCS Helix AX	89	85	-4	61.1	61.1	0.0	13.6	13.7	0.1
Croplan	CP7017AX	88	86	-2	57.8	57.8	-0.1	13.4	13.4	0.0
AGSECO	AG Radical	87	85	-2	59.3	59.6	0.4	14.3	14.9	0.6
OGI	Showdown	85	86	1	59.4	60.2	0.8	13.7	14.1	0.4
PlainsGold	Canvas	85	88	3	59.8	60.6	0.8	13.9	14.1	0.2
LCS	LCS Steel AX	84	83	-1	58.7	59.4	0.6	13.8	14.0	0.2
AgriMAXX	AM Cartwright	83	75	-8	58.9	58.8	-0.1	14.3	15.1	0.8
PlainsGold	Breck	82	83	2	61.4	61.7	0.3	14.1	14.4	0.3
OGI	Bentley	81	74	-8	58.7	58.9	0.3	14.1	14.9	0.8
AgriPro	Bob Dole	80	85	5	60.3	61.0	0.7	14.9	15.1	0.2
Westbred	WB4699	80	82	2	58.7	59.3	0.6	13.5	14.0	0.5
PlainsGold	Sunshine	79	82	3	60.4	60.6	0.2	14.2	14.4	0.3
KWA	KS Ahearn	79	85	6	57.8	58.8	1.1	13.9	14.3	0.4
Westbred	WB4401	79	78	-1	59.6	59.1	-0.6	13.6	14.0	0.4
KWA	KS Western Star	78	78	-1	59.7	60.6	0.9	13.6	14.3	0.8
AgriPro	AP Roadrunner	78	90	12	58.2	59.5	1.3	14.2	14.2	0.1
LCS	LCS Runner	78	78	0	60.0	60.0	0.0	13.6	13.8	0.2
LCS	LCS Valiant	78	84	7	60.3	60.5	0.2	14.5	14.1	-0.4
AgriPro	AP18 AX	78	87	10	58.3	59.2	1.0	14.5	14.7	0.3
LCS	LCS Atomic AX	78	89	12	59.8	60.4	0.6	14.3	14.4	0.1
PlainsGold	Crescent AX	77	86	9	60.3	60.6	0.3	13.8	14.1	0.3
LCS	LCS Julep	77	77	0	62.0	62.5	0.5	15.1	15.0	-0.1
Croplan	CP7266AX	76	76	0	59.7	59.6	0.0	14.0	14.3	0.3
LCS	LCS Photon AX	76	78	2	59.9	61.1	1.2	15.1	14.9	-0.2
KWA	KS Providence	76	91	15	58.5	59.7	1.2	14.9	14.4	-0.5
OGI	Gallagher	76	83	8	59.4	59.9	0.5	14.7	14.4	-0.4
OGI	OK Corral	75	70	-6	57.5	56.7	-0.8	14.3	15.0	0.6
OGI	Smith's Gold	75	79	4	60.1	60.0	-0.1	14.4	14.5	0.2
Westbred	WB4792	75	78	3	60.2	61.1	0.9	13.9	14.3	0.4
LCS	LCS Chrome	75	78	3	58.9	59.0	0.1	15.6	15.3	-0.2
OGI	Baker's Ann	74	68	-6	59.4	59.7	0.3	14.9	15.8	0.9
AGSECO	AG Icon	74	73	-1	58.5	59.0	0.5	15.7	15.6	-0.1
OGI	Duster	73	79	6	57.8	58.5	0.6	14.2	14.1	-0.1
Westbred	WB4523	73	79	6	58.0	58.4	0.4	13.5	14.5	1.0
KWA	KS Hamilton	72	73	1	58.5	58.1	-0.3	14.0	14.4	0.4
PlainsGold	Guardian	71	75	4	60.4	60.8	0.4	14.8	14.4	-0.3
OGI	Doublestop CL+	71	75	4	61.7	61.4	-0.3	16.1	15.5	-0.6
OGI	Skydance	71	71	0	61.1	61.0	-0.1	15.6	16.2	0.5
OGI	Strad CL+	68	72	5	59.0	59.7	0.8	16.8	16.1	-0.6
AgriPro	AP EverRock	67	72	5	59.0	59.9	0.9	14.8	15.5	0.7
OGI	Green Hammer	66	74	8	59.1	59.9	0.8	17.1	16.8	-0.3
OGI	Uncharted	65	65	0	58.4	58.6	0.3	15.1	15.1	-0.1
OGI	Butler's Gold	64	71	7	60.5	61.0	0.5	15.9	16.0	0.1
AgriPro	SY Achieve CL2	63	74	11	59.8	60.0	0.2	15.4	15.2	-0.2
OGI	Big Country	61	61	0	57.8	58.3	0.5	15.8	16.0	0.2
OGI	Butler's Gold (late-planted)	48	47	-1	59.8	60.1	0.3	17.0	17.5	0.5
Experimentals										
	OK15MASBx7 ARS 8-29	85	85	0	58.8	59.1	0.4	13.9	14.0	0.1
Mean		76	79	2	59.4	59.8	0.4	14.6	14.7	0.2
LSD (0.05)		9	9	NS	1.0	0.8	NS	0.5	0.9	NS

