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North Dakota Hard Red Spring Wheat

Variety Trial Results for 2026 and Selection Guide

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Hard red spring (HRS) wheat was planted on 4.6 million acres in 2026, down about 10% from 5.1 million acres in 2025. The average yield of HRS wheat was 51 bushels/acre (bu/a) across the state, down slightly from 55 bu/a in 2025. The 2026 growing season was highly variable for HRS wheat yields. Dry to very dry seeding conditions dominated the state in April and May, especially in the west. Some growers chose to wait for rain before seeding and, because of that, planted relatively late. Portions of the western half of the state received abundant rainfall in June, while other locations remained dry. Most areas in eastern North Dakota stayed dry to very dry throughout the growing season, though some localized areas received near-average rainfall from spotty thunderstorms. Very high temperatures in mid- to late July during grain fill limited top yield. Because of the generally dry conditions, some growers reported well-above-average protein values for their crop.

WB9590 was the most popular HRS wheat variety again in North Dakota in 2026, reportedly planted on 16.6% of acres; this is the fourth year in a row it has occupied the top spot. WB9590 acres were followed by MN Torgy (9.3%), ND Stampede (7.3%), AP Elevate (5.8%) and SY Valda (4.7%). WB9590 is a WestBred release, MN Torgy is a University of Minnesota variety, and ND Stampede is a 2024 release from NDSU.

The 2026 HRS wheat crop is showing average to above-average protein levels, exceeding 14%. Quality is generally not a problem, with the exception of locations that received localized heavy rains in August and/or September on crops that were ready to harvest which caused pre-harvest sprout damage.

Successful HRS wheat production depends on numerous factors, including selecting the right variety. The information included in this publication is meant to aid in selecting a variety or group of varieties. Characteristics to consider in selecting a variety include yield potential, protein content when grown with proper fertility, straw strength, plant height, response to problematic pests (diseases and insects) and maturity. Every growing season differs; therefore, when selecting a variety, we recommend using data that summarize several years and locations. Choose the variety that, on average, performs the best at multiple locations near your farm over several years.

Selecting varieties with good milling and baking quality is important to maintain market class recognition and avoid discounts. HRS wheat from the northern Great Plains is known around the world for its excellent end-use quality. It is recommended that producers balance their variety selection by taking into consideration not only yield but also the quality rankings presented on Tables 7 and 8 in this publication.

Millers and bakers consider many factors in determining the quality and value of wheat they purchase. Several key parameters are high test weight (for optimum milling yield and flour color), high protein content (the majority of HRS wheat export markets want at least 14% protein) and excellent protein quality (superior bread-making quality is indicated by strong gluten proteins, high baking absorption and large bread loaf volume). These data are presented in Tables 7 and 8.

Gluten strength and milling and baking quality ratings are provided for individual varieties based on the results from the NDSU field trials conducted across multiple locations in 2025 (Table 8). The wheat protein data often are higher than obtained in actual production fields but can be used to compare relative differences among varieties.

The agronomic data presented in this publication are from replicated research trials using experimental designs that enable the use of statistical analysis. These analyses enable the reader to determine, at a predetermined level of confidence, if the differences observed among varieties are reliable or if they might be due to error inherent in the experimental process.

The LSD (least significant difference) values beneath the columns in the tables are derived from these statistical analyses and apply only to the numbers in the column in which they appear. If the difference between two varieties exceeds the LSD value shown at the bottom of the table, it means that with 90% confidence (LSD probability 0.10), the higher-yielding variety has a significant and real yield advantage. When the difference between two varieties is less than the LSD value, no significant difference was found between those two varieties under the growing conditions. Ideally, aim to select varieties that are high-yielding, preferably across locations and years, for your region of the state, along with those varieties that appear in the top half of the Wheat Quality Index ratings (Tables 6 and 7).

NS is used to indicate no significant difference for that trait among any of the varieties tested at the 90% level of confidence. CV stands for coefficient of variation and is expressed as a percentage. The CV is a measure of variability in the trial. Large CVs ($CV > 10\%$) indicate a large amount of variation could not be attributed to differences among the varieties. Yield is reported on a 13.5% moisture basis, while protein content is reported at 12% moisture content, per industry standards.

Presentation of data for the entries tested does not imply approval or endorsement by the authors or agencies conducting the test. North Dakota State University approves the reproduction of any table in the publication only if no portion is deleted or altered, appropriate footnotes are given, and the order of the data is not rearranged. Additional data from county sites are available from each NDSU Research Extension Center at <https://www.ag.ndsu.edu/varietytrials/variety-trial-results>.

Both foliar and head disease prevalence were generally low in 2026. Prior to flag leaf emergence, very few reports of disease were documented with survey efforts reporting tan spot in 1% of the fields and bacterial leaf streak in 2% of the fields. After heading, tan spot was reported in 14% of the fields and bacterial leaf streak was reported in 7% of the fields. However, foliar disease levels within a field were low. Leaf rust was infrequently reported very late in the growing season (near physiological maturity). Fusarium head blight (scab) risk was moderate to high for several areas of the state at the end of June, but hot and dry weather reduced relative humidity and, consequently, scab risk during the month of July. Low levels of scab were reported from 33% of the scouted fields with higher frequencies being documented in the northern third of the state. With a few exceptions, wheat diseases did not result in significant yield losses in 2026.

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Table 1. North Dakota hard red spring wheat variety descriptions, agronomic traits, 2026.

