



EXTENSION

CR-2135

Protein concentration of winter wheat varieties in Oklahoma, 2025-2026

August 2026

General information

Protein is just one of many attributes that determine the end-use quality and marketability of winter wheat. In fact, some millers and bakers would argue that the functionality of wheat protein is more important than the quantity of protein. While varietal differences exist, variability in protein among environments is generally much larger. Factors such as nitrogen (N) fertilization and drought stress can sharply affect final wheat protein concentration.

To reflect these management and environmental impacts on wheat protein concentration, data are reported by variety and location in Table 1a and 1b. In Tables 2a and 2b, we report wheat protein concentration by variety as deviations from the location mean. This allows for easier comparison of wheat protein among varieties across locations. Doublestop CL Plus and Green Hammer, for example, showed positive deviation from the location mean in all of this year's trials where it was planted, indicating a tendency for above-average wheat protein concentration. Iba, on the other hand, showed a negative deviation from the location mean in all trials where it was planted, indicating a tendency toward a lower-than-average wheat protein concentration. Adequate and timely N fertility, as recommended by a recent soil test or a sensor-based N management program, can help ensure that varieties with lower-than-average protein content produce wheat or flour protein within the acceptable range for end users.

However, protein quantity should not be considered a barometer of protein quality (i.e., dough strength and functionality), though high protein quantity and quality can coexist within the same variety. Doublestop CL Plus is one example. Iba is a prime example of how protein data can sometimes be misleading, as the protein's functionality in Iba is above average, which can offset a lower absolute protein concentration. More information on end-use quality is available in [CR-2165 Wheat and flour quality for varieties tested in the 2016 OSU variety performance tests](#).

Procedures

Approximately 600g subsamples of wheat grain were collected at harvest from four field replicates of all entries for each OSU wheat variety performance test. Each test was properly fertilized and managed in accordance with OSU Cooperative Extension recommendations. Additional information on test locations and management practices is available in CR-2143 2025-2026 Oklahoma small grains variety performance tests online at www.wheat.okstate.edu. Samples were analyzed nondestructively immediately after harvest for wheat protein concentration on a 12% moisture basis, using a Diode Array Near Infrared (NIR) moisture and protein instrument (model DA 7200, Perten Instruments, Sweden). The expected wheat protein concentration for hard red winter wheat in the Southern Great Plains resides in the 10-15% range. Grain samples with extremely high protein concentration (e.g., 18-21%) were also analyzed using the LECO and Elemental CN combustion method, and results were confirmed. Overapplication of N in a low-yielding drought year could inflate grain protein concentration values.

Abbreviation key for tables

IM: Intensive Management

SM: Standard Management

DP: Dual-Purpose

GO: Grain-Only

Table 1a. Wheat protein concentration of varieties and experimental lines tested in the 2025-2026 Oklahoma wheat variety performance tests. Locations include Alva, Apache, Cherokee, Chickasha and El Reno. Values represent protein concentration percentage.

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
AgriMAXX	AM 505	--	--	--	--	--	--	--
AgriMAXX	AM 525	--	--	--	--	--	--	--
AgriMAXX	AM 556	--	--	--	--	--	--	--
AgriPro	AP Prolific	12.7	--	12.5	12.9	14.5	15.8	14.4
AgriPro	AP Stocky	--	13.7	13.2a	13.1	13.7	16.5a	15.5
AgriPro	AP Sunbird	12.0	14.4	12.9	12.5	14.0	14.4	12.7
AgriPro	AP Tango	11.9	14.2	--	12.6	13.9	--	--
AgriPro	AP24 AX	12.6	14.6	13.1	12.0	14.7	14.3	12.8
AGSECO	AG Golden	11.7	--	11.6	12.1	13.6	14.2	13.6
AGSECO	AG Radical	12.3	--	12.0	13.3	14.1	14.6	13.6
Beck's	716	--	--	--	--	--	--	--
Beck's	722	--	--	--	--	--	--	--
Beck's	728	--	--	--	--	--	--	--
Croplan	CP7017AX	12.6	13.4	12.0	11.7	13.9	13.6	12.9
Croplan	CP7599CLP	12.5	15.1	--	14.2a	15.0	--	--
Croplan	CP7869	--	13.2	13.0	12.3	13.7	14.1	15.2
KWA	KS Bill Snyder	12.4	13.5	12.9	13.0	13.3	15.0	13.9
KWA	KS Homesteader CL+	--	--	--	--	--	--	--
KWA	KS Providence	13.3	15.1	12.8	14.3a	14.3	16.1	14.6
KWA	KS Territory	--	--	--	--	--	--	--
KWA	KS Tradition	--	--	11.4	12.8	13.1	--	--
LCS	LCS Aries	--	--	--	12.4	13.9	--	--
LCS	LCS Caballero AX	12.9	--	12.9	--	--	--	--
LCS	LCS Cowie AX	12.5	14.9	--	12.9	13.3	13.7	13.2
LCS	LCS Gaucho CL+	--	16.6a	14.2a	13.4	--	16.7a	14.6
LCS	LCS Highnoon	12.2	14.8	13.1	13.4	13.9	--	--
LCS	LCS Mojo	11.9	--	--	12.1	13.4	--	--
LCS	LCS Radar	13.5	14.4	13.4a	13.4	13.6	14.6	15.7
LCS	LCS Troubadour AX	--	13.4	13.1	12.6	12.9	13.2	13.0
LCS	LCS Turnpike CL+	13.3	15.9a	--	13.3	14.4	15.1	13.6
LCS	LCS Warbird AX	--	14.7	13.0	13.0	13.8	13.6	13.5
Nutrien	Cavalry	--	16.1a	--	15.9a	15.4a	15.0	19.0a
Nutrien	Milestone	13.8	14.5	14.5a	13.2	14.1	14.9	16.5
Nutrien	Ramsay	15.2a	14.8	12.6	13.1	13.8	15.4	17.2
OGL	Bentley	--	--	--	--	--	--	--

