# 2022 South Dakota
Spring Wheat Variety Trial Results
Regional Summaries

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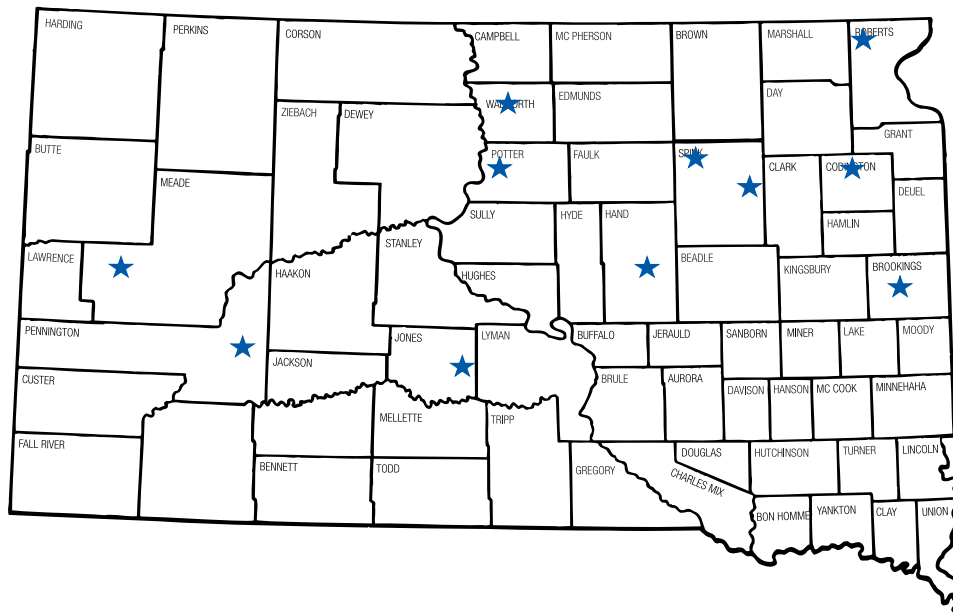
Eastern trial locations: Claire City, Frankfort (no data), South Shore, Volga

Central trial locations: Gettysburg, Miller, Northville, Selby

Western trial locations: Draper, Sturgis, Wall

Individual trial location results can be accessed online at:
https://extension.sdstate.edu/spring-wheat-variety-trial-results

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Table 1. List of spring wheat varieties tested in 2022 along with origin, agronomic, and grain quality characteristics.

Variety	Testing and Origin		Agronomic Characteristics			Grain Quality	
	Years tested in SD trials	Origin†-Year	Relative Heading‡ (days)	Height (inches)	Lodging Score§	Test Wt. (lb/bu)	Protein (%)
AP Gunsmoke CL2	2	AP-21	3	27	2.2	57.1	16.0
AP Murdock	4	AP-19	3	26	1.3	57.6	15.4
AP Revolution	2	AP-22	2	26	1.3	57.9	15.5
Ascend-SD	3	SD-21	5	29	1.3	58.5	15.5
CAG Justify	new	CAG-21	6	28	2.1	55.8	15.1
CAG Reckless	new	CAG-21	4	29	1.7	58.8	15.3
CP3099A	3	WF-20	9	29	1.5	54.0	14.3
CP3530	5+	WF-16	6	30	2.2	57.1	15.8
Driver	5+	SD-19	5	29	1.4	58.8	15.0
Lang-MN	5+	MN-17	5	28	1.3	58.3	15.9
LCS Ascent	new	LCS-21	1	27	1.8	58.5	14.8
LCS Buster	3	LCS-20	9	28	1.4	55.0	13.9
LCS Cannon	5+	LCS-18	-1	27	1.3	59.2	15.3
LCS Dual	new	LCS-21	3	28	2.1	57.8	14.8
LCS Hammer AX	new	LCS-22	4	26	1.4	57.0	15.1
LCS Rebel	5+	LCS-17	1	29	2.1	58.9	15.8
LCS Trigger	5+	LCS-15	9	27	1.3	57.4	14.1
MN-Rothsay	3	MN-21	8	25	1.1	57.8	15.3
MS Charger	new	MS-23	2	27	1.6	57.5	13.9
MS Cobra	2	MS-22	3	26	1.3	57.5	15.5
MS Ranchero	3	MS-20	4	28	1.3	56.9	15.3
ND Frohberg	3	ND-20	4	29	1.7	57.9	15.6
Prevail	5+	SD-13	2	27	1.4	57.9	14.8
Surpass	5+	SD-15	0	28	2.1	57.3	15.4
SY Ingmar	5+	AP-14	6	26	1.2	57.7	15.9
SY Rustler	5+	AP-16	3	27	1.6	57.2	15.2
SY Valda	5+	AP-15	5	27	1.4	57.6	15.1
WB9606	3	WB-20	5	28	1.2	57.7	14.5
WB9719	5+	WB-18	6	27	1.2	58.9	15.2
Trial Averages	-	-	-	28	1.5	57.6	15.1

