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North Dakota Durum Wheat

Variety Trial Results for 2026 and Selection Guide

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Durum was planted on 930,000 acres in North Dakota in 2026, down from 1.1 million acres in 2025. The average yield was 39 bushels per acre (bu/a), down from 44 bu/a last year. The 2026 growing season started early, especially in far western and southern North Dakota, with planting starting in March and April due to an open winter and dry soil conditions. Some growers waited for chances of rain in late May before planting, and this generally paid off, with June rains getting late-planted fields off to a better start than many earlier seedings. Weather conditions varied widely across the state, with dry conditions taking hold and drought spreading as the season progressed. Southeast North Dakota was especially dry. Unfortunately, after a very dry and hot July, some localized spots received untimely late rains in August and September that interfered with harvest.

The top five durum varieties in 2026, along with the percentage of acreage they occupied, according to survey data, were ND Riveland (40.9%), AAC Stronghold (18.1%), ND Stanley (12.0%), VT Peak (4.6%) and Joppa (4.4%). ND Riveland, ND Stanley and Joppa are releases from the North Dakota State University durum breeding program; AAC Stronghold and VT Peak are Agriculture and Agri-Food Canada (SeCan) varieties. This is the fifth consecutive year that ND Riveland has been the most-planted durum variety in North Dakota.

Durum varieties are tested each year at multiple sites throughout North Dakota. The relative performance of these varieties is presented in table form. Variety performance data are used to provide recommendations to producers. Yield is reported at 13.5% moisture, while protein content is reported at 12% moisture.

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 significant or if they might be due to error inherent in the experimental process. The LSD (least significant difference) numbers beneath the columns in tables are derived from these analyses and only apply to the numbers in the column in which

they appear. If the difference between two varieties exceeds the LSD value, it means that, with 90% confidence (LSD probability 0.10), the higher-yielding variety has a significant yield advantage. When the difference between two varieties is less than the LSD value, no significant difference occurs between those two varieties at that location.

The abbreviation NS is used to indicate no significant difference for that trait among any of the varieties at the 90% level of confidence. The CV is a measure of variability in the trial. CV stands for coefficient of variation and is expressed as a percentage. Large CVs (> 10%) mean a large amount of variation in the trial could not be attributed to differences among the varieties.

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, appropriate footnotes are given and the order of the data is not rearranged. Additional data from county sites are available from each Research Extension Center or online at <https://vt.ag.ndsu.edu/>. Ideally, you should use data from multiple locations and years when selecting a variety for your operation.

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Table 1. Descriptions and agronomic traits of durum wheat varieties grown in North Dakota, 2026.

	Agent or Origin ¹	Year Released	Height (inches) ²	Straw Strength ³	Days to Heading ⁴	Reaction to Disease ⁵				
						Stem Rust	Leaf Rust	Foliar Disease	Bact. Leaf Streak	Head Scab
AAC Schrader ⁶	Can.	2024	37	4	65	NA	NA	NA	NA	NA
AAC Spitfire ⁶	Can.	2017	33	4	64	NA	NA	NA	NA	NA
AAC Stronghold ^{6,7}	Can.	2016	34	3	64	NA	NA	NA	NA	7
Alkabo	ND	2005	35	3	62	1	1	5	7	6
Carpio	ND	2012	36	5	64	1	1	5	6	5
CDC Defy ⁶	Can.	2019	35	3	63	NA	NA	NA	NA	NA
CDC Vantta⁶	Can.	2025	31	4	67	NA	NA	NA	NA	NA
CDC Wiseton⁶	Can.	2026	37	5	63	NA	NA	NA	NA	NA
Divide	ND	2005	36	5	65	1	1	5	7	5
Joppa	ND	2013	36	5	63	1	1	5	7	5
Maier	ND	1998	35	4	63	1	1	5	NA	8
Mountrail	ND	1998	35	4	63	1	1	5	7	8
MT Blackbeard ⁶	MT	2022	39	5	66	1	1	5	NA	6
ND Gladiator⁶	ND	2025	36	4	64	1	NA	NA	NA	5
ND Grano ⁶	ND	2017	35	5	64	1	1	8	7	6
ND Riveland ⁶	ND	2017	38	4	64	1	1	5	6	5
ND Stanley ⁶	ND	2021	35	3	64	1	1	5	6	5
Strongfield ⁶	Can.	2004	36	5	63	1	1	6	NA	8
TCG Bright	21st Cent Gen	2022	37	4	63	NA	NA	NA	NA	NA
TCG Ranger	21st Cent Gen	2024	35	4	63	NA	NA	NA	NA	NA