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
OGI	Breakthrough	--	--	--	--	--	--	--
OGI	Butler's Gold	--	17.2a	--	--	--	--	--
OGI	Doublestop CL+	13.0	16.4a	14.1a	14.0	15.2	15.2	14.6
OGI	Gallagher	12.6	16.0a	13.4a	13.5	15.0	16.5a	14.8
OGI	Green Hammer	13.4	16.9a	14.4a	14.4a	15.2	17.3a	15.9
OGI	High Cotton	12.5	14.9	14.1a	--	14.1	15.4	14.2
OGI	OK Corral	13.0	16.0a	13.0	--	--	15.3	15.3
OGI	Orange Blossom CL+	12.8	15.6	13.5a	14.7a	15.7a	15.0	14.1
OGI	Paradox	12.2	14.8	12.9	13.1	14.8	--	--
OGI	Scab Stryker	--	--	--	--	--	--	--
OGI	Showdown	12.3	14.7	12.5	13.1	13.7	14.0	13.7
OGI	Smith's Gold	12.8	14.8	12.5	13.4	14.4	14.8	13.6
OGI	Strad CL+	13.8	--	14.1a	--	--	--	--
OGI	Wyatt	13.3	14.6	13.9a	12.2	13.9	16.5a	14.9
PlainsGold	Canvas	11.6	14.5	12.8	12.8	13.9	12.3	12.5
PlainsGold	Crescent AX	13.1	15.1	13.6a	--	--	--	--
PlainsGold	Kivari AX	12.9	14.3	13.3a	11.5	12.9	13.6	12.5
PlainsGold	Outlaw	12.3	--	12.3	11.5	13.3	--	--
PlainsGold	Sheridan	--	15.0	--	--	--	--	--
USDA-ARS (KS)	Concordia	--	--	--	13.8	14.6	--	--
Watley	TAM 115	--	--	--	--	--	--	--
Watley	TAM 204	--	--	--	--	--	--	--
Westbred	WB4347	12.5	14.9	12.0	12.0	--	13.6	13.1
Westbred	WB4422	12.9	15.2	13.4a	13.2	14.4	15.4	13.9
Westbred	WB4445CLP	13.9	14.4	--	14.2a	14.0	16.5a	15.2
Westbred	WB4459AX	--	--	11.5	12.2	12.9	13.3	12.4
Westbred	WB4650	13.3	14.5	--	--	--	--	--
Westbred	WB4792	12.1	--	13.7a	--	--	--	--
Experimentals								
KWA	KS170013D-19	13.5	--	13.2a	--	--	--	--
KWA	KS20HD134	12.2	13.0	11.9	12.3	13.4	14.9	13.3
OSU	OK20056CF-10C24	--	--	--	--	--	--	--
OSU	OK20D78S021 (WSM)	--	--	--	--	--	--	--
OSU	OK20D86044CF	--	--	--	--	--	--	--
OSU	OK21320	--	16.3a	14.2a	--	--	15.4	14.8

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
OSU	OK21424F	--	--	--	--	--	--	--
OSU	OK21611	--	--	--	--	14.7	--	--
OSU	OK2189178WF	--	--	--	--	--	--	--
OSU	OK21DTR1705-91	12.4	15.1	--	12.5	15.7a	15.8	14.4
OSU	OK21DTR1722-16W	--	--	--	16.2a	--	--	--
OSU	OK21DTR1722-62	13.2	--	--	--	16.1a	--	--
OSU	OK21PS821	15.6a	--	--	--	--	--	--
OSU	OK21PS825 (WSM)	--	--	--	--	--	--	--
OSU	OK22840 (WSM-WCM)	--	--	--	--	--	--	--
OSU	OK22P7002	--	15.0	--	--	--	--	--
OSU	OK23D89031X	--	--	14.3a	13.5	13.5	15.3	14.2
OSU	OK23D89055X	13.4	14.8	--	--	--	--	--
OSU	OK23D89076X	--	15.0	--	--	--	--	--
OSU	OK23D89088X	--	--	13.3a	12.3	14.2	--	--
PlainsGold	CO19410R	12.6	14.3	13.2a	11.5	14.1	12.6	12.9
PlainsGold	CO20022RC	--	--	12.1	11.6	13.2	13.2	13.1
	Mean	12.8	14.9	13.0	13.0	14.1	14.8	14.2
	LSD (0.05)	1.1	1.4	1.3	2.0	0.7	0.9	0.9

Notes: Protein was adjusted to 12% moisture content. a: Shaded values are not statistically different from the highest value within a column. Double-dashes "--" = data not available.