						Reaction to Disease ⁵							
Variety	Agent or Origin ¹	Year Released	Height (inches) ²	Straw Strength ³	Days to Head ⁴	Stem Rust ⁶	Leaf Rust	Tan Spot	Bact. Leaf Streak	Head Scab	Stripe Rust	DRI Value ⁷	Preharvest Sprout ⁸
AAC Hockley	Evolution Genetics	2022	30	4	57	2	2	3	7	4	NA	49	1
AAC Hodge	Evolution Genetics	2022	33	4	56	2	4	4	6	4	NA	49	3
AP Dagr	Syngenta/AgriPro	2024	29	5	59	2	2	3	5	5	NA	49	2
AP Elevate	Syngenta/AgriPro	2024	29	4	59	2	3	3	6	5	3	52	2
AP Gunsmoke CL2	Syngenta/AgriPro	2021	30	5	57	2	4	6	8	5	4	63	3
AP Iconic	Syngenta/AgriPro	2024	31	4	59	2	4	6	6	5	NA	57	1
AP Murdock	Syngenta/AgriPro	2019	30	4	57	2	6	3	5	6	3	57	3
AP Smith	Syngenta/AgriPro	2021	29	3	59	1	4	5	6	6	4	60	4
Ascend-SD	SD	2022	34	4	59	2	2	6	5	5	3	53	5
Brawn-SD	SD	2022	31	5	56	2	3	5	6	6	6	60	3
CP3055	Croplan	2020	31	6	63	2	5	NA	6	6	NA	62	5
CP3555	Croplan	2025	30	4	59	1	4	NA	5	6	NA	58	3
CP3604	Croplan	2026	32	4	59	2	8	NA	6	7	NA	69	2
Enhance-SD	SD	2025	31	4	55	2	4	3	6	5	NA	53	5
Faller	ND	2007	32	7	58	2	8	3	4	5	8	50	2
FG Heiner	Frontier Genetics	2026	26	4	58	1	2	7	7	5	NA	59	4
Glenn	ND	2005	33	4	55	1	7	6	6	4	NA	53	2
LCS Ascent	Limagrain	2022	31	5	55	2	7	5	7	5	2	60	6
LCS Boom	Limagrain	2023	30	4	54	1	7	5	7	5	NA	60	4
LCS Rimfire	Limagrain	2024	29	4	56	2	8	2	6	5	NA	54	4
MN- Rothsay	MN	2022	29	3	60	2	7	5	5	5	6	55	1
MN-Torgy	MN	2020	31	4	58	2	2	4	5	4	3	44	1
MS Charger	Meridian Seeds	2022	30	7	56	1	5	5	8	5	8	61	2
MS Cobra	Meridian Seeds	2022	30	6	57	1	2	6	6	6	3	60	5
MS Viper GTS	Meridian Seeds	2026	28	5	57	1	2	NA	6	6	NA	59	4
ND Blockade ⁹	ND	2026	33	4	58	2	5	NA	5	5	NA	53	4
ND Frohberg	ND	2020	32	4	57	2	4	7	5	5	3	56	5
ND Heron	ND	2021	31	5	54	1	7	4	8	4	6	56	3
ND Horizon	ND	2025	31	3	57	2	6	4	5	5	NA	53	4
ND Nighthawk ¹⁰	ND	2025	31	5	59	1	4	NA	5	5	NA	52	6
ND Roughrider	ND	2025	31	5	59	2	5	3	6	6	NA	59	5
ND Stampede	ND	2024	31	4	56	1	5	5	6	5	9	56	5
ND Thresher	ND	2023	29	4	61	2	6	4	4	5	6	50	1
PFS Muffins	Peterson Farm Seeds	2025	29	5	57	2	3	3	7	6	NA	60	1
PFS Rolls	Peterson Farm Seeds	2023	31	4	59	2	4	4	5	7	6	63	5
PG Predator	Premier Genetics	2025	30	4	57	2	3	4	6	6	NA	59	2
SY 611CL2	Syngenta/AgriPro	2019	29	4	57	2	6	4	6	4	4	50	4
SY Valda	Syngenta/AgriPro	2015	30	5	58	1	2	4	6	5	8	52	2
TCG-Arsenal	21st Century Genetics	2026	30	4	60	1	6	NA	6	5	NA	56	4
TCG-Wildcat	21st Century Genetics	2020	30	4	59	1	6	6	7	7	6	72	1
TCG-Zelda	21st Century Genetics	2024	28	4	56	1	3	6	7	7	8	69	2
TW Bathgate	Thunder Seed	2026	33	4	58	1	6	NA	6	4	NA	51	1
TW Olympic	Thunder Seed	2021	32	4	57	2	7	7	6	5	NA	60	6
TW Trailfire	Thunder Seed	2022	31	6	53	2	7	6	7	5	NA	62	5
Virtue Andina	GDM	2026	27	3	58	1	4	NA	7	6	NA	63	1
Virtue Himalaya	GDM	2026	29	3	61	1	2	NA	4	6	NA	53	1
WB9590	WestBred	2017	28	3	56	2	2	6	8	8	8	78	3

¹Refers to agent or developer: MN = Univ of Minnesota; MT = Montana State Univ; ND = North Dakota State Univ; SD = South Dakota State Univ

Varieties in bold text are a recent release or first year entry in NDSU trials with limited data available and the potential for future ratings to change.

²Height data averaged from 7 locations in 2026.

³Straw Strength = 1 to 9 scale, with 1 the strongest and 9 the weakest. These values are based on recent data and may change as more data become available.

⁴Days to Head = the number of days from planting to head emergence from the boot, averaged based on data from 6 locations in 2026.

⁵Disease reaction scores from 1 to 9, with 1 = resistant and 9 = very susceptible, NA = not available.

⁶Stem rust scores determined from field severity ratings and *Puccinia graminis* f. sp. *tritici* race QFCQ

⁷Disease Risk Index Value = Value to assess overall disease risk associated with a variety. The higher the value indicates higher disease risk. Value created using a weighted formula based on ranked importance of wheat diseases. Value does not include stripe rust (incomplete data due to minimal stripe rust occurrence in 2026).

⁸Preharvest Sprout score = rating based on lab testing for susceptibility to preharvest sprouting, 1 = highly resistant to preharvest sprout/ least like to observe it; 9 = highly susceptible to preharvest sprouting/ most likely to observe it

⁹Solid stem or semi-solid stem for increased resistance to wheat stem sawfly.

¹⁰ND Nighthawk is a white wheat.

Table 2. Yield of hard red spring wheat varieties at six locations in eastern North Dakota 2024-2026.

