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North Dakota
Durum Wheat

Variety Trial Results for 2025 and Selection Guide

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Durum was planted on 1.2 million acres in North Dakota in 2025, up slightly from 1.1 million acres seeded in 2024. The average yield was 44 bushels per acre (bu/a), down slightly from the record-high 47 bu/a last year. The 2025 growing season started early, with some farmers able to plant in late March or early April. Mid-May brought a lot of precipitation to the state, especially in the central region, with some counties reporting record-high rainfall totals for the month. Fields not planted prior to these rains experienced delays while producers waited for fields to dry out enough to seed. This division of planting dates, for fields planted in April or early May versus those planted in late May or June, resulted in a staggered crop. Early-planted fields were ready to harvest in August, while later-planted fields were not ready to harvest until mid-September or later.

The top five durum varieties in 2025, along with the percentage of acreage they occupied, according to survey data, were ND Riveland (48.1%), AAC Stronghold (9.7%), ND Stanley (9.7%), Divide (7.7%) and VT Peak (5.2%). ND Riveland, ND Stanley and Divide are releases from the North Dakota State University durum breeding program; AAC Stronghold and VT Peak are Agriculture and Agri-Food Canada (SeCan) varieties.

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. Some varieties may not be included in the tables due to insufficient testing or lack of seed availability, or they offer no yield or disease advantage over similar varieties. 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

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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.

List of Tables

Table 1. Descriptions and agronomic traits of durum wheat varieties grown in North Dakota, 2025.

						Reaction to Disease[5]				
	Agent or Origin[1]	Year Released	Height (inches)[2]	Straw Strength[3]	Days to Heading[4]	Stem Rust	Leaf Rust	Foliar Disease	Bact. Leaf Streak	Head Scab
AAC Schrader	**Can.**	**2024**	**37**	**4**	**60**	**NA**	**NA**	**NA**	**NA**	**NA**
AAC Spitfire	**Can.**	**2017**	**35**	**4**	**63**	**NA**	**NA**	**NA**	**NA**	**NA**
AAC Stronghold[7]	Can.	2016	34	3	62	NA	NA	NA	NA	NA
Alkabo	ND	2005	34	3	62	1	1	5	7	6
Carpio	ND	2012	35	5	64	1	1	5	6	5
CDC Defy	Can.	2019	37	3	61	NA	NA	NA	NA	NA
Divide	ND	2005	35	5	63	1	1	5	7	5
Joppa	ND	2013	35	5	63	1	1	5	7	5
Maier	ND	1998	34	4	62	1	1	5	NA	8
Mountrail	ND	1998	35	4	63	1	1	5	7	8
MT Blackbeard[6]	**MT**	**2022**	**39**	**6**	**63**	**1**	**1**	**5**	**NA**	**6**
ND Grano[6]	ND	2017	35	5	63	1	1	8	7	6
ND Riveland[6]	ND	2017	37	4	63	1	1	5	6	5
ND Stanley[6]	ND	2021	35	3	63	1	1	5	6	5
Strongfield[6]	Can.	2004	34	5	63	1	1	6	NA	8
TCG Bright	**21st Cent Gen**	**2022**	**32**	**4**	**67**	**NA**	**NA**	**NA**	**NA**	**NA**
TCG Ranger	**21st Cent Gen**	**2024**	**35**	**4**	**58**	**NA**	**NA**	**NA**	**NA**	**NA**

[1]Refers 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.

[2]Plant height was obtained from the average of six locations in 2025.

[3]Straw 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.

[4]Days to Heading = the number of days from planting to head emergence from the boot. Averaged from six locations in 2025.

[5]Disease 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.

[6]Low cadmium accumulating variety.

[7]Solid stem variety to reduce wheat stem sawfly damage.

Table 2. Yield of durum wheat varieties at six Research Extension Centers in North Dakota, 2023-2025.