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 late winter and in the spring, which enhanced realized yield in this particular environment relative to the statewide yield average. There were no diseases observed in this trial. This was the first year to conduct an intensive management (IM) trial at Lahoma. Due to this addition and the use of a different experimental design, data from previous years were not be combined with the current year to provide long-term averages. Data from the trials conducted at Lahoma with and without fungicide in the 2020-2021 growing season are shown only for varieties planted in the 2021-2022 growing season. The 2-year yield averages include the 2020 and 2021 harvest years. Butler's Gold late-planted was planted on 12/3/2021 at 1.4 million seeds/acre. Double-dashes "--" = data not available.



Morris Intensive Wheat Management Variety Trial

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Cooperator: Chris Ledbetter	Extension Educator: Tanner Miller
Planting & harvest dates: 11/1/2021 & 06/17/2022	Previous crop: Corn
Management: Grain-only, Conventional	Soil Type: Taloka silt loam
Seeding rate: 1.2 million seeds/acre	Soil test: pH=7, N= 74, P= 42, K= 184
Nitrogen: 6 lbs/ac 10-34-0 at planting, 45 lbs/ac on 1/31/22 , and 45 lbs/ac on 3/14/22	
Other nutrient sources: 1.75 ton/acre chicken litter before planting, 8 lbs Sulfur/ac and 1pt Boron/ac on 3/14/22	
Plant Growth Regulator: 11.2 fl oz/ac Palisade on 4/2/22	
Fungicide: 6.2 fl oz/ac Prosaro at flowering on 5/2/22	

<i>Licensee</i>	<i>Variety</i>	<i>Lodging</i> 2021-22	<i>Grain Yield</i> 2021-22	<i>Test Weight</i> 2021-22	<i>Wheat Protein</i> 2021-22
			-- bu/ac --	-- lb/bu --	-- % --
AgriPro	Bob Dole	2	91	59.1	13.2
OGI	Big Country	1	88	60.0	15.1
OGI	OK Corral	1	85	58.9	13.9
Westbred	WB4699	1	84	58.5	12.7
OGI	Gallagher	1	84	58.3	13.3
OGI	Uncharted	2	84	58.4	14.2
LCS	LCS Atomic AX	2	83	58.8	13.4
KWA	KS Ahearn	2	80	56.6	13.5
OGI	Skydance	2	80	60.7	14.7
AGSECO	AG Icon	1	79	58.4	14.8
LCS	LCS Julep	2	78	58.6	13.6
PlainsGold	Crescent AX	3	78	58.8	13.8
Croplan	CP7017AX	3	77	56.6	13.3
AgriMAXX	AM Cartwright	1	77	58.4	14.2
Westbred	WB4401	2	76	56.3	12.0
AgriPro	AP EverRock	2	74	55.9	14.7
OGI	Smith's Gold	2	74	58.5	14.1
AGSECO	AG Radical	2	73	57.0	14.9
LCS	LCS Photon AX	2	73	60.9	14.1
OGI	Baker's Ann	2	73	58.0	14.2
AgriPro	SY Achieve CL2	2	72	58.1	13.5
OGI	Butler's Gold	2	72	59.3	14.8
OGI	Spirit Rider	3	70	60.2	13.4
OGI	Butler's Gold (late-planted)	2	66	59.5	15.6
Experimentals					
	OK16103083	3	78	58.9	13.9
Mean		2	76	58.5	13.9
LSD (0.05)		--	6	1.1	0.8