Variety	<u>Carrington</u>		<u>Casselton</u>		<u>Forman</u>		<u>Prosper</u>		<u>Thompson</u>		<u>Langdon</u>		<u>Average</u>	
	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.
	(bu/a)													
AAC Hockley	55.7	--	61.1	--	58.0	--	71.0	--	76.9	--	57.6	--	63.4	--
AAC Hodge	59.2	--	64.8	--	60.0	--	73.2	--	80.0	--	68.4	--	67.6	--
AP Dagr	62.0	--	70.2	--	73.6	--	80.2	--	87.0	--	74.9	--	74.7	--
AP Elevate	64.6	73.1	69.0	84.1	72.7	68.8	75.7	89.4	85.5	90.3	72.6	84.0	73.3	81.6
AP Gunsmoke CL2	62.6	65.4	70.8	80.5	64.8	65.7	79.5	86.9	82.3	85.6	68.5	75.8	71.4	76.6
AP Iconic	58.6	--	71.4	--	71.5	--	80.2	--	88.3	--	69.5	--	73.3	--
AP Murdock	64.7	75.7	61.8	80.9	64.3	66.9	75.9	89.3	86.5	91.1	67.4	82.2	70.1	81.0
AP Smith	63.5	71.9	61.4	78.7	65.1	64.2	70.5	83.7	78.8	85.0	59.9	76.6	66.5	76.7
Ascend-SD	58.9	71.5	68.1	84.8	69.0	67.2	73.1	89.9	82.3	88.9	57.1	77.9	68.1	80.0
Brawn-SD	69.8	75.2	73.6	84.1	70.4	65.3	85.6	93.9	88.8	84.6	65.8	80.0	75.7	80.5
CP3055	51.8	60.9	70.2	--	58.8	--	77.7	--	79.6	--	75.4	88.7	68.9	--
CP3555	70.9	--	67.5	--	68.4	--	78.4	--	88.9	--	65.6	--	73.3	--
CP3604	58.4	--	63.6	--	60.8	--	76.3	--	84.9	--	55.6	--	66.6	--
Enhance-SD	70.3	78.3	69.8	--	71.8	--	77.6	--	88.6	--	77.2	--	75.9	--
Faller	54.2	72.3	66.3	83.1	71.6	69.7	74.8	91.1	88.4	91.0	81.5	89.6	72.8	82.8
FG Heiner	60.6	--	66.6	--	63.6	--	71.1	--	84.1	--	63.6	--	68.3	--
Glenn	62.8	--	61.4	--	58.0	--	68.2	--	79.9	--	62.6	--	65.5	--
LCS Ascent	70.6	75.8	70.7	81.7	67.1	67.1	69.9	87.3	88.4	92.4	71.8	82.5	73.1	81.2
LCS Boom	64.9	75.0	65.4	--	65.4	--	69.9	--	81.2	--	69.2	80.4	69.3	--
LCS Rimfire	69.7	--	72.3	--	73.7	--	77.7	--	89.7	--	74.2	--	76.2	--
MN- Rothsay	60.8	70.1	66.3	81.7	70.2	69.0	70.0	86.8	85.2	89.1	62.6	79.7	69.2	79.4
MN-Torgy	55.2	69.1	61.9	81.8	63.2	67.2	69.0	84.7	81.5	83.1	66.0	80.8	66.1	77.8
MS Charger	56.6	74.8	71.6	84.6	78.6	74.1	85.7	93.8	88.9	94.8	78.4	86.0	76.6	84.7
MS Cobra	64.7	71.5	62.1	78.2	63.5	63.3	70.0	83.7	80.7	86.4	60.3	78.1	66.9	76.9
MS Viper GTS	70.7	--	73.0	--	71.0	--	76.0	--	87.9	--	79.5	--	76.3	--
ND Blockade	61.7	--	67.2	77.4	63.3	62.4	74.8	90.5	80.7	84.1	71.4	--	69.8	--
ND Frohberg	63.9	67.3	63.5	76.5	62.3	58.9	75.7	86.1	82.7	84.0	60.8	72.4	68.1	74.2
ND Heron	66.2	67.8	64.3	74.6	63.3	65.2	70.6	84.4	88.6	82.7	64.4	74.5	69.6	74.9
ND Horizon	64.5	73.2	67.8	86.0	70.2	71.7	79.2	90.9	84.8	90.4	77.1	83.8	74.0	82.6
ND Nighthawk	60.2	--	65.5	--	65.8	--	65.0	--	83.5	--	60.6	--	66.8	--
ND Roughrider	64.0	77.0	74.6	88.3	81.5	74.6	77.8	94.7	88.9	98.0	82.1	85.8	78.2	86.4
ND Stampede	63.9	76.7	71.8	81.2	71.2	72.6	83.1	94.5	92.3	99.6	74.1	83.2	76.1	84.6
ND Thresher	50.0	64.5	58.5	77.5	63.2	63.8	62.8	80.1	68.5	83.1	65.4	79.0	61.4	74.7
PFS Muffins	67.6	--	70.1	--	64.4	--	79.1	--	85.3	--	67.9	--	72.4	--
PFS Rolls	58.9	66.0	70.5	79.6	66.7	60.8	76.2	92.0	84.5	85.9	49.4	75.1	67.7	76.6
PG Predator	67.0	72.7	65.0	--	68.1	--	73.8	--	85.4	--	69.7	--	71.5	72.7
SY 611CL2	60.9	71.1	64.7	81.1	69.2	69.9	78.0	87.1	82.4	88.5	74.9	81.4	71.7	79.8
SY Valda	63.4	72.6	67.0	84.3	71.6	71.4	78.8	90.7	84.1	92.3	76.0	83.9	73.5	82.5
TCG-Arsenal	66.6	--	73.4	--	73.6	--	79.6	--	88.2	--	61.8	--	73.9	--
TCG-Wildcat	64.0	75.0	67.5	81.8	62.6	59.9	71.0	90.2	83.0	90.9	64.3	77.4	68.7	79.2
TCG-Zelda	70.5	78.2	69.2	--	67.7	--	81.9	91.2	84.6	92.6	70.8	83.0	74.1	--
TW Bathgate	62.2	--	65.6	--	64.5	--	75.5	--	82.0	--	68.9	--	69.8	--
TW Olympic	62.9	--	71.6	--	71.6	--	77.4	--	89.7	--	74.3	84.9	74.6	--
TW Trailfire	69.0	--	64.7	--	64.7	--	72.8	--	82.0	--	69.2	77.3	70.4	--
Virtue Andina	57.6	--	63.0	--	60.4	--	73.9	--	82.2	--	75.9	--	68.8	--
Virtue Himalaya	51.9	--	64.3	--	71.0	--	68.0	--	85.9	--	74.2	--	69.2	--
WB9590	67.1	67.1	64.8	73.7	63.0	63.0	76.4	90.9	85.2	87.8	65.6	78.0	70.3	76.7
Mean	62.0	71.8	67.2	81.1	67.1	66.8	74.8	88.9	84.2	88.9	68.0	80.8	70.8	79.3
CV%	7.0	--	2.6	--	3.5	--	6.3	--	5.0	--	5.5	--	5.7	--
LSD 0.10	5.1	--	2.5	--	3.2	--	4.5	--	4.0	--	3.4	--	3.8	--

Bold values indicate the highest yielding group of varieties within each location (column)

Table 3. Yield of hard red spring wheat varieties grown at five locations in western North Dakota 2024-2026.

Variety	Dickinson		Hettinger		Mandan		Minot		Williston		Average	
	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.	2026	3 Yr.
	----- (bu/a) -----											
AAC Hockley	44.6	--	35.7	--	67.1	--	65.9	--	49.9	--	52.6	--
AAC Hodge	49.1	--	33.6	--	72.4	--	56.8	--	51.5	--	52.7	--
AP Dagr	52.5	--	35.8	--	73.1	--	69.0	--	50.9	--	56.3	--
AP Elevate	46.0	64.7	35.0	54.4	76.1	68.6	72.0	68.2	58.9	56.2	57.6	62.4
AP Gunsmoke CL2	52.2	67.5	37.9	54.8	73.5	61.9	64.1	59.6	49.6	55.4	55.5	59.8
AP Iconic	49.1	--	37.3	--	81.0	--	61.4	--	52.3	--	56.2	--
AP Murdock	48.3	63.9	28.4	49.4	77.7	67.0	57.7	61.8	50.3	52.9	52.5	59.0
AP Smith	46.0	60.3	37.3	52.2	75.0	62.9	63.3	59.2	49.5	51.6	54.2	57.2
Ascend-SD	50.6	67.9	37.3	55.4	67.0	66.2	72.5	66.8	45.5	53.4	54.6	62.0
Brawn-SD	52.7	68.7	38.6	58.1	71.6	68.1	73.7	71.9	53.6	56.7	58.1	64.7
CP3055	44.4	66.3	28.7	52.5	67.3	62.8	64.9	64.2	48.5	53.2	50.8	59.8
CP3555	50.5	--	35.9	--	82.0	--	76.7	--	54.6	--	59.9	--
CP3604	49.1	--	33.1	--	76.0	--	59.8	--	55.8	--	54.8	--
Enhance-SD	49.2	66.4	36.9	55.5	75.3	69.7	56.0	--	52.9	--	54.1	--
Faller	49.6	62.3	34.7	53.4	68.3	63.0	69.9	66.7	45.7	47.6	53.6	58.6
FG Heiner	51.1	--	32.9	--	75.3	--	61.2	--	55.6	--	55.2	--
Glenn	45.2	--	38.6	50.5	61.3	56.7	64.6	--	46.9	--	51.3	--
LCS Ascent	52.3	73.1	37.1	55.3	78.3	67.5	67.0	69.8	--	--	58.7	--
LCS Boom	50.4	69.7	30.4	51.1	76.9	64.1	65.0	61.2	--	--	55.7	--
LCS Rimfire	57.8	--	35.8	--	79.5	--	68.5	--	--	--	60.4	--
MN- Rothsay	50.8	67.3	36.0	53.5	75.1	65.8	71.9	68.1	51.4	53.0	57.0	61.6
MN-Torgy	51.9	67.2	39.23	56.06	75.2	69.7	60.4	65.6	56.5	57.5	56.7	63.2
MS Charger	56.5	69.0	40.3	55.8	74.0	65.1	76.7	69.3	45.2	54.0	58.5	62.6
MS Cobra	47.6	67.7	33.9	52.6	75.8	66.9	66.4	67.9	46.5	52.8	54.0	61.6
MS Viper GTS	48.9	--	38.3	--	78.2	--	76.4	--	54.3	--	59.2	--
ND Blockade	48.6	--	35.6	--	68.4	--	71.5	--	41.6	--	53.1	--
ND Frohberg	47.7	66.0	31.5	50.5	73.1	63.9	60.8	58.4	53.1	52.7	53.2	58.3
ND Heron	51.8	64.3	38.4	52.9	75.7	64.5	64.0	61.1	53.0	55.6	56.6	59.7
ND Horizon	52.9	66.0	33.7	51.9	76.3	67.3	44.4	58.7	43.6	53.8	50.2	59.6
ND Nighthawk	54.3	--	33.5	--	73.0	--	63.4	--	49.4	--	54.7	--
ND Roughrider	56.0	69.9	43.0	59.4	74.4	72.5	76.2	73.0	53.1	57.8	60.5	66.5
ND Stampede	50.8	65.9	38.4	53.1	82.1	70.4	73.6	72.4	54.2	55.3	59.8	63.4
ND Thresher	43.4	59.7	25.4	48.3	57.7	53.8	63.7	58.1	36.7	45.6	45.4	53.1
PFS Muffins	51.2	--	39.1	--	78.1	--	64.0	--	62.0	--	58.9	--
PFS Rolls	54.6	69.8	34.9	53.6	73.3	65.0	63.5	68.1	51.4	52.9	55.5	61.9
PG Predator	--	--	37.0	54.0	78.1	67.1	60.4	65.2	58.1	57.4	58.4	60.9
SY 611CL2	51.7	67.4	37.7	54.1	78.1	67.9	62.3	59.9	47.0	52.0	55.4	60.2
SY Valda	49.2	65.9	37.9	53.4	69.5	64.5	70.4	64.3	47.9	54.3	55.0	60.5
TCG-Arsenal	54.8	--	38.9	--	74.7	--	73.3	--	59.8	--	60.3	--
TCG-Wildcat	47.1	66.4	32.4	52.0	76.5	66.9	58.7	61.0	50.3	--	53.0	61.6
TCG-Zelda	50.0	68.7	39.6	54.9	79.5	69.3	63.0	64.8	56.6	--	57.8	64.4
TW Bathgate	50.4	--	36.7	--	73.0	--	63.6	--	48.7	--	54.5	--
TW Olympic	56.0	--	39.3	--	75.6	--	65.0	--	55.1	--	58.2	--
TW Trailfire	53.3	--	37.6	--	71.7	--	58.5	--	50.8	--	54.4	--
Virtue Andina	44.9	--	28.0	--	72.8	--	64.0	--	47.1	--	51.4	--
Virtue Himalaya	48.5	--	34.8	--	74.7	--	52.2	--	45.3	--	51.1	--
WB9590	49.0	66.2	33.2	53.2	77.3	66.0	53.9	61.4	51.4	53.4	53.0	60.0
Mean	50.2		35.9	53.9	74.0	65.7	64.5	--	50.5	53.7	55.3	60.9
CV%	6.6		7.8	--	4.7	--	7.1	--	8.3	--	7.6	--
LSD 0.10	3.0		2.5	--	3.2	--	6.2	--	6.1	--	4.4	--