Table 1b. Wheat protein concentration of varieties and experimental lines tested in the 2025-2026 Oklahoma wheat variety performance tests. Locations include Hooker, Kildare, Kingfisher, Lahoma, Miami and Walters. Values represent protein concentration percentage.

Licensee	Variety	Hooker irrigated	Kildare	Kingfisher	Lahoma SM	Lahoma IM	Miami	Walters DP
AgriMAXX	AM 505	--	--	--	--	--	14.3	--
AgriMAXX	AM 525	--	--	--	--	--	12.8	--
AgriMAXX	AM 556	--	--	--	--	--	13.0	--
AgriPro	AP Prolific	--	14.0	--	13.9	15.8	--	--
AgriPro	AP Stocky	13.8	15.2a	--	14.7a	15.6	--	12.3
AgriPro	AP Sunbird	12.1	12.6	13.6	12.5	13.6	--	11.1
AgriPro	AP Tango	12.2	13.8	13.9	13.8	14.5	--	11.3
AgriPro	AP24 AX	11.5	--	14.0	13.1	14.5	--	11.1
AGSECO	AG Golden	11.9	--	13.1	13.4	14.4	--	--
AGSECO	AG Radical	--	13.2	14.6	13.5	15.7	--	--
Beck's	716	--	--	--	--	--	12.7	--

Licensee	Variety	Hooker irrigated	Kildare	Kingfisher	Lahoma SM	Lahoma IM	Miami	Walters DP
Beck's	722	--	--	--	--	--	13.3	--
Beck's	728	--	--	--	--	--	12.4	--
Croplan	CP7017AX	11.5	12.5	13.4	13.3	14.3	--	11.0
Croplan	CP7599CLP	13.1	12.8	15.1	13.6	14.9	--	12.1
Croplan	CP7869	14.1	13.1	15.0	14.4	15.4	--	10.7
KWA	KS Bill Snyder	10.8	13.8	--	13.5	14.5	--	11.3
KWA	KS Homesteader CL+	11.9	--	--	--	--	--	--
KWA	KS Providence	12.1	13.1	16.3	14.9a	16.0	--	11.8
KWA	KS Territory	10.7	--	--	--	--	--	--
KWA	KS Tradition	10.6	--	13.9	13.0	14.7	--	10.8
LCS	LCS Aries	--	--	13.6	--	--	--	--
LCS	LCS Caballero AX	13.6	13.2	--	13.5	15.3	--	10.7
LCS	LCS Cowie AX	--	13.2	--	13.6	14.8	--	12.0
LCS	LCS Gaucho CL+	--	14.8	15.5	14.3	16.4	--	11.9
LCS	LCS Highnoon	13.7	--	15.0	13.3	15.2	--	10.9
LCS	LCS Mojo	--	13.3	14.6	13.4	14.7	--	--
LCS	LCS Radar	14.1	13.7	15.4	14.1	15.9	--	--
LCS	LCS Troubadour AX	--	--	--	12.1	13.2	--	--
LCS	LCS Turnpike CL+	--	13.4	--	13.4	14.9	--	12.3
LCS	LCS Warbird AX	12.5	12.4	14.4	13.4	15.1	--	11.3
Nutrien	Cavalry	--	--	17.2a	--	--	--	12.3
Nutrien	Milestone	14.4	13.5	15.7	13.7	16.5	--	11.3
Nutrien	Ramsay	13.6	13.7	16.4	15.4a	17.3a	--	12.0
OGI	Bentley	13.4	--	--	--	--	--	--
OGI	Breakthrough	12.6	--	--	--	--	--	--
OGI	Butler's Gold	17.5a	15.9a	--	--	--	--	--
OGI	Doublestop CL+	14.6	14.6	15.5	14.3	16.1	--	12.6a
OGI	Gallagher	16.0	14.1	15.4	14.3	15.8	--	11.6
OGI	Green Hammer	--	15.5a	16.3	14.7a	16.6a	--	13.5a
OGI	High Cotton	14.8	14.3	14.5	13.0	14.7	--	12.2
OGI	OK Corral	12.7	13.2	14.9	13.8	15.3	--	12.0
OGI	Orange Blossom CL+	14.7	14.7	15.2	14.2	15.4	--	12.3
OGI	Paradox	17.2a	13.1	--	13.2	15.5	--	--
OGI	Scab Stryker	--	15.2a	--	--	--	15.3a	--
OGI	Showdown	13.8	12.5	14.6	13.0	14.5	--	11.5
OGI	Smith's Gold	14.4	12.8	14.7	13.6	14.3	--	11.5