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 moderate to high pressure of bacteria leaf streak disease and physiological leaf spotting. Fusarium Head Blight (scab) disease was ubiquitous, but disease development varied in severity depending on native resistance of varieties or fungicide effectiveness. Lodging is reported on a 1 to 5 scale, with 1 indicating no lodging. Butler's Gold late-planted was planted on 12/2/21 at 1.4 million seeds/acre. Double-dashes"--" = data not available.



Walters Dual-Purpose Wheat Variety Trial

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Cooperator: Jimmy Kinder	Extension Educator: Kimbreley Davis
Planting & harvest dates: 10/11/2021 & 05/31/2022	Previous crop: Wheat
Management: Dual-purpose	Soil Type: Foard silt loam
Tillage: No-till	Soil test: pH=6.5, N= 41, P= 128, K= 485

Licensee	Variety	Grain Yield			Test Weight	Wheat Protein
		2021-22	2020-21	2-Year	2021-22	2021-22
		----- bu/ac -----			-- lb/bu --	-- % --
Croplan	CP7017AX	25	--	--	59.3	11.6
OGI	Showdown	23	59	54	61.4	11.7
LCS	LCS Atomic AX	22	--	--	60.0	11.3
OGI	Doublestop CL+	22	48	45	59.0	13.9
PlainsGold	Canvas	22	44	--	60.8	11.2
KWA	KS Western Star	22	46	--	61.7	11.9
AGSECO	AG Radical	22	--	--	59.8	12.4
LCS	LCS Photon AX	21	35	--	60.2	12.7
Westbred	WB4792	21	44	45	62.6	11.3
OGI	Smith's Gold	20	45	41	57.9	12.8
PlainsGold	Guardian	20	--	--	62.0	13.1
AgriPro	AP Roadrunner	20	--	--	58.5	12.1
AgriPro	AP18 AX	20	--	--	59.1	11.9
LCS	LCS Chrome	19	40	41	61.7	13.2
OGI	Strad CL+	19	--	--	58.8	13.1
AGSECO	AG Icon	19	--	--	61.0	13.0
OGI	Gallagher	19	42	39	61.6	12.5
OGI	Uncharted	18	46	43	59.8	13.2
KWA	KS Ahearn	18	--	--	56.6	12.4
AgriMAXX	AM Cartwright	16	--	--	58.0	14.5
OGI	OK Corral	15	46	40	57.7	13.3
OGI	Green Hammer	15	41	38	58.5	14.8
Westbred	WB4401	11	--	--	49.1	12.5
	Experimentals			0		
	OK15DMASBx7 ARS 6-8	21	--	--	59.3	12.3
	Mean	20	43	43	59.4	12.6
	LSD (0.05)	3	5	4	2.9	0.7

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. Plots were grazed from 12/10/21 to 03/09/22 at a stocking rate of 160 lbs/ac. We utilized a different statistical analysis for grain yield, test weight, and protein to reduce the impact of the spatial variability possibly caused by greater moisture 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. The 2-year yield averages include the 2020 and 2021 harvest years. Double-dashes"--" = data not available.