Bold values indicate the highest yielding group of varieties within each location (column)

Table 4. Protein at 12% moisture of hard red spring wheat varieties across 11 locations in North Dakota, 2026.

Variety	Carrington	Casseltown	Forman	Prosper	Thompson	Langdon	Dickinson	Hettinger	Mandan	Minot	Williston	State Avg.
	------(%)-----											
AAC Hockley	16.6	14.6	15.5	14.4	14.7	15.4	16.6	14.8	14.6	14.4	17.5	15.4
AAC Hodge	16.5	14.4	16.0	15.1	14.7	16.4	16.8	15.8	14.5	16.2	16.0	15.7
AP Dagr	15.6	13.1	14.5	13.3	13.4	13.3	15.4	14.6	13.4	14.2	14.5	14.1
AP Elevate	15.6	14.4	15.1	14.3	14.4	15.2	16.3	15.2	14.1	14.4	15.3	14.9
AP Gunsmoke CL2	17.1	14.4	16.1	14.8	14.7	15.4	16.5	15.3	14.2	15.4	16.6	15.5
AP Iconic	15.5	14.0	14.7	13.6	13.8	14.7	16.2	14.4	13.8	15.3	16.2	14.7
AP Murdock	15.7	14.0	15.3	13.8	13.7	14.4	16.3	15.3	13.7	15.5	15.6	14.8
AP Smith	15.3	14.4	14.9	13.9	14.4	15.2	15.6	14.6	13.9	14.1	15.5	14.7
Ascend-SD	16.9	13.9	15.9	14.8	15.1	16.2	15.9	14.7	14.5	15.1	15.1	15.3
Brawn-SD	15.3	12.9	14.7	13.5	13.8	14.0	15.3	13.9	13.2	13.7	14.4	14.1
CP3055	16.1	12.6	14.3	13.1	13.1	13.1	15.7	15.3	13.7	14.1	15.2	14.2
CP3555	14.7	13.8	14.4	13.8	13.9	15.0	15.7	14.3	13.5	13.9	14.5	14.3
CP3604	16.8	14.1	15.3	14.6	14.0	14.9	15.9	15.0	14.5	15.8	15.7	15.1
Enhance-SD	15.7	13.9	15.9	14.2	14.4	15.8	16.4	14.7	14.2	15.2	15.8	15.1
Faller	15.2	13.6	14.6	14.0	13.8	14.2	15.6	14.6	13.7	14.3	14.6	14.4
FG Heiner	16.5	14.4	15.8	15.2	14.8	15.9	16.4	15.1	14.6	14.9	16.5	15.5
Glenn	16.3	14.6	16.1	14.7	15.0	15.7	16.1	15.0	14.5	15.4	15.9	15.4
LCS Ascent	14.4	13.4	14.2	13.3	13.1	14.3	15.2	14.1	13.4	14.3	--	14.0
LCS Boom	15.6	14.6	15.8	14.3	14.4	15.4	15.5	15.0	13.8	13.9	--	14.8
LCS Rimfire	15.0	14.1	14.9	14.2	14.1	15.2	15.8	14.5	13.4	14.7	--	14.6
MN- Rothsay	15.9	13.8	14.9	14.0	14.3	14.7	15.5	14.5	13.9	14.3	15.2	14.6
MN-Torgy	16.7	14.7	15.9	14.9	15.0	15.7	16.2	14.7	13.9	15.5	15.7	15.4
MS Charger	14.7	12.7	13.4	12.2	12.5	13.6	14.7	13.4	12.2	13.2	14.9	13.4
MS Cobra	15.5	14.3	15.3	14.4	14.2	15.8	16.5	14.8	14.2	14.6	15.0	15.0
MS Viper GTS	14.9	13.4	14.6	13.6	13.7	15.1	15.3	13.9	13.6	13.8	15.6	14.3
ND Blockade	16.1	14.1	15.8	14.4	14.7	15.3	16.4	15.0	14.5	14.8	15.0	15.1
ND Frohberg	15.1	13.9	15.2	14.4	14.1	15.2	16.3	15.2	14.1	15.3	15.6	14.9
ND Heron	15.6	14.6	15.7	14.2	14.2	16.4	16.3	15.3	14.0	14.6	15.5	15.1
ND Horizon	16.0	14.2	15.8	14.3	14.5	15.9	16.3	15.4	14.2	14.9	15.3	15.2
ND Nighthawk	16.1	14.2	15.5	14.7	14.9	16.4	16.4	15.6	14.0	16.5	15.7	15.5
ND Roughrider	15.9	13.3	14.7	14.0	13.7	14.7	15.9	14.6	13.9	14.0	15.2	14.5
ND Stampede	16.2	14.1	15.2	14.7	14.1	15.8	16.6	15.1	13.9	16.1	16.6	15.3
ND Thresher	16.3	14.5	16.0	15.0	14.8	15.6	15.9	15.2	14.6	15.4	16.1	15.4
PFS Muffins	15.3	13.9	15.2	13.8	14.0	15.5	15.9	14.6	13.6	14.6	15.4	14.7
PFS Rolls	16.1	13.5	14.8	14.6	14.1	14.8	15.2	14.2	14.3	13.0	15.8	14.6
PG Predator	15.4	14.2	15.0	14.0	14.3	15.1	--	15.1	13.9	15.1	15.1	14.7
SY 611CL2	15.4	14.1	15.3	13.9	14.3	15.1	15.8	14.7	13.6	13.0	15.2	14.6
SY Valda	15.4	13.5	14.7	14.0	13.6	15.0	16.1	14.7	13.6	15.0	15.6	14.7
TCG-Arsenal	14.8	13.3	14.1	13.6	13.6	14.3	15.1	14.1	13.6	14.7	13.9	14.1
TCG-Wildcat	15.6	14.1	15.4	14.3	14.3	15.8	15.8	15.2	14.1	15.3	15.6	15.0
TCG-Zelda	15.4	14.3	15.5	14.0	14.1	15.5	16.2	14.8	13.9	14.2	15.2	14.8
TW Bathgate	15.9	15.2	16.1	15.2	14.9	15.8	16.4	15.3	14.2	15.6	15.7	15.5
TW Olympic	15.7	13.9	15.2	14.2	14.3	15.4	16.2	14.8	13.8	14.9	14.8	14.8
TW Trailfire	15.1	14.2	15.3	14.0	14.0	15.2	15.5	14.1	14.2	15.3	15.7	14.8
Virtue Andina	16.4	14.6	15.6	14.7	14.8	14.7	16.7	15.8	14.9	15.2	16.6	15.5
Virtue Himalaya	16.9	14.1	14.4	14.5	13.7	13.6	15.3	14.7	14.1	16.3	16.6	14.9
WB9590	16.0	14.7	15.7	14.5	14.2	15.7	16.3	15.6	14.2	16.0	15.1	15.3
Mean	15.7	14.0	15.2	14.2	14.2	15.1	16.0	14.8	14.0	14.9	15.5	14.9
CV%	1.9	1.2	0.8	2.4	2.4	2.7	2.2	2.2	2.3	6.9	6.8	2.7
LSD 0.10	0.4	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	1.4	1.5	0.3