† AP, AgriPro; CAG, Champion Alliance Group; LCS, Limagrain Cereal Seeds; MN, Minnesota; MS, Meridian Seeds; ND, North Dakota; SD, South Dakota, WI, Winfield; WB, WestBred; and – (Year of Release).

‡ Difference in days to heading compared to Surpass (2022 eastern and central locationss - Julian date 172 - June 21st).

§ Lodging score: 1, perfectly standing; to 5, completely flat (eastern and central locations).

¶ Test weight and protein are statewide averages.

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Table 2. Spring wheat variety disease ratings.

Variety	Disease Ratings†				
	Stem Rust	2022 Leaf Rust	2022 Tan Spot	2022 Bacterial Leaf Streak	2022 Fusarium Head Blight
AP Gunsmoke CL2	(MR)§	4	8	9	1
AP Murdock	(MR)	4	7	7	6
AP Revolution	(R)	4	4	6	2
Ascend-SD	MR	2	7	4	3
CAG Justify	(MS)	7	8	8	3
CAG Reckless	(R)	4	8	6	6
CP3099A	(MR)	8	4	6	9
CP3530	(R)	8	5	8	6
Driver	MR	2	7	6	2
Lang-MN	(R)	4	4	6	3
LCS Ascent	(R)	4	3	7	4
LCS Buster	(R)	7	5	5	6
LCS Cannon	(R)	5	5	8	3
LCS Dual	(R)	3	6	7	6
LCS Hammer AX	-‡	8	7	8	8
LCS Rebel	(R)	5	5	7	2
LCS Trigger	(R)	5	3	4	5
MN-Rothsay	(R)	4	4	5	7
MS Charger	(R)	5	5	7	3
MS Cobra	(R)	4	6	8	6
MS Ranchero	(R)	5	7	8	8
ND Frohberg	(R-MR)	8	3	8	4
Prevail	MR	4	4	4	2
Surpass	MR	4	3	5	1
SY Ingmar	(R)	3	4	2	6
SY Rustler	(MR)	5	3	6	3
SY Valda	(R)	3	2	8	3
WB9606	(MR)	7	3	7	7
WB9719	(R)	5	4	7	7

† Disease ratings: R, resistant; MR, moderately resistant; MS, moderately susceptible; S, susceptible; or 1, most resistant to 9, most susceptible. Note: SDSU does not perform nursery screenings for all listed pathogens in each growing season.

‡ A dash (-) signifies no rating provided/available.

§ Parenthesis denote estimated ratings/rankings (X) based on information provided by the program that submitted the variety.

Table 3. 2022 spring wheat variety performance trial results for testing sites in eastern South Dakota. Varieties ranking in the top 1/3 of each trial category are bolded and shaded light blue.

