South Dakota State University
College of Agriculture, Food and Environmental Sciences

South Dakota State University Extension
South Dakota Agricultural Experiment Station at SDSU

2023 South Dakota Spring Wheat Variety Trial Results Regional Summaries

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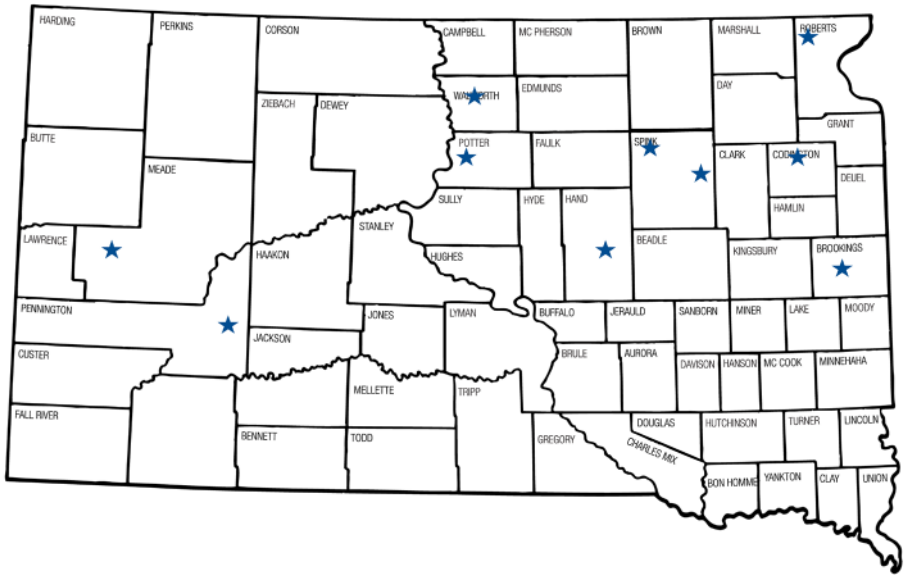

Eastern trial locations:	Claire City, Frankfort, South Shore, Volga
Central trial locations:	Gettysburg, Miller, Northville, Selby
Western trial locations:	Sturgis, Wall

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 2023 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	3	AP-21	3	24	1.6	58.3	16.2
AP Murdock	5+	AP-19	3	23	1.4	58.1	15.6
AP Revolution	3	AP-22	1	23	1.5	59.3	15.7
AP Venom	new	AP-20	9	22	1.2	55.4	15.4
Ascend-SD	4	SD-21	4	25	1.7	58.8	15.5
Brawn-SD	3	SD-22	3	24	1.5	60.1	14.7
CAG Justify	2	CAG-21	6	25	1.6	56.8	15.0
CAG Reckless	2	CAG-21	3	25	1.6	58.7	15.4
CAG Recoil	new	CAG-24	8	23	1.3	56.8	15.1
CP3099A	4	WF-20	9	27	1.1	56.8	13.9
CP3188	new*	WF-20	5	25	1.8	57.4	14.4
Driver	5+	SD-19	4	26	1.6	58.8	15.1
LCS Ascent	2	LCS-21	1	25	1.6	58.9	15.2
LCS Boom	2	LCS-23	1	23	1.5	59.9	15.8
LCS Buster	4	LCS-20	7	25	1.4	56.7	13.8
LCS Cannon	5+	LCS-18	1	23	1.4	60.2	15.6
LCS Dual	2	LCS-21	2	25	1.4	58.7	14.9
LCS Hammer AX	2	LCS-22	4	23	1.5	57.7	15.3
LCS Trigger	5+	LCS-15	8	25	1.5	58.7	14.0
MN-Rothsay	4	MN-21	7	23	1.4	58.5	15.1
MN-Torgy	new*	MN-20	6	24	1.4	59.0	15.2
MS Charger	2	MS-23	2	24	1.8	58.5	14.3
MS Cobra	3	MS-22	3	24	1.5	58.5	15.6
ND Heron	new	ND-21	0	26	1.7	59.2	15.9
PFS Buns	new*	PFS-21	12	25	1.2	54.9	14.8
Prevail	5+	SD-13	2	25	1.5	58.2	15.3
Surpass	5+	SD-15	0	25	1.6	58.3	16.0
SY Valda	5+	AP-15	2	24	1.5	58.4	15.3
WB9590	new*	WB-17	2	21	1.2	58.1	16.5
WB9606	4	WB-20	4	25	1.5	58.8	14.9
WB9719	5+	WB-18	5	24	1.4	59.1	15.3
Trial Averages	-	-	-	25	1.5	58.3	15.2