¹Refers to agent or developer: Can. = Agriculture and Agri-Food Canada, ND = North Dakota State University. MT = Montana State University.

21st Cent Gen = Twenty-first Century Genetics (TCG)

Bold varieties are those recently released or new to NDSU testing, so data are limited and ratings may change.

²Plant height was obtained from the average of six locations in 2026.

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

⁴Days to Heading = the number of days from planting to head emergence from the boot. Averaged from six locations in 2026.

⁵Disease reaction scores from 1-9, with 1 = resistant and 9 = very susceptible. NA = Not adequately tested. Foliar Disease = reaction to tan spot and septoria leaf spot complex.

⁶Low cadmium accumulating variety.

⁷Solid stem variety to reduce wheat stem sawfly damage.

Table 2. Yield of durum wheat varieties at six Research Extension Centers in North Dakota, 2024-2026.

Variety	<u>Carrington</u>		<u>Langdon</u>		<u>Dickinson</u>		<u>Hettinger</u>		<u>Minot</u>		<u>Williston</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 Schrader	52.6	--	76.8	--	35.6	--	34.6	--	41.2	--	42.5		47.2	--
AAC Spitfire	49.2	--	--	--	40.2	--	35.8	--	48.1	--	--	--	--	--
AAC Stronghold	51.5	--	86.7	--	35.7	57.6	32.0	46.5	41.3	50.5	39.4	--	47.8	--
Alkabo	56.2	64.8	86.4	80.9	44.9	61.3	33.9	48.4	45.1	49.7	45.1	49.0	51.9	59.0
Carpio	53.0	62.8	88.1	83.0	44.3	61.9	31.8	47.7	44.5	49.8	42.5	44.3	50.7	58.2
CDC Defy	54.7	65.8	81.4	--	41.9	62.7	37.8	51.0	--	--	43.9	--	51.9	--
CDC Vantta	44.8	--	73.2	--	37.3	--	34.3	--	47.0	--	31.4	--	44.7	--
CDC Wiseton	49.6	--	77.7	--	40.5	--	33.6	--	43.2	--	43.4	--	48.0	--
Divide	46.9	59.7	76.9	77.9	44.7	60.0	33.6	47.5	39.4	40.2	33.9	40.9	45.9	54.4
Joppa	53.5	65.8	83.2	81.3	42.6	60.8	31.8	48.6	41.9	50.4	47.2	49.8	50.0	59.4
Maier	56.2	59.8	81.1	77.9	45.4	60.4	30.5	47.0	47.4	44.1	57.7	49.5	53.1	56.4
Mountrail	53.8	62.8	85.5	80.4	41.6	61.7	35.5	49.1	40.6	48.7	42.8	44.6	50.0	57.9
MT Blackbeard	51.8	--	94.7	--	41.4	60.4	34.2	51.5	50.3	--	44.7	--	52.9	--
ND Gladiator	55.2	66.2	99.2	89.6	41.8	61.8	36.2	50.8	41.6	--	43.6	--	52.9	--
ND Grano	54.2	63.0	90.2	84.0	46.5	61.6	34.5	48.4	44.6	50.4	49.5	48.2	53.3	59.3
ND Riveland	59.0	68.1	90.9	88.9	45.9	60.8	36.2	48.6	45.4	49.2	47.4	48.3	54.1	60.6
ND Stanley	53.9	66.0	92.2	85.2	40.7	60.2	29.9	48.5	46.4	55.9	48.7	48.3	52.0	60.7
Strongfield	52.0	58.5	78.9	72.7	39.8	58.6	30.6	46.7	50.6	46.1	40.4	43.8	48.7	54.4
TCG Bright	47.2	--	86.1	--	41.4	--	34.2	--	44.9	47.6	--	--	50.8	--
TCG Ranger	53.2	--	87.1	--	40.1	--	33.1	--	50.8	--	45.4	--	51.6	--
Mean	53.4	63.6	85.8	82.0	42.3	60.7	33.6	48.6	47.4	48.6	43.7	46.7	50.4	58.0
CV %	5.7	--	5.6	--	10.3	--	7.4	--	9.1	--	11.1	--	7.8	--
LSD 0.10	4.5	--	4.5	--	4.0	--	2.3	--	9.8	--	8.2	--	3.7	--