Variety	2020 Yield (bu/a)	2021 Yield (bu/a)	2022 Yield (bu/a)	2022 Test Wt (lbs)	2022 Protein %	2-year Yield (bu/a)	2-year Test Wt (lbs)	2-year Protein %	3-year Yield (bu/a)	3-year Test Wt (lbs)	3-year Protein %
LCS Trigger	**72.3**	**59.9**	**49.1**	55.7	14.5	**55.2**	59.0	14.1	**61.5**	59.6	13.8
LCS Buster	**68.8**	**58.1**	**45.8**	53.4	14.6	**52.8**	57.4	14.1	**58.6**	58.0	13.8
Ascend-SD	**66.5**	**54.5**	**51.0**	57.9	16.2	**53.0**	59.4	15.7	**57.9**	59.6	15.5
Driver	**65.1**	**56.6**	**47.7**	57.9	15.7	**52.8**	60.4	15.5	**57.3**	60.8	15.3
WB9606	62.4	**58.4**	42.8	56.9	15.3	**51.7**	59.7	14.7	**55.6**	59.8	14.3
SY Valda	**63.8**	**54.1**	**45.8**	56.8	16.0	**50.5**	59.0	15.4	**55.3**	59.7	15.2
CP3530	**65.9**	51.6	45.0	56.8	16.4	48.8	58.6	15.8	**55.0**	59.4	15.5
WB9719	61.1	**54.0**	**46.8**	58.2	16.2	**51.0**	60.8	16.0	54.7	61.1	15.7
CP3099A	56.9	**58.5**	41.8	53.6	14.8	**51.3**	56.9	14.0	53.4	56.4	13.7
MN-Rothsay	**63.9**	50.9	42.1	56.5	16.2	47.1	59.1	15.9	53.2	59.6	15.6
LCS Cannon	60.2	51.0	44.8	58.6	16.1	48.3	60.2	15.6	52.6	60.7	15.3
Prevail	61.5	49.3	45.2	57.5	15.3	47.6	59.2	15.2	52.6	59.4	14.9
AP Murdock	63.4	47.8	43.8	56.6	15.9	46.1	57.8	15.8	52.4	58.4	15.4
Lang-MN	59.4	50.6	44.2	57.4	16.4	47.9	58.9	15.9	52.1	59.6	15.7
ND Frohberg	58.2	52.8	40.8	57.0	16.3	47.6	59.2	16.0	51.5	59.7	15.7
SY Rustler	59.2	48.2	45.1	56.6	15.9	46.9	57.4	15.5	51.3	58.1	15.3
LCS Rebel	54.9	51.7	44.7	57.6	16.6	48.7	60.0	16.3	50.9	60.2	16.1
SY Ingmar	58.6	50.3	40.0	57.5	16.8	45.9	59.4	16.0	50.5	59.9	15.9
Surpass	59.1	47.7	42.6	56.6	16.2	45.5	59.1	15.8	50.5	59.1	15.6
MS Ranchero	56.9	49.6	39.2	55.9	16.3	45.1	57.8	15.4	49.4	57.9	15.2
AP Gunsmoke CL2	-	53.8	43.7	55.3	16.9	49.5	57.8	16.5	-	-	-
MS Cobra	-	50.2	41.9	56.3	16.4	46.7	58.8	16.0	-	-	-
AP Revolution	-	47.8	42.3	57.0	16.2	45.4	58.2	15.6	-	-	-
CAG Reckless	-	-	**46.3**	58.1	16.1	-	-	-	-	-	-
CAG Justify	-	-	**46.2**	54.7	15.9	-	-	-	-	-	-
MS Charger	-	-	**46.1**	57.0	14.6	-	-	-	-	-	-
LCS Ascent	-	-	**45.6**	57.8	15.5	-	-	-	-	-	-
LCS Dual	-	-	44.2	56.7	15.6	-	-	-	-	-	-
LCS Hammer AX	-	-	42.6	56.1	15.9	-	-	-	-	-	-
Trial Average#	62.1	53.1	44.8	56.5	16.0	49.6	58.9	15.5	54.2	59.3	15.2
LSD(0.05)†	1.9	2.5	1.8	0.6	0.4	4.3	1.4	0.5	3.3	1.0	0.4
C.V.%‡	4.4	6.8	4.9	-	-	6.0	-	-	5.2	-	-

Trial averages may include values from experimental lines that are not reported.
† Value required (≥LSD) to determine if varieties are significantly different from one another.
‡ C.V. is a measure of variability or experimental error, 15% or less is considered acceptable.

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Table 4. 2022 spring wheat variety performance trial results for testing sites in central South Dakota. Varieties ranking in the top 1/3 of each trial category are bolded and shaded light blue.