† AP, AgriPro; CAG, Champion Alliance Group; LCS, Limagrain Cereal Seeds; MN, Minnesota; MS, Meridian Seeds; ND, North Dakota; PFS, Peterson Farms Seed; 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 165 - June 14th**).

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

¶ Test weight and protein are statewide averages.

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2023 South Dakota Spring Wheat Variety Trial Results Disease Ratings

Table 2. Spring wheat variety disease ratings.

Variety	Disease Ratings†				
	Stem Rust	2022 Leaf Rust	2022 Tan Spot	2022 Bacterial Leaf Streak	2022-2023 Fusarium Head Blight
AP Gunsmoke CL2	(MR)§	4	8	9	3
AP Murdock	(MR)	4	7	7	4
AP Revolution	(R)	4	4	6	2
AP Venom	-‡	(1)	(MR)	-	3
Ascend-SD	MR	2	7	4	3
Brawn-SD	MR	4	8	4	2
CAG Justify	(MS)	7	8	8	3
CAG Reckless	(R)	4	8	6	5
CAG Recoil	(R)	(R)	-	(MR)	3
CP3099A	(MR)	8	4	6	7
CP3188	(4)	(4)	-	(6)	9
Driver	MR	2	7	6	2
LCS Ascent	(R)	4	3	7	4
LCS Boom	-	6	(6)	5	4
LCS Buster	(R)	7	5	5	5
LCS Cannon	(R)	5	5	8	3
LCS Dual	(R)	3	6	7	7
LCS Hammer AX	-	8	7	8	9
LCS Trigger	(R)	5	3	4	3
MN-Rothsay	(R)	4	4	5	6
MN-Torgy	(MR)	(3)	(4)	(3)	2
MS Charger	(R)	5	5	7	2
MS Cobra	(R)	4	6	8	6
ND Heron	(MR)	(5)	(4)	(5)	3
PFS Buns	-	NR	-	(MS)	9
Prevail	MR	4	4	4	2
Surpass	MR	4	3	5	1
SY Valda	(R)	3	2	8	3
WB9590	-	(7)	(8)	(6)	7
WB9606	(MR)	7	3	7	6
WB9719	(R)	5	4	7	6

† 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 externally-provided information.

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2023 South Dakota Spring Wheat Variety Trial Results Regional Summaries

Table 3. 2023 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 boldfaced and shaded light blue.