	Carrington		Langdon		Dickinson		Hettinger		Minot		Williston[1]		Average	
Variety	**2025**	**3 Yr.**	**2025**	**3 Yr.**	**2025**	**3 Yr.**	**2025**	**3 Yr.**	**2025**	**3 Yr.**	**2025**	**3 Yr.**	**2025**	**3 Yr.**
							(bu/a)							
AAC Schrader	**68.4**	**--**	**81.8**	**--**	**--**	**--**	**59.5**	**--**	**45.6**	**--**	**--**	**--**	**63.8**	**--**
AAC Spitfire	**71.6**	**--**	**70.3**	**--**	**77.8**	**--**	**61.9**	**--**	**--**	**--**	**--**	**--**	**70.4**	**--**
AAC Stronghold	73.9	--	71.2	--	77.7	--	57.3	61.4	63.8	47.4	34.0	--	63.0	54.4
Alkabo	71.9	62.4	73.6	73.2	80.4	65.3	55.8	62.8	49.1	49.1	35.3	44.9	61.0	59.6
Carpio	69.2	61.2	79.7	75.8	81.2	66.2	54.2	63.0	55.9	46.8	28.0	39.3	61.4	58.7
CDC Defy	75.6	66.5	81.2	--	83.8	--	56.5	66.3	62.2	50.4	--	--	71.8	61.1
Divide	65.0	62.1	77.2	73.3	73.8	62.4	54.6	61.3	40.4	35.7	29.4	37.4	56.7	55.4
Joppa	75.1	63.1	78.4	76.1	80.0	62.9	56.0	64.7	55.4	46.1	31.3	43.1	62.7	59.3
Maier	62.6	55.8	73.0	71.6	72.1	61.3	55.5	59.4	41.0	36.6	32.0	38.6	56.0	53.9
Mountrail	69.2	60.9	70.0	76.4	77.8	67.2	56.0	63.1	52.9	46.9	32.2	39.6	59.7	59.0
MT Blackbeard	**68.4**	**--**	**72.4**	**--**	**79.3**	**61.7**	**63.1**	**67.1**	**56.9**	**--**	**--**	**--**	**68.0**	**--**
ND Grano	69.2	62.1	72.7	76.1	77.4	65.3	54.3	62.3	48.4	46.5	31.5	41.1	58.9	58.9
ND Riveland	73.4	66.6	87.8	80.0	77.9	61.5	58.1	61.6	48.7	46.6	30.8	41.4	62.8	59.6
ND Stanley	77.0	64.8	79.7	77.1	78.4	64.7	56.9	63.3	67.4	53.9	32.9	41.6	65.4	60.9
Strongfield	65.7	57.9	67.5	67.9	78.3	61.1	53.1	61.3	53.3	40.0	30.8	40.8	58.1	54.8
TCG Bright	**--**	**--**	**--**	**--**	**80.7**	**--**	**55.2**	**--**	**50.1**	**43.3**	**--**	**--**	**62.0**	**--**
TCG Ranger	**66.2**	**--**	**85.3**	**--**	**--**	**--**	**59.6**	**--**	**52.8**	**--**	**--**	**--**	**66.0**	**--**
Mean	68.7	61.7	78.2	74.8	78.6	63.6	57.4	63.2	52.9	--	31.9	40.8	62.8	58.0
CV %	7.8	--	6.1	--	6.1	--	4.1	--	6.9	--	6.0	--	6.8	--
LSD 0.10	6.3	--	5.6	--	4.4	--	2.2	--	4.9	--	4.5	--	4.1	--

[1]Williston site damaged by hail; yield reduction estimated 30-40%; estimated trial average yield had hail not occurred is 43 bu/a.

Table 3. Test weight and protein of durum wheat varieties at six Research Extension Centers in North Dakota, 2025.