Table 5. Test weight of hard red spring wheat varieties grown at 11 locations in North Dakota, 2026.

Variety	Carrington	Casselton	Forman	Prosper	Thompson	Langdon	Dickinson	Hettinger	Mandan	Minot	Williston	State Avg.
	----- (lb/bu) -----											
AAC Hockley	59.3	62.5	63.9	61.3	60.6	61.6	59.9	61.6	57.2	62.1	59.8	60.9
AAC Hodge	57.6	62.8	63.7	60.7	60.9	60.3	58.6	60.1	56.6	57.0	60.5	59.9
AP Dagr	55.3	60.5	61.8	58.1	57.6	58.7	56.9	58.6	54.2	61.5	58.9	58.4
AP Elevate	58.3	61.6	62.8	59.8	59.2	59.4	58.1	59.3	56.7	60.5	59.9	59.6
AP Gunsmoke CL2	56.7	60.6	62.5	59.1	59.0	58.6	58.6	59.7	56.8	61.2	57.9	59.2
AP Iconic	56.5	62.1	63.1	60.1	59.6	59.1	57.7	59.2	56.1	60.5	57.5	59.2
AP Murdock	57.6	60.6	62.6	59.6	58.9	58.3	58.6	58.1	56.9	59.8	59.5	59.1
AP Smith	59.2	61.6	62.6	59.8	59.4	58.4	59.5	60.2	57.7	60.7	58.3	59.8
Ascend-SD	57.8	61.6	62.7	59.2	59.9	59.8	58.4	59.9	55.9	61.8	59.4	59.7
Brawn-SD	59.6	62.5	64.0	61.7	61.0	60.3	57.9	61.5	56.3	60.6	59.6	60.5
CP3055	53.8	57.7	59.2	56.0	54.3	58.8	53.6	53.2	54.4	58.3	54.1	55.8
CP3555	59.5	61.8	63.0	60.6	59.9	58.8	58.5	59.6	57.9	62.1	59.9	60.1
CP3604	57.3	61.6	62.7	60.9	60.9	59.4	58.6	59.5	55.3	60.0	60.2	59.7
Enhance-SD	59.4	61.3	62.7	59.6	59.4	59.6	59.0	60.6	55.1	60.5	59.2	59.7
Faller	55.6	61.0	62.8	59.6	59.7	61.3	59.0	58.8	55.1	61.2	57.8	59.3
FG Heiner	56.6	61.9	63.1	60.4	59.6	59.2	59.4	60.6	56.8	61.7	60.3	60.0
Glenn	61.8	63.6	64.5	61.3	62.4	62.3	61.3	62.1	57.5	58.7	62.9	61.7
LCS Ascent	57.9	62.4	63.3	59.7	60.3	59.7	60.7	61.6	56.9	58.6	--	60.1
LCS Boom	59.4	63.0	63.8	60.8	60.9	60.2	60.1	61.0	58.1	62.7	--	61.0
LCS Rimfire	57.5	61.4	62.4	59.1	60.1	58.8	59.3	59.3	55.6	61.9	--	59.5
MN- Rothsay	58.0	62.0	63.1	60.3	60.3	60.1	58.9	60.6	57.2	61.9	58.9	60.1
MN-Torgy	60.1	61.4	63.3	60.8	59.8	59.9	59.9	61.0	57.6	59.5	61.3	60.4
MS Charger	54.2	61.9	63.4	59.7	59.1	59.8	58.5	60.8	55.0	62.9	58.4	59.4
MS Cobra	57.9	61.5	62.6	59.3	59.4	59.4	59.2	60.3	56.7	60.7	60.6	59.8
MS Viper GTS	55.8	60.1	60.8	57.7	57.9	58.1	57.5	58.4	53.9	61.1	55.6	57.9
ND Blockade	58.6	61.6	62.7	59.7	60.4	59.7	59.0	59.8	56.2	61.1	60.0	59.9
ND Frohberg	59.9	61.9	63.4	60.7	60.4	60.8	59.2	59.5	57.0	63.6	59.1	60.5
ND Heron	58.9	63.0	63.8	60.2	61.1	60.9	59.9	61.7	56.8	63.2	60.4	60.9
ND Horizon	56.6	61.9	62.9	60.3	58.5	60.3	59.1	59.6	55.2	63.4	58.7	59.7
ND Nighthawk	59.1	61.9	63.0	59.3	59.1	58.5	59.3	59.2	57.3	61.3	59.8	59.8
ND Roughrider	54.6	60.4	61.6	58.1	58.0	58.7	57.5	58.1	53.3	63.0	56.4	58.2
ND Stampede	56.0	61.0	62.4	59.4	59.5	59.3	58.4	58.8	55.1	63.0	57.4	59.1
ND Thresher	53.9	60.2	61.5	58.0	57.7	60.6	56.3	57.8	52.9	62.3	56.0	57.9
PFS Muffins	57.8	61.3	62.2	59.7	59.4	59.0	58.7	59.8	54.7	61.3	59.1	59.4
PFS Rolls	58.1	61.2	62.1	60.0	59.2	60.6	58.7	59.5	55.2	60.7	56.1	59.2
PG Predator	57.6	61.5	62.4	59.3	59.1	58.8	.	59.3	56.8	58.1	59.6	59.2
SY 611CL2	57.5	62.5	63.4	60.5	59.8	60.3	59.2	61.9	58.1	62.5	58.7	60.4
SY Valda	57.2	61.1	62.8	60.4	60.1	60.9	58.3	60.0	55.0	61.4	59.0	59.7
TCG-Arsenal	59.9	61.6	63.0	59.7	59.4	60.4	58.6	59.5	55.2	60.1	59.5	59.7
TCG-Wildcat	59.0	62.3	62.9	60.1	60.0	59.7	58.7	60.3	56.7	60.0	59.8	60.0
TCG-Zelda	58.5	62.2	62.8	60.4	60.2	59.1	59.7	60.5	56.2	57.9	60.1	59.8
TW Bathgate	59.9	62.5	63.7	61.4	61.0	60.7	59.5	62.0	57.7	57.2	60.4	60.5
TW Olympic	57.5	61.6	63.1	60.4	59.9	60.6	59.5	60.4	56.5	61.4	59.7	60.1
TW Trailfire	58.0	62.2	62.9	59.0	59.7	59.0	58.3	60.9	56.4	59.7	58.9	59.5
Virtue Andina	55.3	60.1	61.1	58.3	58.3	57.7	58.1	57.8	53.7	59.3	55.8	57.8
Virtue Himalaya	55.1	58.7	60.3	57.1	56.7	59.6	54.2	55.7	53.6	58.4	54.0	56.7
WB9590	57.6	61.8	62.6	60.0	59.7	58.8	59.2	60.2	55.2	60.5	59.4	59.5
Mean	57.6	61.6	62.8	59.8	59.6	59.7	58.7	59.7	55.9	60.2	59.0	59.5
CV%	1.5	0.4	0.3	1.1	1.0	0.9	1.9	1.0	1.5	4.1	2.3	1.6
LSD 0.10	1.0	0.3	0.3	0.6	0.6	0.5	1.0	0.5	0.8	3.4	2	0.7