Variety	2021	2022	2023			2-year			3-year		
	Yield (bu/a)	Yield (bu/a)	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %
LCS Trigger	**59.9**	**49.1**	**58.1**	59.3	13.8	**54.2**	57.8	14.1	**56.3**	59.1	14.0
Brawn-SD	**57.5**	**51.9**	**54.5**	60.8	14.5	**53.4**	60.0	14.8	**54.9**	61.1	14.6
LCS Buster	**58.1**	45.8	**57.8**	57.5	13.8	**52.7**	55.7	14.1	**54.6**	57.4	14.0
WB9606	**58.4**	42.8	**57.0**	59.7	14.8	**50.9**	58.5	15.0	**53.6**	59.7	14.7
Driver	**56.6**	**47.8**	53.3	59.8	15.2	**50.9**	59.0	15.4	**53.0**	60.2	15.4
Ascend-SD	54.5	**51.1**	52.4	59.3	15.3	**51.8**	58.7	15.7	**52.8**	59.3	15.5
CP3099A	**58.5**	41.8	**55.1**	57.0	13.3	49.4	55.5	13.9	52.7	56.9	13.8
SY Valda	54.1	45.8	**56.3**	59.0	15.1	**51.8**	58.1	15.5	52.6	59.0	15.3
WB9719	54.0	**46.9**	54.1	60.2	15.5	**51.0**	59.4	15.8	52.1	60.6	15.8
AP Gunsmoke CL2	53.8	43.8	52.2	58.7	16.5	48.6	57.2	16.7	50.5	58.1	16.5
LCS Cannon	51.0	44.8	51.7	60.8	15.7	48.7	59.9	15.9	49.5	60.5	15.7
MN-Rothsay	50.9	42.1	51.7	58.9	15.3	47.6	57.9	15.6	48.8	59.1	15.7
Prevail	49.3	45.2	49.7	58.6	15.4	47.8	58.1	15.4	48.3	59.0	15.3
MS Cobra	50.2	41.9	50.0	59.0	16.0	46.5	57.8	16.2	47.9	58.9	16.0
AP Murdock	47.8	43.8	50.7	58.6	15.8	47.8	57.7	15.9	47.8	58.1	15.8
AP Revolution	47.8	42.3	51.1	59.6	15.6	47.3	58.5	15.9	47.5	58.7	15.6
Surpass	47.7	42.6	49.1	59.3	16.2	46.3	58.1	16.2	46.8	59.2	15.9
CAG Justify	-	**46.2**	**55.3**	56.8	15.1	**51.4**	55.9	15.5	-	-	-
CAG Reckless	-	**46.3**	**54.4**	59.4	15.6	**50.9**	58.8	15.8	-	-	-
MS Charger	-	**46.1**	54.1	59.0	14.2	50.7	58.2	14.3	-	-	-
LCS Dual	-	44.2	**55.0**	59.5	14.8	50.3	58.3	15.2	-	-	-
LCS Ascent	-	45.6	52.3	59.8	15.2	49.4	58.9	15.3	-	-	-
LCS Boom	-	44.6	53.0	60.7	16.3	49.4	59.5	16.3	-	-	-
LCS Hammer AX	-	42.6	51.1	58.5	15.4	47.5	57.4	15.6	-	-	-
MN-Torgy	-	-	**57.1**	59.8	15.7	-	-	-	-	-	-
ND Heron	-	-	51.0	60.1	16.4	-	-	-	-	-	-
PFS Buns	-	-	49.7	54.3	15.4	-	-	-	-	-	-
CP3188	-	-	49.3	57.6	14.2	-	-	-	-	-	-
WB9590	-	-	49.0	58.4	16.8	-	-	-	-	-	-
CAG Recoil	-	-	48.9	56.7	15.5	-	-	-	-	-	-
AP Venom	-	-	46.5	56.1	15.7	-	-	-	-	-	-
Trial Average#	53.8	45.3	52.3	58.9	15.4	49.8	58.0	15.5	51.4	59.1	15.3
LSD(0.05)†	2.6	1.7	3.0	0.5	0.3	1.9	0.3	0.2	1.5	0.3	0.2
C.V.%‡	6.9	4.7	8.4	-	-	7.2	-	-	6.9	-	-

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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2023 South Dakota Spring Wheat Variety Trial Results Regional Summaries

Table 4. 2023 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 boldfaced and shaded light blue.