Heading Date and Plant Height

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Licensee	Variety	Altus	Chickasha	Hooker	Lahoma	Stillwater	Chickasha	Hooker	Lahoma	Stillwater
----- 50% heading -----						----- plant height at harvest (in) -----				
AgriMAXX	AM Cartwright	4/20	4/22	4/30	4/28	4/22	78	58	78	58
AGSECO	AG Golden	4/21	4/25	5/3	4/30	4/25	74	51	76	58
AGSECO	AG Icon	4/17	4/25	5/3	4/28	4/22	79	59	86	63
AGSECO	AG Radical	4/20	4/25	5/4	4/27	4/25	77	58	79	54
Croplan	CP7017AX	4/20	4/22	5/1	4/27	4/22	75	56	81	62
Croplan	CP7266AX	4/23	4/25	5/2	4/29	4/23	80	53	85	70
KWA	KS Ahearn	4/21	4/25	4/30	4/29	4/23	70	53	75	63
KWA	KS Hamilton KS	4/18	4/22	5/4	4/29	4/22	73	47	81	67
KWA	Western Star	4/21	4/26	5/5	4/30	4/23	75	47	89	71
KWA	KS Providence	4/19	4/20	5/2	4/28	4/21	78	49	82	70
LCS	LCS Atomic AX	4/15	4/18	5/5	4/21	4/19	82	52	80	65
LCS	LCS Chrome	4/21	4/25	5/1	4/29	4/25	83	50	89	74
LCS	LCS Helix AX	4/16	4/20	4/30	4/25	4/22	82	54	82	59
LCS	LCS Julep	4/27	4/27	5/5	4/30	4/26	84	56	87	69
LCS	LCS Photon AX	4/16	4/20	4/29	4/24	4/21	84	54	86	65
LCS	LCS Runner	4/22	4/25	5/3	4/29	4/22	78	56	80	58
LCS	LCS Steel AX	4/21	4/27	5/4	4/30	4/23	83	59	85	66
LCS	LCS Valiant	4/20	4/20	5/4	4/24	4/21	81	53	79	65
OGI	Baker's Ann	--	4/18	4/30	4/24	4/19	78	49	82	70
OGI	Bentley	4/18	--	5/2	4/24	4/20	--	57	87	69
OGI	Big Country	4/20	4/25	--	4/28	4/22	78	--	81	70
OGI	Breakthrough	--	--	5/5	--	4/22	--	44	--	63
OGI	Butler's Gold	4/15	4/18	--	4/20	4/18	78	--	80	65
OGI	Butler's Gold (late-planted)	4/25	--	--	4/27	--	--	--	66	--
OGI	Doublestop CL+	4/21	4/25	--	4/29	4/24	82	--	84	72
OGI	Duster	4/20	4/25	5/3	4/28	4/22	77	54	76	57
OGI	Gallagher	4/19	4/20	5/1	4/28	4/24	81	59	80	70
OGI	Green Hammer	4/16	4/20	--	4/25	4/21	89	--	89	67
OGI	Iba	--	--	5/3	--	4/24	--	48	--	68
OGI	Lonerider	--	--	5/4	--	4/25	--	57	--	65
OGI	OK Corral	4/22	4/25	5/4	4/28	4/23	75	43	75	64
OGI	Showdown	4/17	4/20	5/3	4/25	4/22	80	58	88	78
OGI	Skydance	4/18	4/20	--	4/25	4/21	73	--	84	70
OGI	Smith's Gold	4/20	4/22	4/30	4/29	4/21	72	48	72	63
OGI	Strad CL+	4/17	4/20	5/2	4/24	4/21	83	59	86	73
OGI	Uncharted	4/16	4/18	--	4/25	4/20	79	--	73	74
PlainsGold	Breck	4/26	4/26	5/4	4/27	4/23	80	47	87	65
PlainsGold	Canvas	4/20	4/22	5/4	4/28	4/23	78	62	80	63
PlainsGold	Crescent AX	4/16	4/18	5/2	4/22	4/19	84	62	84	69
PlainsGold	Guardian	4/23	4/25	5/4	4/29	4/25	78	58	86	62
PlainsGold	Sunshine	4/19	4/20	5/2	4/25	4/21	79	44	82	60
Syngenta	AP EverRock	--	4/26	--	4/24	4/20	72	--	70	67
Syngenta	AP Roadrunner	4/21	4/25	5/2	4/29	4/23	78	53	78	71
Syngenta	AP18 AX	4/16	4/19	5/2	4/25	4/20	70	55	80	68
Syngenta	Bob Dole	--	4/20	--	4/26	4/21	88	--	90	78
Syngenta	AP Prolific	--	4/25	--	4/24	4/22	72	--	79	69
Syngenta	SY Achieve CL2	--	4/18	--	4/24	4/19	71	--	76	68
Westbred	WB4401	4/17	4/19	5/2	4/23	4/21	70	46	75	65
Westbred	WB4422	4/21	4/25	5/4	4/26	4/23	79	56	82	70
Westbred	WB4523	--	4/22	4/30	4/23	4/20	67	46	60	53
Westbred	WB4699	--	4/25	--	4/29	4/23	70	--	69	54
Westbred	WB4792	4/21	4/25	5/1	4/29	4/24	77	53	80	73
Experimentals										
	OK15DMASBx7 ARS 6-8	4/19	4/20	--	--	4/23	78	--	--	66
	OK15MASBx7 ARS 8-29	--	4/22	--	4/29	4/23	80	--	84	68
	Mean	4/19	4/22	5/2	4/26	4/22	78	53	81	66