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

Table 3. Test weight and protein of durum wheat varieties at six Research Extension Centers in North Dakota, 2026.

Variety	<u>Carrington</u>		<u>Langdon</u>		<u>Dickinson</u>		<u>Hettinger</u>		<u>Minot</u>		<u>Williston</u>		<u>Average</u>	
	Test		Test		Test		Test		Test		Test		Test	
	Wt.	Protein	Wt.	Protein	Wt.	Protein	Wt.	Protein	Wt.	Protein	Wt.	Protein	Wt.	Protein
	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%
AAC Schrader	60.0	16.9	57.0	13.4	57.6	18.6	57.9	15.4	60.7	14.1	56.1	18.3	58.2	16.1
AAC Spitfire	57.1	17.1	--	--	56.8	18.2	57.2	15.1	57.9	13.7	--	--	--	--
AAC Stronghold	58.2	16.3	58.7	13.7	58.2	17.8	58.5	14.9	59.3	14.4	57.7	18.3	58.4	15.9
Alkabo	59.4	14.9	60.7	12.4	59.3	15.8	58.6	14.0	60.1	13.0	58.2	17.7	59.4	14.6
Carpio	60.1	16.1	60.2	12.6	57.8	16.6	57.6	13.8	61.1	11.6	56.7	18.6	58.9	14.9
CDC Defy	57.9	15.7	59.0	13.1	58.8	16.8	59.3	14.1	--	--	57.7	17.9	58.5	15.5
CDC Vantta	59.1	16.6	55.7	13.0	58.6	17.3	57.4	15.2	61.1	13.0	56.6	18.4	58.1	15.6
CDC Wiseton	57.4	17.0	59.1	14.0	57.0	18.6	57.3	15.5	60.0	13.9	55.6	18.1	57.7	16.2
Divide	58.3	16.4	60.4	12.3	58.7	16.5	58.0	13.8	60.6	13.9	55.4	18.9	58.6	15.3
Joppa	58.5	15.2	58.9	12.8	58.5	16.4	58.2	13.7	60.5	12.9	57.0	17.6	58.6	14.8
Maier	58.8	15.7	59.9	13.4	58.2	17.7	59.2	14.3	59.8	13.7	59.9	16.6	59.3	15.2
Mountrail	57.5	15.0	59.8	12.8	58.2	16.3	58.2	13.1	59.7	12.8	57.0	18.4	58.4	14.7
MT Blackbeard	60.2	15.3	59.7	12.3	57.3	17.2	56.8	14.8	61.5	13.1	56.6	17.3	58.7	15.0
ND Gladiator	57.3	16.3	60.7	13.0	58.0	18.0	58.7	14.5	59.9	13.6	54.5	19.5	58.2	15.8
ND Grano	59.4	15.6	61.3	13.2	58.5	17.4	58.6	13.8	61.4	12.7	57.0	19.3	59.4	15.3
ND Riveland	59.4	15.1	60.5	12.5	57.4	16.8	57.1	13.5	60.2	12.7	56.1	18.3	58.5	14.8
ND Stanley	59.4	15.8	61.1	12.8	58.9	17.4	58.7	14.3	60.6	13.6	57.8	19.0	59.4	15.5
Strongfield	58.7	16.4	58.9	13.6	56.8	18.6	56.1	15.3	59.7	13.4	56.3	19.2	57.7	16.1
TCG Bright	58.9	16.5	59.5	12.1	58.4	16.7	57.6	13.8	60.3	12.5	--	--	58.9	14.3
TCG Ranger	58.6	15.4	60.6	12.0	58.8	15.9	57.5	13.4	60.4	12.3	57.6	17.3	58.9	14.4
Mean	59.1	15.9	60.0	12.8	58.2	17.2	58.0	14.3	60.4	13.1	56.8	18.4	58.6	15.3
CV %	1.3	2.2	1.6	3.9	0.9	2.4	1.3	3.2	1.5	9.1	1.8	5.4	1.5	3.3
LSD 0.10	0.9	0.5	0.9	0.5	0.5	0.4	0.7	0.4	1.5	2.0	1.5	1.4	0.9	0.5