Variety	2021	2022	2023			2-year			3-year		
	Yield (bu/a)	Yield (bu/a)	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %
LCS Trigger	**44.3**	**64.4**	**73.7**	59.8	12.7	**69.0**	60.2	13.3	**60.8**	60.1	13.8
LCS Buster	**45.3**	**62.3**	**72.4**	57.4	12.8	**67.3**	57.9	13.2	**60.0**	58.3	13.7
SY Valda	**41.6**	**60.3**	**69.2**	58.7	14.5	**64.7**	59.3	14.7	**57.0**	59.7	15.1
Brawn-SD	40.9	**61.7**	67.6	60.1	14.1	**64.7**	60.7	14.2	**56.8**	60.9	14.4
CP3099A	**44.5**	53.8	**70.1**	57.1	12.7	62.0	56.9	13.4	**56.1**	57.1	13.7
Driver	**41.1**	58.0	**69.1**	59.1	14.7	**63.5**	60.0	14.9	**56.1**	60.4	15.3
Ascend-SD	39.3	**60.8**	67.5	59.1	15.3	**64.1**	59.6	15.2	55.9	59.7	15.6
WB9606	39.8	58.4	**68.4**	58.7	14.2	**63.4**	59.3	14.3	55.6	59.7	14.8
AP Gunsmoke CL2	**41.5**	58.0	63.3	58.7	15.9	60.6	59.2	15.7	54.3	59.3	16.1
WB9719	39.1	55.4	**67.8**	59.6	14.8	61.6	60.1	14.9	54.1	60.4	15.8
LCS Cannon	39.1	**58.7**	62.7	60.3	15.4	60.7	60.5	15.4	53.5	60.8	15.8
MN-Rothsay	35.8	56.0	**68.2**	59.0	14.6	62.1	59.3	14.9	53.3	59.5	15.5
AP Revolution	36.4	**58.6**	61.6	59.3	15.8	60.1	59.6	15.6	52.2	59.7	15.9
MS Cobra	35.2	55.4	64.5	58.6	14.9	59.9	58.8	15.1	51.7	59.0	15.7
AP Murdock	33.5	57.7	60.7	58.0	15.0	59.2	58.7	15.1	50.6	58.9	15.7
Surpass	34.0	56.5	60.0	58.4	15.6	58.3	58.8	15.5	50.2	59.4	16.1
Prevail	32.0	56.0	59.9	58.4	15.3	57.9	59.0	15.1	49.3	59.0	15.8
MS Charger	-	**62.7**	66.7	58.6	13.5	**64.7**	58.8	13.6	-	-	-
CAG Justify	-	**59.9**	66.3	57.1	13.8	63.1	57.6	14.2	-	-	-
LCS Dual	-	57.8	65.6	59.0	14.4	61.7	59.3	14.6	-	-	-
LCS Ascent	-	58.3	64.8	59.0	14.9	61.5	59.5	14.8	-	-	-
CAG Reckless	-	**58.5**	63.5	59.0	15.1	61.0	59.7	15.2	-	-	-
LCS Hammer AX	-	55.4	64.8	57.9	15.1	60.1	58.4	15.2	-	-	-
LCS Boom	-	55.5	60.5	59.9	15.6	57.6	60.2	15.6	-	-	-
MN-Torgy	-	-	**70.8**	59.4	14.5	-	-	-	-	-	-
PFS Buns	-	-	**70.4**	56.3	13.2	-	-	-	-	-	-
CP3188	-	-	67.3	57.7	13.6	-	-	-	-	-	-
CAG Recoil	-	-	66.1	57.8	14.6	-	-	-	-	-	-
WB9590	-	-	61.0	57.9	16.5	-	-	-	-	-	-
ND Heron	-	-	60.4	59.1	15.9	-	-	-	-	-	-
AP Venom	-	-	55.1	55.3	14.6	-	-	-	-	-	-
Trial Average#	37.9	58.4	65.3	58.6	14.7	62.2	59.1	14.8	54.6	59.5	15.2
LSD(0.05)†	1.9	1.4	3.0	0.4	0.5	1.7	0.3	0.3	1.4	0.3	0.2
C.V.%‡	6.9	3.4	6.6	-	-	5.8	-	-	6.2	-	-

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.

SOUTH DAKOTA STATE UNIVERSITY EXTENSION

2023 South Dakota Spring Wheat Variety Trial Results Regional Summaries

Table 5. 2023 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 boldfaced and shaded light blue.