Note: Double-dashes "--"= 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	
AgriPro	AP Roadrunner	9,080	544,800	1,200,000	1,089,600
OGI	Doublestop CL+	10,641	638,460	1,200,000	1,276,920
OGI	Butler's Gold	10,855	651,300	1,200,000	1,302,600
OGI	Green Hammer	11,553	693,180	1,200,000	1,386,360
PlainsGold	Crescent AX	11,671	700,260	1,200,000	1,400,520
Westbred	WB4422	11,856	711,360	1,200,000	1,422,720
AgriMAXX	AM Cartwright	11,979	718,740	1,200,000	1,437,480
KWA	KS Ahearn	12,204	732,240	1,200,000	1,464,480
PlainsGold	Sunshine	12,337	740,220	1,200,000	1,480,440
OGI	Big Country	12,339	740,340	1,200,000	1,480,680
OGI	Spirit Rider	12,342	740,520	1,200,000	1,481,040
LCS	LCS Julep	12,450	747,000	1,200,000	1,494,000
Westbred	WB4523	12,492	749,520	1,200,000	1,499,040
KWA	KS Providence	12,576	754,560	1,200,000	1,509,120
AgriPro	AP Prolific	12,611	756,660	1,200,000	1,513,320
PlainsGold	Breck	12,825	769,500	1,200,000	1,539,000
OGI	Bentley	12,866	771,960	1,200,000	1,543,920
Croplan	CP7266AX	12,900	774,000	1,200,000	1,548,000
OGI	Strad CL+	13,059	783,540	1,200,000	1,567,080
LCS	LCS Atomic AX	13,100	786,000	1,200,000	1,572,000
PlainsGold	Guardian	13,198	791,880	1,200,000	1,583,760
AGSECO	AG Radical	13,432	805,920	1,200,000	1,611,840
Westbred	WB4401	13,470	808,200	1,200,000	1,616,400
PlainsGold	Canvas	13,633	817,980	1,200,000	1,635,960
Croplan	CP7017AX	13,926	835,560	1,200,000	1,671,120
LCS	LCS Runner	14,000	840,000	1,200,000	1,680,000
OGI	Uncharted	14,016	840,960	1,200,000	1,681,920
AgriPro	Bob Dole	14,099	845,940	1,200,000	1,691,880
AgriPro	AP EverRock	14,143	848,580	1,200,000	1,697,160
OGI	Showdown	14,157	849,420	1,200,000	1,698,840
OGI	Iba	14,231	853,860	1,200,000	1,707,720
AgriPro	AP18 AX	14,276	856,560	1,200,000	1,713,120
LCS	LCS Valiant	14,447	866,820	1,200,000	1,733,640
LCS	LCS Steel AX	14,452	867,120	1,200,000	1,734,240
OGI	Duster	14,458	867,480	1,200,000	1,734,960
AGSECO	AG Golden	14,645	878,700	1,200,000	1,757,400
LCS	LCS Helix AX	14,800	888,000	1,200,000	1,776,000
KWA	KS Hamilton	14,983	898,980	1,200,000	1,797,960
OGI	Gallagher	15,273	916,380	1,200,000	1,832,760
AGSECO	AG Icon	15,337	920,220	1,200,000	1,840,440
LCS	LCS Photon AX	15,650	939,000	1,200,000	1,878,000
OGI	Baker's Ann	15,695	941,700	1,200,000	1,883,400
AgriPro	SY Achieve CL2	15,818	949,080	1,200,000	1,898,160
Westbred	WB4792	15,871	952,260	1,200,000	1,904,520
OGI	Skydance	16,275	976,500	1,200,000	1,953,000
Westbred	WB4699	16,300	978,000	1,200,000	1,956,000
OGI	OK Corral	16,529	991,740	1,200,000	1,983,480
LCS	LCS Chrome	16,600	996,000	1,200,000	1,992,000
KWA	KS Western Star	17,874	1,072,440	1,200,000	2,144,880
OGI	Breakthrough	19,609	1,176,540	1,200,000	2,353,080
OGI	Smith's Gold	19,691	1,181,460	1,200,000	2,362,920
OGI	Lonerider	19,945	1,196,700	1,200,000	2,393,400
Experimentals					
	OK16103083	13,799	827,940	1,200,000	1,655,880
	OK15DMASBx7 ARS 6-8	15,709	942,540	1,200,000	1,885,080
	OK15MASBx7 ARS 8-29	15,930	955,800	1,200,000	1,911,600
Mean		14,146	848,735	1,200,000	1,697,470