Licensee	Variety	Hooker irrigated	Kildare	Kingfisher	Lahoma SM	Lahoma IM	Miami	Walters DP
OGI	Strad CL+	--	14.5	15.9	--	--	--	12.5a
OGI	Wyatt	14.3	--	14.7	14.1	14.8	--	11.4
PlainsGold	Canvas	--	--	13.7	12.1	13.5	--	10.8
PlainsGold	Crescent AX	--	13.6	--	13.3	14.5	--	12.2
PlainsGold	Kivari AX	--	11.8	13.5	12.7	14.2	--	10.5
PlainsGold	Outlaw	12.3	12.3	13.9	13.4	14.2	--	11.0
PlainsGold	Sheridan	--	--	--	--	--	--	10.7
USDA-ARS (KS)	Concordia	--	--	--	--	--	--	--
Watley	TAM 115	12.9	--	--	--	--	--	--
Watley	TAM 204	13.7	--	--	--	--	--	--
Westbred	WB4347	13.3	12.3	14.4	13.6	14.2	--	--
Westbred	WB4422	11.6	13.1	15.1	13.2	14.7	--	10.6
Westbred	WB4445CLP	13.4	14.4	14.4	14.3	15.4	--	11.6
Westbred	WB4459AX	11.0	12.0	--	12.2	13.9	--	10.5
Westbred	WB4650	13.7	13.1	--	13.0	14.7	--	11.7
Westbred	WB4792	12.0	--	13.7	13.4	14.4	--	11.1
Experimentals								
KWA	KS170013D-19	--	--	--	14.6a	15.8	--	--
KWA	KS20HD134	12.2	--	--	12.9	13.9	--	--
OSU	OK20056CF-10C24	--	--	--	15.4a	16.4	14.2	--
OSU	OK20D78S021 (WSM)	12.0	--	--	--	--	--	--
OSU	OK20D86044CF	--	--	--	--	--	15.5a	--
OSU	OK21320	--	14.1	15.4	--	--	--	--
OSU	OK21424F	--	--	--	--	--	14.8	--
OSU	OK21611	--	--	--	13.8	14.9	--	11.7
OSU	OK2189178WF	--	--	--	--	--	15.4a	--
OSU	OK21DTR1705-91	--	--	14.9	13.6	14.5	--	--
OSU	OK21DTR1722-16W	--	16.1a	16.1	--	--	--	--
OSU	OK21DTR1722-62	--	--	--	--	--	--	--
OSU	OK21PS821	--	--	--	--	--	--	--
OSU	OK21PS825 (WSM)	13.7	--	--	--	--	--	--
OSU	OK22840 (WSM-WCM)	12.0	--	--	--	--	--	--
OSU	OK22P7002	12.5	--	--	--	--	--	11.4
OSU	OK23D89031X	--	--	--	13.7	14.4	--	11.6

Licensee	Variety	Hooker irrigated	Kildare	Kingfisher	Lahoma SM	Lahoma IM	Miami	Walters DP
OSU	OK23D89055X	--	13.5	14.5	--	--	--	--
OSU	OK23D89076X	--	14.1	--	--	--	--	--
OSU	OK23D89088X	--	--	--	--	--	--	11.3
PlainsGold	CO19410R	11.9	--	--	11.9	14.4	--	11.0
PlainsGold	CO20022RC	--	12.4	--	12.5	13.6	--	10.8
	Mean	13.1	13.6	14.8	15.0	15.0	14.3	11.5
	LSD (0.05)	1.1	1.0	0.6	0.7	0.7	0.6	0.6

Notes: Protein was adjusted to 12% moisture content. a: Shaded values are not statistically different from the highest value within a column. Double-dashes "--" = data not available.

Table 2a. Wheat protein concentration relative to the location mean (expressed as a deviation) for varieties and experimental lines in the 2025-2026 Oklahoma wheat variety performance tests. Locations include Alva, Apache, Cherokee, Chickasha and El Reno. Values represent percentage of wheat protein relative to location mean.

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
AgriMAXX	AM 505	--	--	--	--	--	--	--
AgriMAXX	AM 525	--	--	--	--	--	--	--
AgriMAXX	AM 556	--	--	--	--	--	--	--
AgriPro	AP Prolific	-0.1	--	-0.5	-0.1	0.4	1.0	0.1
AgriPro	AP Stocky	--	-1.2	0.2	0.1	-0.4	1.7	1.3
AgriPro	AP Sunbird	-0.8	-0.5	-0.1	-0.5	-0.1	-0.4	-1.5
AgriPro	AP Tango	-0.9	-0.7	--	-0.4	-0.2	--	--
AgriPro	AP24 AX	-0.2	-0.3	0.1	-1.0	0.6	-0.6	-1.4
AGSECO	AG Golden	-1.1	--	-1.4	-0.9	-0.5	-0.7	-0.7
AGSECO	AG Radical	-0.5	--	-1.0	0.3	0.0	-0.2	-0.6
Beck's	716	--	--	--	--	--	--	--
Beck's	722	--	--	--	--	--	--	--
Beck's	728	--	--	--	--	--	--	--
Croplan	CP7017AX	-0.2	-1.5	-1.0	-1.3	-0.2	-1.2	-1.3
Croplan	CP7599CLP	-0.3	0.2	--	1.2	0.9	--	--
Croplan	CP7869	--	-1.7	0.0	-0.7	-0.4	-0.8	1.0
KWA	KS Bill Snyder	-0.4	-1.4	-0.1	0.0	-0.8	0.2	-0.4
KWA	KS Homesteader CL+	--	--	--	--	--	--	--
KWA	KS Providence	0.5	0.2	-0.2	1.3	0.2	1.3	0.4
KWA	KS Territory	--	--	--	--	--	--	--
KWA	KS Tradition	--	--	-1.6	-0.2	-1.0	--	--