Table 4. Durum wheat variety quality descriptions, milling and processing data averaged for five years (2020-2024) from drill strips (26 locations/years).

Variety	Test Weight (lb/bu)	Vitreous Kernels (%)	1000 kernel wt (g)	Large Kernels (%)	Falling Number (sec)	Wheat Protein ¹ (%)	Semolina Extraction (%)	Gluten Index ²	Pasta b-value ³	Overall Quality ⁴
Alkabo	61.4	85	41.9	54	455	14.0	58.4	57	23.8	good
Carpio	61.6	83	42.5	64	536	14.2	58.3	94	23.5	good
Divide	60.9	88	40.8	53	527	14.2	58.4	83	23.4	good
Joppa	61.5	91	42.1	49	512	14.1	59.4	89	24.3	good
Maier	61.0	92	40.9	53	491	15.2	58.7	60	24.0	good
Mountrail	60.6	92	40.2	45	497	14.4	58.5	29	23.5	fair
ND Grano	61.9	90	41.5	55	522	14.6	58.7	73	24.3	good
ND Riveland	61.4	93	43.8	61	543	14.3	55.4	89	24.0	good
ND Stanley	62.3	87	42.9	62	530	14.5	59.2	80	23.9	good
Strongfield	66.7	93	40.3	58	542	15.1	57.4	74	23.7	good
Mean	61.9	90	41.7	55	515	14.5	58.2	73	23.8	

For all numbered footnotes, refer to bottom of Table 5.

Table 5. Durum wheat variety quality descriptions, milling and processing data for 2023 at five locations from drill strips.

Variety	Test Weight (lb/bu)	1000 kernel wt (g)	Large Kernels (%)	Falling Number (sec)	Wheat Protein ¹ (%)	Semolina Extraction (%)	Gluten Index ²	Pasta b-value ³	Overall Quality ⁴
Alkabo	61.8	42.3	60.6	440	13.5	60.2	66	21.6	good
Carpio	62.3	44.4	68.8	545	13.7	60.9	99	21.6	good
Divide	61.6	41.3	56.4	548	14.3	60.5	87	22.5	good
Joppa	62.1	43.0	54.1	501	13.6	61.7	96	22.4	good
Maier	61.5	42.7	62.1	488	14.4	61.4	64	22.7	good
Mountrail	61.0	42.8	55.7	479	13.9	60.5	28	22.7	fair
ND Grano	62.7	42.4	60.9	518	13.6	61.5	83	22.5	good
ND Riveland	62.0	45.4	70.3	492	13.8	58.3	93	22.8	good
ND Stanley	63.1	46.1	69.0	509	13.5	61.4	85	22.2	good
Strongfield	61.8	42.4	62.2	499	14.1	61.3	78	22.2	good
Mean	62.0	43.3	62.0	502	13.8	60.8	78	22.3	

¹Wheat protein is reported on a 12% moisture basis.

²Gluten index is unitless. Numbers less than 15 = very weak and greater than 80 = very strong gluten proteins.

³Pasta b-value: based on the Hunter color scale. Values >23.0 indicate acceptable pasta color; values >24.0 indicate good pasta color.

⁴Overall Quality is determined based on agronomic, milling and spaghetti processing performance.

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