Variety	Carrington		Langdon[1]		Dickinson		Hettinger		Minot		Williston[2]		Average	
	Test Wt.	Protein	Test Wt.	Protein	Test Wt.	Protein	Test Wt.	Protein	Test Wt.	Protein	Test Wt.	Protein	Test Wt.	Protein
	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%	lb/bu	%
AAC Schrader	**60.0**	**12.6**	**51.9**	**15.0**	**--**	**--**	**60.5**	**11.8**	**60.9**	**13.6**	**--**	**--**	**58.3**	**13.2**
AAC Spitfire	**58.9**	**12.3**	**48.0**	**15.2**	**59.5**	**13.8**	**59.4**	**11.8**	**--**	**--**	**--**	**--**	**56.4**	**13.3**
AAC Stronghold	59.6	12.4	50.8	14.7	61.1	14.4	60.5	11.8	62.2	14.4	57.1	18.0	58.5	14.3
Alkabo	60.0	11.9	52.9	13.5	61.1	13.0	59.5	11.0	61.7	12.9	55.7	16.4	58.5	13.1
Carpio	60.7	12.5	53.0	13.8	61.9	13.2	59.1	10.8	60.3	14.6	55.0	16.9	58.3	13.6
CDC Defy	60.7	11.8	52.2	14.3	61.6	13.5	59.7	11.1	62.9	13.7	--	--	59.4	12.9
Divide	58.8	12.9	51.3	14.4	61.1	13.0	59.7	11.1	60.3	13.6	56.0	17.6	57.9	13.8
Joppa	59.9	11.6	53.2	13.5	61.1	12.6	58.8	10.4	61.5	13.0	56.2	16.8	58.4	13.0
Maier	58.9	12.7	51.5	14.7	60.9	13.5	59.9	10.6	60.8	13.9	55.3	18.2	57.9	13.9
Mountrail	58.5	12.0	50.6	13.8	60.6	12.7	58.3	10.8	61.5	12.8	54.9	17.4	57.4	13.3
MT Blackbeard	**60.0**	**12.4**	**50.7**	**14.6**	**61.2**	**14.1**	**60.3**	**11.5**	**61.7**	**14.5**	**--**	**--**	**58.8**	**13.4**
ND Grano	59.8	12.3	51.3	14.2	61.3	13.7	59.5	11.4	61.5	13.9	55.5	17.6	58.1	13.8
ND Riveland	60.9	11.9	53.2	13.5	60.8	13.2	59.8	11.3	61.1	13.7	56.0	17.6	58.6	13.5
ND Stanley	61.2	12.4	53.7	14.3	61.5	13.7	60.1	11.1	62.3	13.5	56.8	17.3	59.3	13.7
Strongfield	58.4	12.8	48.0	15.2	60.9	14.2	59.2	11.3	60.0	14.9	55.6	18.4	57.0	14.5
TCG Bright	**--**	**--**	**--**	**--**	**60.8**	**13.2**	**59.8**	**10.8**	**61.7**	**13.4**	**--**	**--**	**60.8**	**12.5**
TCG Ranger	**60.0**	**10.9**	**52.7**	**12.6**	**--**	**--**	**59.9**	**10.4**	**62.6**	**12.4**	**--**	**--**	**58.8**	**11.6**
Mean	60.0	12.3	52.3	14.2	61.1	13.6	59.8	11.3	61.4	14.1	55.9	17.5	58.4	13.4
CV %	0.8	3.1	1.5	2.4	0.5	3.8	1.0	5.1	1.3	5.2	1.0	1.8	1.3	2.5
LSD 0.10	0.6	0.5	0.9	0.4	0.3	0.5	0.5	0.5	1.1	1.0	1.3	0.7	0.7	0.3

[1]Harvest at Langdon was delayed by two weeks due to rain. Low test weights are assumed to be a result of excessive moisture on the ripe grain.

[2]Williston site received 1.5 in of rain in the week prior to harvest. Low test weights are assumed to be a result of excessive moisture on the ripe grain.

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	Vitreous Kernels	1000 kerenel wt	Large Kernels	Falling Number	Wheat Protein[1]	Semolina Extraction	Gluten Index[2]	Pasta b-value[3]	Overall Quality [4]
	(lb/bu)	(%)	(g)	(%)	(sec)	(%)	(%)			
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
Average	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	1000 kerenel wt	Large Kernels	Falling Number	Wheat Protein[1]	Semolina Extraction	Gluten Index[2]	Pasta b-value[3]	Overall Quality[4]
	(lb/bu)	(g)	(%)	(sec)	(%)	(%)			
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
Average	62.0	43.3	62.0	502	13.8	60.8	78	22.3	

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

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

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

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

For more information on this and other topics, see www.ndsu.edu/extension

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