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
LCS	LCS Aries	--	--	--	-0.6	-0.2	--	--
LCS	LCS Caballero AX	0.1	--	-0.1	--	--	--	--
LCS	LCS Cowie AX	-0.3	0.0	--	-0.1	-0.8	-1.2	-1.0
LCS	LCS Gaucho CL+	--	1.7	1.2	0.4	--	1.9	0.4
LCS	LCS Highnoon	-0.6	-0.1	0.1	0.4	-0.2	--	--
LCS	LCS Mojo	-0.9	--	--	-0.9	-0.7	--	--
LCS	LCS Radar	0.7	-0.5	0.4	0.4	-0.5	-0.3	1.5
LCS	LCS Troubadour AX	--	-1.5	0.1	-0.4	-1.2	-1.6	-1.2
LCS	LCS Turnpike CL+	0.5	1.0	--	0.3	0.3	0.3	-0.6
LCS	LCS Warbird AX	--	-0.2	0.0	0.0	-0.3	-1.2	-0.8
Nutrien	Cavalry	--	1.2	--	2.9	1.3	0.2	4.8
Nutrien	Milestone	1.0	-0.4	1.5	0.1	0.0	0.0	2.2
Nutrien	Ramsay	2.4	-0.1	-0.4	0.1	-0.3	0.6	2.9
OGI	Bentley	--	--	--	--	--	--	--
OGI	Breakthrough	--	--	--	--	--	--	--
OGI	Butler's Gold	--	2.3	--	--	--	--	--
OGI	Doublestop CL+	0.2	1.5	1.1	1.0	1.1	0.4	0.3
OGI	Gallagher	-0.2	1.1	0.4	0.5	0.9	1.7	0.6
OGI	Green Hammer	0.6	2.0	1.4	1.4	1.1	2.4	1.7
OGI	High Cotton	-0.3	0.0	1.1	--	0.0	0.6	-0.1
OGI	OK Corral	0.2	1.1	0.0	--	--	0.5	1.1
OGI	Orange Blossom CL+	0.0	0.7	0.5	1.7	1.6	0.2	-0.1
OGI	Paradox	-0.6	-0.1	-0.1	0.1	0.7	--	--
OGI	Scab Stryker	--	--	--	--	--	--	--
OGI	Showdown	-0.5	-0.2	-0.5	0.1	-0.4	-0.9	-0.6
OGI	Smith's Gold	0.0	-0.1	-0.5	0.4	0.3	0.0	-0.6
OGI	Strad CL+	1.0	--	1.1	--	--	--	--
OGI	Wyatt	0.5	-0.3	0.9	-0.8	-0.2	1.7	0.7
PlainsGold	Canvas	-1.2	-0.4	-0.2	-0.2	-0.2	-2.5	-1.7
PlainsGold	Crescent AX	0.3	0.2	0.6	--	--	--	--
PlainsGold	Kivari AX	0.1	-0.6	0.3	-1.5	-1.2	-1.2	-1.7
PlainsGold	Outlaw	-0.5	--	-0.7	-1.5	-0.8	--	--
PlainsGold	Sheridan	--	0.1	--	--	--	--	--
USDA-ARS (KS)	Concordia	--	--	--	0.8	0.5	--	--
Watley	TAM 115	--	--	--	--	--	--	--

Licensee	Variety	Alva	Apache IM	Cherokee	Chickasha SM	Chickasha IM	El Reno DP	El Reno GO
Watley	TAM 204	--	--	--	--	--	--	--
Westbred	WB4347	-0.3	0.0	-1.0	-1.0	--	-1.3	-1.2
Westbred	WB4422	0.1	0.3	0.4	0.2	0.3	0.6	-0.3
Westbred	WB4445CLP	1.1	-0.5	--	1.2	-0.1	1.7	0.9
Westbred	WB4459AX	--	--	-1.5	-0.8	-1.2	-1.5	-1.8
Westbred	WB4650	0.5	-0.4	--	--	--	--	--
Westbred	WB4792	-0.7	--	0.7	--	--	--	--
Experimentals								
KWA	KS170013D-19	0.7	--	0.2	--	--	--	--
KWA	KS20HD134	-0.6	-1.9	-1.1	-0.7	-0.7	0.1	-1.0
OSU	OK20056CF-10C24	--	--	--	--	--	--	--
OSU	OK20D78S021 (WSM)	--	--	--	--	--	--	--
OSU	OK20D86044CF	--	--	--	--	--	--	--
OSU	OK21320	--	1.4	1.2	--	--	0.6	0.6
OSU	OK21424F	--	--	--	--	--	--	--
OSU	OK21611	--	--	--	--	0.6	--	--
OSU	OK2189178WF	--	--	--	--	--	--	--
OSU	OK21DTR1705-91	-0.4	0.2	--	-0.5	1.6	1.0	0.2
OSU	OK21DTR1722-16W	--	--	--	3.2	--	--	--
OSU	OK21DTR1722-62	0.4	--	--	--	2.0	--	--
OSU	OK21PS821	2.8	--	--	--	--	--	--
OSU	OK21PS825 (WSM)	--	--	--	--	--	--	--
OSU	OK22840 (WSM-WCM)	--	--	--	--	--	--	--
OSU	OK22P7002	--	0.1	--	--	--	--	--
OSU	OK23D89031X	--	--	1.3	0.5	-0.6	0.5	0.0
OSU	OK23D89055X	0.6	-0.1	--	--	--	--	--
OSU	OK23D89076X	--	0.1	--	--	--	--	--
OSU	OK23D89088X	--	--	0.3	-0.7	0.1	--	--
PlainsGold	CO19410R	-0.2	-0.6	0.2	-1.5	0.0	-2.2	-1.3
PlainsGold	CO20022RC	--	--	-0.9	-1.4	-0.9	-1.6	-1.2
	Location Mean	12.8	14.9	13.0	13.0	14.1	14.8	14.2