Variety	2020 Yield (bu/a)	2021 Yield (bu/a)	2022 Yield (bu/a)	2022 Test Wt (lbs)	2022 Protein %	2-year Yield (bu/a)	2-year Test Wt (lbs)	2-year Protein %	3-year Yield (bu/a)	3-year Test Wt (lbs)	3-year Protein %
LCS Trigger	**81.5**	**44.3**	**64.4**	60.6	13.8	**54.3**	60.3	14.3	**63.4**	60.1	14.3
LCS Buster	**81.1**	**45.3**	**62.3**	58.4	13.6	**53.8**	58.7	14.1	**62.9**	58.5	14.2
SY Valda	**72.1**	**41.6**	**60.2**	59.9	14.8	**50.9**	60.2	15.3	**58.0**	59.7	15.7
Ascend-SD	**73.4**	**39.3**	**60.8**	60.2	15.1	**50.1**	60.1	15.7	**57.9**	59.8	16.0
CP3099A	**74.5**	**44.5**	53.8	56.6	14.1	**49.1**	57.1	14.2	**57.6**	56.9	14.4
Driver	**70.8**	**41.1**	58.0	61.0	15.0	**49.6**	61.1	15.6	**56.7**	60.6	15.8
WB9606	70.3	**39.8**	**58.4**	59.8	14.4	**49.1**	60.2	15.2	**56.2**	59.7	15.2
CP3530	**72.7**	38.9	56.7	59.2	15.6	47.8	59.1	15.9	56.1	58.9	16.1
LCS Cannon	68.3	39.1	**58.7**	60.7	15.4	48.9	61.1	16.0	55.4	60.9	16.1
WB9719	70.4	39.1	55.4	60.7	15.1	47.3	60.9	16.3	55.0	60.3	16.3
MN-Rothsay	68.9	35.8	56.0	59.7	15.1	45.9	59.8	15.9	53.6	59.3	16.0
LCS Rebel	64.2	39.1	55.5	60.5	15.8	47.3	60.6	16.5	52.9	60.1	16.8
AP Murdock	67.5	33.5	57.7	59.4	15.2	45.6	59.3	16.1	52.9	59.0	16.1
SY Ingmar	64.5	38.4	54.6	59.7	15.9	46.5	60.1	16.4	52.5	60.0	16.6
MS Ranchero	64.9	36.8	53.5	58.4	15.2	45.1	58.6	15.7	51.7	58.2	15.7
Lang-MN	62.5	36.5	56.0	59.9	15.7	46.3	59.6	16.2	51.7	59.2	16.6
Surpass	63.3	34.0	56.5	59.3	15.4	45.3	59.9	16.3	51.3	59.1	16.5
SY Rustler	63.9	34.8	54.9	58.7	15.1	44.8	58.4	15.9	51.2	58.2	16.2
Prevail	63.3	32.0	56.0	59.5	14.9	44.0	59.3	16.0	50.4	59.0	16.0
ND Frohberg	63.4	30.6	51.1	59.4	15.6	40.8	59.3	16.5	48.4	59.2	16.5
AP Gunsmoke CL2	-	**41.5**	58.0	59.6	15.6	**49.8**	59.6	16.3	-	-	-
AP Revolution	-	36.4	**58.6**	59.9	15.3	47.5	59.9	15.9	-	-	-
MS Cobra	-	35.2	55.4	59.0	15.4	45.3	59.3	16.1	-	-	-
MS Charger	-	-	**62.6**	59.0	13.6	-	-	-	-	-	-
CAG Justify	-	-	**59.9**	58.1	14.7	-	-	-	-	-	-
CAG Reckless	-	-	**58.5**	60.4	15.3	-	-	-	-	-	-
LCS Ascent	-	-	58.3	59.9	14.7	-	-	-	-	-	-
LCS Dual	-	-	57.7	59.5	14.8	-	-	-	-	-	-
LCS Hammer AX	-	-	55.4	58.8	15.3	-	-	-	-	-	-
Trial Average#	69.3	37.2	57.6	59.4	15.1	47.7	59.6	15.7	55.0	59.3	15.8
LSD(0.05)†	1.9	1.9	1.4	0.4	0.3	4.0	0.8	0.5	3.5	0.7	0.4
C.V.%‡	4.0	6.9	3.3	-	-	4.8	-	-	4.4	-	-

\# Trial averages may include values from experimental lines that are not reported.
† Value required (≥LSD) to determine if varieties are significantly different from one another.
‡ C.V. is a measure of variability or experimental error, 15% or less is considered acceptable.

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Table 5. 2022 spring wheat variety performance trial results for testing sites in western South Dakota. Varieties ranking in the top 1/3 of each trial category are bolded and shaded light blue.