Variety	2021	2022	2023			2-year			3-year		
	Yield (bu/a)	Yield (bu/a)	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %	Yield (bu/a)	Test Wt (lbs)	Protein %
LCS Cannon	**45.0**	**55.1**	56.5	59.4	15.9	**55.7**	58.7	15.0	**51.7**	59.4	15.6
Brawn-SD	**46.0**	49.6	61.3	59.4	15.5	54.2	58.8	14.7	**51.1**	60.0	15.3
WB9606	**41.3**	**55.2**	58.2	58.1	15.8	**56.4**	57.0	14.6	**50.7**	58.2	15.3
LCS Trigger	**42.6**	51.2	61.2	57.1	15.4	55.2	56.4	14.6	**50.5**	57.7	15.3
Ascend-SD	**41.3**	**52.0**	**61.6**	58.1	15.8	**55.8**	57.7	15.4	**50.4**	58.8	16.0
SY Valda	41.1	51.8	60.5	57.5	16.1	**55.3**	56.7	15.2	**50.0**	57.9	15.8
LCS Buster	37.8	51.2	**65.0**	55.2	15.0	**56.7**	53.9	14.2	49.6	55.7	15.1
Prevail	**42.3**	48.1	**62.0**	57.6	15.2	53.6	57.1	14.7	49.4	57.8	15.4
MN-Rothsay	39.1	48.9	**64.8**	57.7	15.5	**55.3**	57.3	15.0	49.2	58.4	15.8
Surpass	41.1	50.8	57.3	57.4	16.3	53.4	56.6	15.2	48.8	57.4	15.9
AP Gunsmoke CL2	40.3	50.4	58.8	57.5	16.2	53.8	56.8	15.7	48.7	57.7	16.4
MS Cobra	40.3	47.9	**62.3**	58.1	15.9	53.6	57.6	15.2	48.6	57.9	15.9
Driver	39.4	47.9	58.9	57.4	15.5	52.3	57.4	14.8	47.4	58.0	15.4
AP Murdock	35.5	50.7	59.0	57.8	16.0	54.0	57.2	15.4	47.1	57.4	16.1
WB9719	37.2	**52.6**	51.3	57.6	15.6	52.1	57.7	14.9	46.5	58.4	15.5
AP Revolution	36.5	45.3	55.3	59.0	15.7	49.3	57.6	15.2	44.5	57.2	15.8
CP3099A	33.8	**51.9**	40.3	56.2	15.7	47.3	53.6	14.7	42.2	55.1	15.4
LCS Boom	-	**52.1**	**65.4**	59.0	15.5	**57.4**	58.5	14.9	-	-	-
MS Charger	-	50.5	**64.6**	58.0	15.3	**56.1**	57.1	14.2	-	-	-
LCS Ascent	-	**52.3**	57.0	58.0	15.3	54.2	57.8	14.7	-	-	-
CAG Justify	-	**53.0**	55.9	56.5	16.0	54.2	55.4	15.2	-	-	-
CAG Reckless	-	50.5	58.0	57.7	15.4	53.5	57.8	14.8	-	-	-
LCS Hammer AX	-	51.2	54.4	56.8	15.3	52.5	56.4	14.6	-	-	-
LCS Dual	-	49.9	50.4	57.7	15.4	50.1	57.3	14.5	-	-	-
MN-Torgy	-	-	**64.3**	57.8	15.3	-	-	-	-	-	-
CAG Recoil	-	-	**63.9**	55.8	15.3	-	-	-	-	-	-
ND Heron	-	-	**63.3**	58.5	15.4	-	-	-	-	-	-
AP Venom	-	-	58.5	54.8	16.0	-	-	-	-	-	-
PFS Buns	-	-	56.1	54.2	15.8	-	-	-	-	-	-
CP3188	-	-	53.9	57.0	15.5	-	-	-	-	-	-
WB9590	-	-	52.4	57.8	16.2	-	-	-	-	-	-
Trial Average#	40.3	50.6	57.1	57.5	15.7	53.5	56.9	15.0	48.5	57.8	15.6
LSD(0.05)†	3.2	3.9	5.3	1.0	0.9	3.1	0.6	0.4	2.2	0.9	0.4
C.V.%‡	9.7	9.6	9.6	-	-	9.2	-	-	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.