Notes: Grain yield was adjusted to 12% moisture content. Double-dashes "--" = data not available.

Table 2b. Wheat protein concentration relative to the location mean (expressed as a deviation) for varieties and experimental lines in the 2025-2026 Oklahoma wheat variety performance tests. Locations include Hooker, Kildare, Kingfisher, Lahoma, Miami and Walters. Values represent percentage of wheat protein relative to location mean.

Licensee	Variety	Hooker Irrigated	Kildare	Kingfisher	Lahoma SM	Miami SW	Lahoma IM	Walters DP
AgriMAXX	AM 505	--	--	--	--	0.0	--	--
AgriMAXX	AM 525	--	--	--	--	-1.5	--	--
AgriMAXX	AM 556	--	--	--	--	-1.3	--	--
AgriPro	AP Prolific	--	0.4	--	-1.1	--	0.8	--
AgriPro	AP Stocky	0.7	1.6	--	-0.3	--	0.6	0.8
AgriPro	AP Sunbird	-1.0	-1.0	-1.2	-2.5	--	-1.4	-0.4
AgriPro	AP Tango	-0.9	0.2	-0.9	-1.2	--	-0.5	-0.2
AgriPro	AP24 AX	-1.6	--	-0.8	-1.9	--	-0.5	-0.4
AGSECO	AG Golden	-1.2	--	-1.7	-1.6	--	-0.6	--
AGSECO	AG Radical	--	-0.4	-0.2	-1.5	--	0.7	--
Beck's	716.00	--	--	--	--	-1.6	--	--
Beck's	722	--	--	--	--	-1.0	--	--
Beck's	728	--	--	--	--	-1.9	--	--
Croplan	CP7017AX	-1.6	-1.1	-1.4	-1.7	--	-0.7	-0.5
Croplan	CP7599CLP	0.0	-0.8	0.3	-1.4	--	-0.1	0.6
Croplan	CP7869	1.0	-0.5	0.2	-0.6	--	0.4	-0.8
KWA	KS Bill Snyder	-2.3	0.2	--	-1.5	--	-0.5	-0.2
KWA	KS Homesteader CL+	-1.2	--	--	--	--	--	--
KWA	KS Providence	-1.0	-0.5	1.5	-0.1	--	1.0	0.3
KWA	KS Territory	-2.4	--	--	--	--	--	--
KWA	KS Tradition	-2.5	--	-0.9	-2.0	--	-0.3	-0.7
LCS	LCS Aries	--	--	-1.2	--	--	--	--
LCS	LCS Caballero AX	0.5	-0.4	--	-1.5	--	0.3	-0.8
LCS	LCS Cowie AX	--	-0.4	--	-1.4	--	-0.2	0.5
LCS	LCS Gaucho CL+	--	1.2	0.7	-0.7	--	1.4	0.4
LCS	LCS Highnoon	0.6	--	0.2	-1.7	--	0.2	-0.6
LCS	LCS Mojo	--	-0.3	-0.2	-1.6	--	-0.3	--
LCS	LCS Radar	1.0	0.1	0.6	-0.9	--	0.9	--
LCS	LCS Troubadour AX	--	--	--	-2.9	--	-1.8	--
LCS	LCS Turnpike CL+	--	-0.2	--	-1.6	--	-0.1	0.8
LCS	LCS Warbird AX	-0.6	-1.2	-0.4	-1.6	--	0.1	-0.2
Nutrien	Cavalry	--	--	2.4	--	--	--	0.8
Nutrien	Milestone	1.3	-0.1	0.9	-1.3	--	1.5	-0.2
Nutrien	Ramsay	0.5	0.1	1.6	0.4	--	2.3	0.5
OGL	Bentley	0.3	--	--	--	--	--	--