Variety	2020 Yield (bu/a)	2021 Yield (bu/a)	2022 Yield (bu/a)	2022 Test Wt (lbs)	2022 Protein %	2-year Yield (bu/a)	2-year Test Wt (lbs)	2-year Protein %	3-year Yield (bu/a)	3-year Test Wt (lbs)	3-year Protein %
LCS Cannon	49.1	**45.0**	**55.1**	58.3	14.5	**50.0**	59.4	15.5	**49.8**	59.5	15.3
LCS Trigger	**55.3**	**42.6**	51.2	55.9	14.1	**46.9**	57.9	15.3	**49.0**	57.9	15.0
WB9606	**51.0**	**41.3**	**55.2**	56.3	13.7	**48.2**	58.3	15.1	**48.9**	58.4	15.0
Lang-MN	**52.6**	39.9	**53.5**	57.7	15.5	**46.7**	58.5	16.2	**48.2**	58.6	16.0
Ascend-SD	50.7	**41.3**	**52.0**	57.5	15.1	**46.6**	59.0	16.1	**47.7**	59.0	15.7
LCS Buster	**56.7**	37.8	51.2	53.1	13.7	44.5	55.8	15.2	**47.6**	55.9	14.9
CP3099A	**60.2**	33.8	**51.9**	51.9	14.0	42.9	54.6	15.3	**47.2**	55.1	14.8
Surpass	48.1	41.1	50.8	56.1	14.5	**46.0**	57.3	15.7	46.5	57.8	15.5
SY Valda	46.3	**41.1**	**51.8**	56.2	14.7	**46.5**	58.0	15.7	46.4	58.4	15.5
CP3530	50.1	40.6	49.1	55.5	15.4	44.9	57.3	16.1	46.2	57.3	16.1
LCS Rebel	**52.2**	**41.6**	46.7	58.5	14.9	44.1	59.2	15.9	46.2	59.3	15.8
WB9719	49.5	37.2	**52.6**	57.8	14.4	44.9	58.7	15.4	46.0	59.2	15.3
Driver	**53.2**	39.4	47.9	57.3	14.4	43.6	58.2	15.4	46.0	58.3	15.1
MS Ranchero	48.6	**42.3**	47.3	56.5	14.2	44.8	57.7	15.4	45.7	57.8	15.1
SY Rustler	47.8	40.3	49.1	56.3	14.7	44.7	57.1	15.7	45.5	57.2	15.5
Prevail	45.4	**42.3**	48.1	56.8	14.3	45.2	57.8	15.4	45.2	58.0	15.3
ND Frohberg	47.1	35.6	50.5	57.2	14.9	43.1	57.7	15.9	44.1	57.8	15.8
MN-Rothsay	44.2	39.1	48.9	57.1	14.7	44.0	58.7	15.9	44.0	58.5	15.8
SY Ingmar	50.3	36.7	46.2	55.8	15.0	41.4	57.8	16.0	43.7	57.9	15.9
AP Murdock	43.5	35.5	50.7	56.8	15.1	43.1	57.3	16.1	43.2	57.3	16.0
AP Gunsmoke CL2	-	40.3	50.4	56.3	15.4	**45.4**	57.7	16.5	-	-	-
MS Cobra	-	40.3	47.8	57.2	14.7	44.1	57.9	15.9	-	-	-
AP Revolution	-	36.5	45.3	56.7	14.9	40.9	56.5	15.8	-	-	-
CAG Justify	-	-	**53.0**	54.7	14.7	-	-	-	-	-	-
LCS Ascent	-	-	**52.3**	57.7	14.2	-	-	-	-	-	-
LCS Hammer AX	-	-	**51.3**	56.2	14.2	-	-	-	-	-	-
CAG Reckless	-	-	50.5	57.8	14.4	-	-	-	-	-	-
MS Charger	-	-	50.5	56.5	13.5	-	-	-	-	-	-
LCS Dual	-	-	49.9	57.1	13.8	-	-	-	-	-	-
Trial Average#	49.8	40.0	50.3	56.4	14.6	45.1	57.8	15.7	46.4	58.0	15.5
LSD(0.05)†	4.6	3.0	4.0	0.7	0.4	4.5	1.6	0.6	4.7	1.2	0.5
C.V.%‡	9.4	9.2	9.7	-	-	9.6	-	-	9.4	-	-

Trial averages may include values from experimental lines that are not reported.
† Value required (≥LSD) to determine if varieties are significantly different from one another.
‡ C.V. is a measure of variability or experimental error, 15% or less is considered acceptable.