Table 6. Yield, test weight and protein of hard red spring wheat grown under irrigation at 2 locations in 2026.

Variety	Carrington			Williston (Nesson Valley)		
	Yield (bu/a)	Test wt	%Protein	Yield (bu/a)	Test wt	%Protein
AAC Hockley	59.1	61.5	15.8	97.6	61.7	16.4
AAC Hodge	65.7	61.8	16.0	92.8	60.4	16.3
AP Dagr	70.1	58.5	14.7	85.7	56.7	15.3
AP Elevate	69.5	59.8	15.5	111.6	60.1	16.0
AP Gunsmoke CL2	65.6	59.3	15.8	77.8	58.3	16.8
AP Iconic	73.8	60.7	14.9	89.1	59.7	15.1
AP Murdock	70.0	60.1	14.8	78.5	58.7	15.6
AP Smith	67.0	61.0	15.3	108.3	60.8	15.7
Ascend-SD	73.0	59.5	15.4	94.0	59.7	15.6
Brawn-SD	75.7	60.8	14.4	109.7	61.2	14.8
CP3055	65.2	55.4	14.6	97.3	55.5	13.4
CP3555	72.4	60.9	14.7	94.7	61.0	14.7
CP3604	69.4	59.8	15.7	93.2	59.1	16.3
Enhance-SD	73.6	59.7	15.9	94.9	60.3	15.5
Faller	67.8	58.5	15.0	94.8	58.7	14.6
FG Heiner	66.0	60.7	15.6	86.6	59.7	16.2
Glenn	61.2	63.0	15.7	93.2	61.9	16.8
LCS Ascent	71.8	61.7	14.0	--	--	--
LCS Boom	70.3	62.4	15.3	--	--	--
LCS Rimfire	71.1	59.9	15.2	--	--	--
MN- Rothsay	72.4	60.4	15.4	98.1	60.2	14.7
MN-Torgy	72.6	62.2	15.3	94.0	60.7	15.5
MS Charger	70.1	59.8	13.8	110.3	59.7	14.1
MS Cobra	65.4	60.4	14.9	102.8	59.8	15.8
MS Viper GTS	72.7	57.7	14.2	112.1	56.7	15.0
ND Blockade	68.3	60.5	15.7	95.4	60.3	16.0
ND Frohberg	67.8	61.1	15.0	94.5	60.9	15.9
ND Heron	64.7	62.1	15.7	82.1	60.9	16.6
ND Horizon	71.0	60.5	15.5	92.2	60.2	15.3
ND Nighthawk	67.4	61.1	15.8	103.5	60.6	14.8
ND Roughrider	73.3	57.2	15.4	103.3	56.2	16.2
ND Stampede	76.0	60.0	15.2	117.7	59.1	15.6
ND Thresher	63.9	58.1	15.6	79.1	57.0	16.1
PFS Muffins	70.3	60.6	14.6	96.8	59.2	15.3
PFS Rolls	69.7	58.7	14.9	90.1	58.2	15.2
PG Predator	73.5	60.4	14.9	107.1	60.0	15.0
SY 611CL2	69.8	61.3	15.1	94.4	61.3	15.3
SY Valda	73.2	60.4	14.8	98.1	59.7	14.8
TCG-Arsenal	69.3	59.4	14.4	105.5	59.6	15.8
TCG-Wildeat	64.2	60.0	15.8	103.6	61.0	16.6
TCG-Zelda	69.4	60.4	15.1	104.2	59.7	16.0
TW Bathgate	63.7	61.7	15.7	100.6	62.2	16.3
TW Olympic	69.7	59.6	15.1	98.7	59.8	16.2
TW Trailfire	70.5	60.9	15.1	100.3	59.4	15.6
Virtue Andina	70.0	58.6	15.6	94.2	56.7	15.6
Virtue Himalaya	71.6	57.3	14.5	112.2	56.6	14.1
WB9590	65.9	60.8	15.6	92.4	59.5	17.0
Mean	68.8	60.2	15.2	96.5	59.6	15.6
CV%	4.7	1.0	2.2	11.6	1.2	5.5
LSD 0.10	3.8	0.7	0.4	19.1	1.2	1.2

Bold values indicate the highest yielding group of varieties within each location (column)

Table 7. Quality data from 2023-2025. The Wheat Quality Index (WQI) is a weighted average developed to summarize the relative milling and baking quality of lines in the trial. Data across years are from 2023-2025 for all varieties which were tested in a minimum of two years and four locations per year across North Dakota.

Variety	Test Weight ¹	Vitreous Kernels ²	Wheat Protein ³	Farinograph Absorption ⁴	Flour Extraction ⁵	Farinograph Stability ⁶	Loaf Volume ⁷	WQI RANK ⁸
	lb/bu	%	12% m.b.	%	%	min	cm ³	
ND Frohberg	61.0	60.8	14.3	65.9	67.4	15.0	957	1
ND Thresher	59.1	58.3	14.9	64.1	69.2	14.6	976	2
MS Cobra	60.5	71.5	14.6	65.5	67.8	11.8	1027	3
ND Stampede	60.1	65.2	14.5	66.5	66.6	13.6	967	4
ND Horizon	60.7	65.6	14.7	66.8	67.9	10.5	976	5
Ascend-SD	60.8	77.6	14.7	65.4	67.2	11.2	944	6
AP Elevate	60.1	58.4	14.4	64.9	67.2	12.2	962	7
AP Smith	60.0	62.1	14.4	62.9	67.4	16.0	924	8
WB9590	60.3	58.6	14.4	63.6	67.2	16.5	902	9
ND Heron	61.2	57.6	15.1	71.9	65.4	9.4	964	10
ND Blockade	60.5	56.8	14.8	63.5	66.9	11.8	956	11
SY611CL2	61.1	58.0	14.4	67.7	66.5	10.6	934	12
TCG Zelda	60.5	59.7	14.2	64.4	67.0	12.7	917	13
TCG Wildcat	61.0	64.7	14.6	63.8	67.4	11.8	899	14
PFS Rolls	60.2	58.9	14.2	60.4	69.0	21.6	901	15
AP Murdock	59.6	46.9	14.3	64.3	67.7	13.7	885	16
LCS Ascent	61.0	23.3	13.7	63.1	67.8	17.1	892	17
Faller	60.0	46.0	13.9	63.2	69.7	11.3	920	18
Brawn-SD	61.8	52.8	13.6	61.8	67.6	18.7	881	19
ND Roughrider	59.0	62.6	13.9	65.0	67.4	9.8	871	20
MN Torgy	60.5	51.9	14.4	61.8	66.8	13.0	891	21
AP GunsmokeCL2	59.7	57.2	14.8	61.2	66.9	14.4	862	22
SY Valda	60.3	57.3	14.1	62.4	68.0	9.5	873	23
MS Charger	60.0	42.4	12.8	63.8	68.1	11.2	846	24
Mean	60.4	57.3	14.3	64.3	67.5	13.2	922	