Licensee	Variety	Hooker Irrigated	Kildare	Kingfisher	Lahoma SM	Miami SW	Lahoma IM	Walters DP
OGI	Breakthrough	-0.5	--	--	--	--	--	--
OGI	Butler's Gold	4.4	2.3	--	--	--	--	--
OGI	Doublestop CL+	1.5	1.0	0.7	-0.7	--	1.1	1.1
OGI	Gallagher	2.9	0.5	0.6	-0.7	--	0.8	0.1
OGI	Green Hammer	--	1.9	1.5	-0.3	--	1.6	2.0
OGI	High Cotton	1.7	0.7	-0.3	-2.0	--	-0.3	0.7
OGI	OK Corral	-0.4	-0.4	0.1	-1.2	--	0.3	0.5
OGI	Orange Blossom CL+	1.6	1.1	0.4	-0.8	--	0.4	0.8
OGI	Paradox	4.1	-0.5	--	-1.8	--	0.5	--
OGI	Scab Stryker	--	1.6	--	--	1.0	--	--
OGI	Showdown	0.7	-1.1	-0.2	-2.0	--	-0.5	0.0
OGI	Smith's Gold	1.3	-0.8	-0.1	-1.4	--	-0.7	0.0
OGI	Strad CL+	--	0.9	1.1	--	--	--	1.0
OGI	Wyatt	1.2	--	-0.1	-0.9	--	-0.2	-0.1
PlainsGold	Canvas	--	--	-1.1	-2.9	--	-1.5	-0.7
PlainsGold	Crescent AX	--	0.0	--	-1.7	--	-0.5	0.7
PlainsGold	Kivari AX	--	-1.8	-1.3	-2.3	--	-0.8	-1.0
PlainsGold	Outlaw	-0.8	-1.3	-0.9	-1.6	--	-0.8	-0.5
PlainsGold	Sheridan	--	--	--	--	--	--	-0.8
USDA-ARS (KS)	Concordia	--	--	--	--	--	--	--
Watley	TAM 115	-0.2	--	--	--	--	--	--
Watley	TAM 204	0.6	--	--	--	--	--	--
Westbred	WB4347	0.2	-1.3	-0.4	-1.4	--	-0.8	--
Westbred	WB4422	-1.5	-0.5	0.3	-1.8	--	-0.3	-0.9
Westbred	WB4445CLP	0.3	0.8	-0.4	-0.7	--	0.4	0.1
Westbred	WB4459AX	-2.1	-1.6	--	-2.8	--	-1.1	-1.0
Westbred	WB4650	0.6	-0.5	--	-2.0	--	-0.3	0.2
Westbred	WB4792	-1.1	--	-1.1	-1.6	--	-0.6	-0.4
Experimentals								
KWA	KS170013D-19	--	--	--	-0.4	--	0.8	--
KWA	KS20HD134	-0.9	--	--	-2.1	--	-1.1	--
OSU	OK20056CF-10C24	--	--	--	0.4	-0.1	1.4	--
OSU	OK20D78S021 (WSM)	-1.1	--	--	--	--	--	--
OSU	OK20D86044CF	--	--	--	--	1.2	--	--
OSU	OK21320	--	0.5	0.6	--	--	--	--
OSU	OK21424F	--	--	--	--	0.5	--	--

Licensee	Variety	Hooker Irrigated	Kildare	Kingfisher	Lahoma SM	Miami SW	Lahoma IM	Walters DP
OSU	OK21611	--	--	--	-1.2	--	-0.1	0.2
OSU	OK2189178WF	--	--	--	--	1.1	--	--
OSU	OK21DTR1705-91	--	--	0.1	-1.4	--	-0.5	--
OSU	OK21DTR1722-16W	--	2.5	1.3	--	--	--	--
OSU	OK21DTR1722-62	--	--	--	--	--	--	--
OSU	OK21PS821	--	--	--	--	--	--	--
OSU	OK21PS825 (WSM)	0.6	--	--	--	--	--	--
OSU	OK22840 (WSM- WCM)	-1.1	--	--	--	--	--	--
OSU	OK22P7002	-0.6	--	--	--	--	--	-0.1
OSU	OK23D89031X	--	--	--	-1.3	--	-0.6	0.1
OSU	OK23D89055X	--	-0.1	-0.3	--	--	--	--
OSU	OK23D89076X	--	0.5	--	--	--	--	--
OSU	OK23D89088X	--	--	--	--	--	--	-0.2
PlainsGold	CO19410R	-1.2	--	--	-3.1	--	-0.6	-0.5
PlainsGold	CO20022RC	--	-1.2	--	-2.5	--	-1.4	-0.7
	Location Mean	13.1	13.6	14.8	15.0	15.0	14.3	11.5

Notes: Grain yield was adjusted to 12% moisture content. Double-dashes "--" = data not available.

Data interpretation

At the bottom of Table 1a, 1b, 2a and 2b, 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 protein. In this report, one can be 95% confident that the difference between two varieties is real if it exceeds the LSD value. Data that is not statistically different is indicated by “NS”. For example, if the LSD value is 1% in a trial where Variety A had 13% protein and Variety B had 10% protein, then Variety A would be considered to have a statistically higher protein. However, if Variety C had 12% protein, then Variety A and Variety C would be considered to have similar protein content. In that same example trial, there is a 5% chance that the 1% protein difference between Variety A and Variety B does not truly exist but is due to random chance. These chance factors may include differences in fertility, moisture availability and diseases. To aid in visualizing the varieties with the highest protein, values highlighted in gray do not differ statistically from the highest value within a column.