Note: 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 2022 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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Garrison, ND 58540
Phone: (515) 356-4524
Email: claker@landolakes.com
www.croplan.com
Varieties: CP7017 AX, CP72166AX

Kansas Wheat Alliance (KWA)
Daryl Strouts
1990 Kimball Ave. Suite 200
Manhattan, KS 66502
Phone: (785) 320-4080
Email: kwa@kansas.net
www.kswheatalliance.org
Varieties: KS Ahearn, KS Hamilton, KS Providence, KS Western Star

Limagrain Cereal Seeds (LCS)
Danie Dall
1250 N Main St.
Benton, KS 67017
Phone: (316) 452-3505
Email: daniel.dall@limagrain.com
www.limagraincerealseeds.com
Varieties: LCS Atomic AX, LCS Chrome, LCS Helix AX, LCS Julep, LCS Photon AX, LCS Runner, LCS Steel AX, LCS Valiant

Oklahoma Genetics, Inc. (OGI)
Mark Hodges
201 South Range Road
Stillwater, OK 74074
Phone: (405) 744-4347
Email: hodgesm1@cox.net
www.okgenetics.com
Varieties: Baker's Ann, Bentley, Big Country, Breakthrough, Butler's Gold, Doublestop CL+, Duster
Gallagher, Green Hammer, Iba, Lonerider, OK Corral, Showdown, Skydance, Smith's Gold, Spirit rider, Strad CL+, Uncharted

PlainsGold
(Colorado Wheat Research Foundation)
Brad Erker/Tyler Benninghoven
4026 S. Timberline Road Suite 100
Fort Collins, CO 80525
Phone: (970) 449-6994
Email: tbenninghoven@coloradowheat.org
www.plainsgold.com
Varieties: Breck, Canvas, Crescent AX, Guardian, Sunshine

WestBred
John Fenderson
1616 E. Glencoe Road
Stillwater, OK 74075
Phone: (620) 243-4263
Email: john.fenderson@bayer.com
www.westbred.com
Varieties: WB4401, WB4422, WB4523, WB4699, WB4792

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