¹Test weight - Expressed in pounds (lbs) per bushel. A high test weight is desirable. A 58 lb test weight is required for a grade of US No. 1.

²Vitreous kernels - Percentage seeds having a vitreous-colored endosperm, a high percentage is desirable. US No. 1 DNS requires > 75% vitreous kernels.

³Wheat Protein - Measured by NIR at a 12% moisture basis. A high protein is desirable for baking quality.

⁴Farinograph Absorption - Measured by Farinograph at a 14% moisture basis. A measure of dough water absorption, expressed as percent. A high absorption is desirable.

⁵Flour Extraction - Percentage of milled flour recovered from cleaned and tempered wheat. A high flour extraction percentage is desirable.

⁶Farinograph Stability - A measure of dough strength expressed in minutes above the 500 Brabender unit line during mixing. A high stability is desirable.

⁷Loaf Volume - The volume of the pup loaf of bread, expressed in cubic centimeters. A high volume is desirable.

⁸Standardized means were used to calculate the Wheat Quality Index (WQI). The WQI is a weighted index calculated as: Test Weight (5%); Vitreous kernel (5%); Wheat Protein (10%); Flour Extraction (10%); Farinograph Absorption (23.3%); Farinograph Stability (23.3%) and Loaf Volume (23.3%). Adjusted means across locations were calculated for each trait using a mixed model. These means were standardized (mean=0 and standard deviation=1) to remove the effect of scale, which varies between traits.

Table 8. Quality Data from 2025 from 4 locations across North Dakota. The Wheat Quality Index (WQI) is a weighted average developed to summarize relative milling and baking quality of the varieties tested. Data below are from varieties tested in 2025 at Casselton, Thompson, Minot and Dickinson, ND. These data are always presented from the previous year due to the amount of time it takes to test the samples.

Variety	Test Weight ¹	Vitreous Kernels ²	Wheat Protein ³	Farinograph Absorption ⁴	Flour Extraction ⁵	Farinograph Stability ⁶	Loaf Volume ⁷	WQI Rank ⁸
	lb/bu	%	12% m.b.	%	%	min	cm ³	
ND Stampede	61.6	89.0	15.4	68.7	69.1	16.3	1130	1
ND Horizon	62.1	86.3	15.1	69.2	70.4	10.7	1091	2
ND Thresher	60.6	73.5	14.7	65.7	70.9	18.5	1097	3
MS Cobra	61.7	85.3	14.8	67.4	69.8	11.7	1134	4
ND Frohberg	61.9	71.7	14.5	67.5	69.5	14.7	1059	5
TW Olympic	61.9	77.0	14.7	66.6	70.1	13.0	1079	6
PG Predator	60.6	81.0	14.7	66.7	69.7	11.6	1101	7
ND Heron	62.0	74.2	15.3	74.0	67.4	10.1	1107	8
Enhance-SD	60.6	77.7	15.2	63.9	71.1	12.5	1086	9
Ascend-SD	61.8	92.5	15.0	67.0	68.6	10.6	1061	10
ND Nighthawk	60.1	0.0	15.8	68.0	65.7	19.3	1191	11
MN-Rothsay	61.6	63.3	14.7	62.9	71.5	13.2	1085	12
AP Elevate	61.1	67.8	14.6	66.7	69.1	10.7	1080	13
TCG Wildcat	62.1	77.7	15.0	66.0	69.7	11.1	1026	14
WB9590	61.2	62.8	14.7	65.3	70.0	19.3	990	15
AP Smith	61.2	75.5	14.5	64.6	69.9	13.3	1055	16
LCS Rimfire	61.2	66.0	14.6	64.7	70.7	11.7	1061	17
TW Trailfire	61.0	60.0	14.9	68.3	69.8	7.6	1046	18
SY611CL2	61.8	73.7	14.8	69.7	68.9	8.2	1024	19
Brawn-SD	62.9	66.8	14.0	62.9	69.9	17.5	1030	20
PFS Rolls	61.3	73.0	14.5	61.8	71.5	23.1	1012	21
LCS Ascent	61.9	35.7	13.7	64.5	70.2	16.9	1011	22
TCG Zelda	61.4	68.7	14.5	66.3	69.1	10.4	1029	23
ND Roughrider	60.6	84.5	14.5	67.5	70.0	10.0	964	24
AP Murdock	60.9	47.5	14.2	65.7	70.8	13.0	965	25
ND Blockade	61.5	82.7	15.0	64.3	68.5	9.7	1016	26
Faller	61.3	52.5	13.8	65.1	72.4	10.1	1011	27
PFS Muffins	61.1	79.0	14.4	65.6	68.9	8.1	1015	28
MN Torgy	61.4	57.7	14.4	63.3	69.1	12.6	996	29
AP Iconic	61.7	58.5	13.9	64.2	69.5	9.4	1030	30
AP Gunsmoke CL2	60.9	69.2	15.2	62.2	68.9	12.5	972	31
AP Dagr	60.0	71.7	13.7	63.7	70.2	14.7	909	32
MS Charger	61.0	62.3	13.1	65.6	70.1	10.6	945	33
SY Valda	61.7	69.2	14.0	63.2	70.0	9.7	956	34
Mean	61.4	68.7	14.6	65.9	69.7	12.7	1040	

¹Test weight - Expressed in pounds (lbs) per bushel. A high test weight is desirable. A 58 lb test weight is required for a grade of US No. 1.

²Vitreous kernels - Percentage of seeds having a vitreous-colored endosperm, a high percentage is desirable. US No. 1 DNS requires > 75% vitreous kernels.

³Wheat Protein - Measured by NIR at a 12% moisture basis. A high protein is desirable for baking quality.

⁴Farinograph Absorption - Measured by farinograph at a 14% moisture basis. A measure of dough water absorption, expressed as percent. High absorption is desirable.

⁵Flour Extraction - Percentage of milled flour recovered from cleaned and tempered wheat. A high flour extraction percentage is desirable.

⁶Farinograph Stability - A measure of dough strength expressed in minutes above the 500 Brabender unit line during mixing. A high stability is desirable.

⁷Loaf Volume - The volume of the pup loaf of bread, expressed in cubic centimeters. A high volume is desirable.

⁸Standardized means were used to calculate the Wheat Quality Index (WQI). The WQI is a weighted index calculated as: Test Weight (5%); Vitreous kernel (5%); Wheat Protein (10%); Flour Extraction (10%); Farinograph Absorption (23.3%); Farinograph Stability (23.3%) and Loaf Volume (23.3%). Adjusted means across locations were calculated for each trait using a mixed model. These means were standardized (mean=0 and standard deviation=1) to remove the effect of scale, which varies between traits.