Variety trial cooperators

We sincerely thank our variety trial cooperators for donation of land, time and resources, including:

- Altus — Mike Schulz, OSU Southwest Research and Extension Center
- Alva — Joe Shirley
- Apache — Bryan Vail
- Balko — Teryl Rorabaugh (not harvested due to the drought)
- Cherokee — Kenneth Failes
- Chickasha — Michael Pettijohn, OSU South Central Research Station
- El Reno — Jerry Lingo
- Hooker Dryland — Ernest and Dan Herald (no data due to the drought)
- Hooker Irrigated — Jerry Wiebe
- Kildare — Don Schieber
- Kingfisher — LJ Rehman
- Lahoma — David Victor, OSU North Central Research Station
- Miami — Brent and Zack Rendel
- Walters — Jimmy Kinder

Acknowledgement for student workers and visiting scholars

- Ana Sarah Silveira Barbosa
- Juan Bruno Bautista
- Enzo Belan

Funding provided by:

- Oklahoma Wheat Commission
- Oklahoma Wheat Research Foundation
- Oklahoma Cooperative Extension Service
- Oklahoma Agricultural Experiment Station
- Entry fees from participating seed companies

Participating seed companies

AgriPro

Dave Abel
704 W 9th Street, Newkirk, OK 74647
Phone: (620) 218-0848
Email: david.abel@syngenta.com
www.agriprowheat.com
Varieties: AP Prolific, AP Stocky, AP Sunbird, AP Tango, AP 24AX

AGSECO, Inc.

Jim Sipes
12900 South Rd X, Manter, KS, 67862
Phone: (620) 493-4693
Email: jimsipes@pld.com
www.agseco.com
Varieties: AG Golden, AG Radical

CROPLAN by Winfield United

Todd Coulter/Ryan Moeller
500 North 1st street, Vincent, IA 50594
Phone: (765) 242-3161
Email: tgcoulter@landolakes.com
www.croplan.com
Varieties: CP7017 AX, CP7599CLP, CP7869

Kansas Wheat Alliance (KWA)

Landon Trout
1990 Kimball Ave. Suite 200,
Manhattan, KS 66502
Phone: (620) 874-5496
Email: landon@kswheatalliance.com
www.kswheatalliance.org
Varieties: KS Bill Snyder, KS20HD134, KS Providence, KS Tradition, KS Territory, KS Homesteader CL+, KS170013D-19

Limagrain Cereal Seeds (LCS)

Daniel Dall
1250 N Main, Benton, KS 67017
Phone: (316) 452-3505
Email: daniel.dall@limagrain.com
www.limargraincerealseeds.com
Varieties: LCS Aries, LCS Caballero AX, LCS Cowie AX, LCS Gaucho CL+, LCS Highnoon, LCS Mojo, LCS Radar, LCS Troubadour AX, LCS Turnpike CL+, LCS Warbird AX

Nutrien Ag Solutions

James Gillum
3005 Rocky Mountain Ave. Loveland, CO 80538
(217) 993-1557
james.gillum@nutrien.com
www.nutrienagsolutions.com
Varieties: Cavalry, Milestone, Ramsay

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: Bentley, Breakthrough, Butler's Gold, Doublestop CL+, Gallagher, Green Hammer, High Cotton, OK Corral, Orange Blossom CL+, Paradox, Scab Stryker, Showdown, Smith's Gold, Strad CL+, Wyatt

PlainsGold (Colorado Wheat Research Found.)

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: Canvas, CO19410R, CO20022RC, Crescent AX, Kivari AX, Outlaw, Sheridan

Watley Seeds

Andy Watley
PO Box 51, Spearman, TX 79081
Email: watleyseed@valornet.com
www.watleyseed.com
Varieties: TAM 115, TAM 204

WestBred-Bayer

Lance Embree/Mark Lubbers
5014 W. 1st Ave, Stillwater, OK 74074
Phone: (316) 218-2661
Email: lance.embree@bayer.com
Email: mark.lubbers@bayer.com
www.westbred.com
Varieties: WB4347, WB4422, WB4445CLP, WB4459AX, WB4650, WB4792

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



Peer Reviewed

Amanda de Oliveira Silva

Small Grains Extension Specialist

Tyler Lynch

Senior Agriculturalist

Brett Carver

Wheat Breeder

Israel Molina Cyrineu

Graduate Research Assistant

Francisco H. Aispuro Arana

Graduate Research Assistant

Yanina Correndo

Graduate Research Assistant



Scan the code or visit extension.okstate.edu/fact-sheets for more OSU Extension fact sheets.

EDUCATION EVERYWHERE FOR EVERYONE

Division of Agricultural Sciences and Natural Resources

Oklahoma State University, as an equal opportunity employer, complies with all applicable federal and state laws regarding non-discrimination. Oklahoma State University is committed to a policy of equal opportunity for all individuals and does not discriminate based on race, religion, age, sex, color, national origin, marital status, disability, or veteran status with regard to employment, educational programs and activities, and/or admissions.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Director of Oklahoma Cooperative Extension Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Vice President for Agricultural Programs and has been prepared and distributed at a cost of 20 cents per copy. August 2026 SS.