Table 9. Data from the hard red spring wheat variety x fungicide trials conducted at Prosper (Cass County) and Thompson (Grand Forks County) in 2026. These trials are funded by the ND Wheat Commission and provide an opportunity to collect data on the yield response of spring wheat varieties included in the statewide NDSU trials under varying levels of disease pressure. For these trials, Miravis Ace @ 13.7 fl oz/ ac was applied at early flowering $\pm$ 3 days (depending on the variety). In 2026, fungicide was applied on July 7, 9, or 11 at Prosper and Thompson.

Variety	Prosper 2026						Thompson 2026					
	No fungicide			Yes fungicide			No fungicide			Yes fungicide		
	Yield	Test wgt	Protein	Yield	Test wgt	Protein	Yield	Test wgt	Protein	Yield	Test wgt	Protein
	bu/a	lbs/bu	%	bu/a	lbs/bu	%	bu/a	lbs/bu	%	bu/a	lbs/bu	%
AAC Hockley	71.0	61.3	14.4	68.3	61.8	14.3	76.9	60.6	14.7	76.7	61.1	15.1
AAC Hodge	73.2	60.7	15.1	73.7	61.2	14.9	80.0	60.9	14.7	83.1	61.4	15.2
AP Dagr	80.2	58.1	13.3	86.8	59.3	13.1	87.0	57.6	13.4	91.8	59.2	13.1
AP Elevate	75.7	59.8	14.3	73.3	59.7	14.0	85.5	59.2	14.4	88.5	59.8	14.3
AP Gunsmoke CL2	79.5	59.1	14.8	79.8	59.8	14.6	82.3	59.0	14.7	95.1	58.7	14.4
AP Iconic	80.2	60.1	13.6	84.7	60.8	13.8	88.3	59.6	13.8	85.9	60.5	13.6
AP Murdock	75.9	59.6	13.8	76.1	60.0	13.8	86.5	58.9	13.7	84.3	59.3	13.4
AP Smith	70.5	59.8	13.9	72.0	57.0	14.0	78.8	59.4	14.4	80.6	59.9	14.1
Ascend-SD	73.1	59.2	14.8	74.8	59.4	14.6	82.3	59.9	15.1	88.8	59.0	14.9
Brawn-SD	85.6	61.7	13.5	86.4	62.1	13.7	88.8	61.0	13.8	88.3	61.9	13.5
CP3055	77.7	56.0	13.1	78.9	57.5	12.8	79.6	54.3	13.1	86.3	54.3	13.0
CP3555	78.4	60.6	13.8	81.1	61.1	13.6	88.9	59.9	13.9	87.4	60.4	13.9
CP3604	76.3	60.9	14.6	77.4	61.2	14.5	84.9	60.9	14.0	79.2	60.9	14.2
Enhance-SD	77.6	59.6	14.2	80.8	60.2	14.4	88.6	59.4	14.4	85.4	60.0	14.8
Faller	74.8	59.6	14.0	69.0	59.7	13.5	88.4	59.7	13.8	86.9	60.3	14.0
FG Heiner	71.1	60.4	15.2	76.4	61.3	14.9	84.1	59.6	14.8	84.8	60.7	14.8
Glenn	68.2	61.3	14.7	66.6	61.4	14.2	79.9	62.4	15.0	79.7	62.6	15.2
LCS Ascent	69.9	59.7	13.3	75.1	60.4	13.2	88.4	60.3	13.1	89.6	61.1	13.0
LCS Boom	69.9	60.8	14.3	71.9	61.4	14.1	81.2	60.9	14.4	86.2	61.7	14.2
LCS Rimfire	77.7	59.1	14.2	81.7	59.6	14.2	89.7	60.1	14.1	95.8	60.1	14.1
MN- Rothsay	70.0	60.3	14.0	78.7	61.3	13.7	85.2	60.3	14.3	86.9	61.0	14.1
MN-Torgy	69.0	60.8	14.9	68.1	60.7	15.1	81.5	59.8	15.0	79.8	59.8	15.0
MS Charger	85.7	59.7	12.2	90.1	60.1	12.3	88.9	59.1	12.5	85.4	59.8	12.5
MS Cobra	70.0	59.3	14.4	72.9	59.9	14.3	80.7	59.4	14.2	84.1	60.7	14.3
MS Viper GTS	76.0	57.7	13.6	83.7	58.8	13.9	87.9	57.9	13.7	87.2	58.4	13.7
ND Blockade	74.8	59.7	14.4	70.6	59.7	14.3	80.7	60.4	14.7	85.5	60.9	14.6
ND Frohberg	75.7	60.7	14.4	76.6	60.3	14.2	82.7	60.4	14.1	88.7	61.1	14.1
ND Heron	70.6	60.2	14.2	75.1	61.1	13.9	88.6	61.1	14.2	86.0	61.6	14.4
ND Horizon	79.2	60.3	14.3	81.1	60.7	14.1	84.8	58.5	14.5	84.9	60.3	14.4
ND Nighthawk	65.0	59.3	14.7	73.3	60.1	15.1	83.5	59.1	14.9	86.5	58.9	15.0
ND Roughrider	77.8	58.1	14.0	86.3	59.2	14.4	88.9	58.0	13.7	91.6	58.6	13.9
ND Stampede	83.1	59.4	14.7	78.9	59.8	14.7	92.3	59.5	14.1	91.1	59.9	14.2
ND Thresher	62.8	58.0	15.0	62.3	58.0	14.9	68.5	57.7	14.8	69.7	58.2	14.6
PFS Muffins	79.1	59.7	13.8	81.0	60.3	13.5	85.3	59.4	14.0	86.3	60.0	13.7
PFS Rolls	76.2	60.0	14.6	79.2	60.2	14.5	84.5	59.2	14.1	86.2	59.2	14.0
PG Predator	73.8	59.3	14.0	78.8	59.5	14.1	85.4	59.1	14.3	87.3	59.8	14.3
SY 611CL2	78.0	60.5	13.9	74.1	61.2	13.5	82.4	59.8	14.3	79.7	60.7	14.4
SY Valda	78.8	60.4	14.0	82.7	61.0	13.6	84.1	60.1	13.6	83.1	60.4	13.7
TCG-Arsenal	79.6	59.7	13.6	80.9	60.3	13.6	88.2	59.4	13.6	88.1	60.1	13.5
TCG-Wildcat	71.0	60.1	14.3	75.5	60.6	14.5	83.0	60.0	14.3	83.8	60.3	14.4
TCG-Zelda	81.9	60.4	14.0	85.1	61.1	13.9	84.6	60.2	14.1	87.9	61.2	13.9
TW Bathgate	75.5	61.4	15.2	71.2	61.5	15.2	82.0	61.0	14.9	84.3	60.7	14.9
TW Olympic	77.4	60.4	14.2	81.3	60.9	14.0	89.7	59.9	14.3	92.5	60.5	13.9
TW Trailfire	72.8	59.0	14.0	73.3	59.7	14.1	82.0	59.7	14.0	88.1	60.5	14.2
Virtue Andina	73.9	58.3	14.7	73.1	58.4	14.6	82.2	58.3	14.8	87.2	59.1	14.5
Virtue Himalaya	68.0	57.1	14.5	68.7	57.6	14.5	85.9	56.7	13.7	83.8	56.1	13.2
WB9590	76.4	60.0	14.5	82.0	61.1	14.6	85.2	59.7	14.2	87.9	60.7	14.5
Mean	74.8	59.8	14.2	76.6	60.2	14.1	84.2	59.6	14.2	85.8	60.1	14.1
*Higher value p<0.1			*	*	*				NS	*	*	NS

NS = not significantly different at p<0.1

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