



**SOUTH DAKOTA  
STATE UNIVERSITY**  
College of Agriculture, Food  
and Environmental Sciences

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

# 2024 South Dakota Winter Wheat Variety Trial Results Brookings

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**Cooperator:** SDSU Farm Department, Jack Ingemansen, manger.

**Location:** 44.40764°, -96.78792°

**Soil Type:** Barnes clay loams, 2-6% slopes

**Previous crop:** oats

**Tillage:** no-till

**Row spacing:** 8"

**Seeding Rate:** 1.2 million PLS/acre

**Fertilizer:**

- Starter: 90 lbs/acre 30-10-10
- Other: 50 lbs/acre of N as UAN in fall and 101.5 lbs/acre of N as UAN in spring applied as liquid broadcast

**Herbicide:**

- Burndown: 36 oz/acre Tomahawk + 27 oz/acre 2,4-D
- Post: 1.5 pts/acre Bison and 24 oz Prowl H2O

**Fungicide:** 6.5 oz Prosaro at flowering (Feekes 10.5.1)

**Date seeded:** 9/19/2023

**Date harvested:** 7/26/2024

## Notes:

- This trial location is set up with a split-plot design. All varieties are tested without (Table 1) and with (Table 2) fungicide.

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Table 1. Performance trial results for winter wheat varieties (average of 4 replications) conducted in 2024 at Brookings, SD. Entries are sorted by overall 3-year yield. Varieties yielding in the top 1/3 of the trial are bold and shaded light blue.

Variety	Height (inches)	Lodging* (1-5)	Test Wt (lbs)	Protein %	2022 (bu/a)#	2023 (bu/a)	2024 (bu/a)	2-year (bu/a)	3-year (bu/a)
SD Midland	39.5	2.0	58.3	12.8	<b>72.0</b>	<b>75.3</b>	<b>86.8</b>	<b>81.1</b>	<b>78.0</b>
Winner	37.3	1.8	58.4	13.5	69.2	72.0	<b>89.8</b>	<b>80.9</b>	<b>77.0</b>
SD Andes	35.8	1.3	59.5	13.3	63.3	<b>75.7</b>	<b>89.1</b>	<b>82.4</b>	<b>76.0</b>
CP7266AX	37.8	1.8	57.8	13.5	67.5	67.9	<b>88.8</b>	<b>78.4</b>	<b>74.8</b>
WB4510CLP	37.8	1.0	57.9	13.0	59.6	73.0	<b>89.8</b>	<b>81.4</b>	<b>74.1</b>
Draper	35.3	1.0	57.9	13.4	69.5	66.1	<b>85.9</b>	<b>76.0</b>	<b>73.8</b>
WB4309	38.0	2.0	54.1	15.1	<b>72.4</b>	<b>75.0</b>	69.2	72.1	<b>72.2</b>
CP7869	35.5	2.5	58.0	14.0	63.1	65.0	<b>86.9</b>	<b>76.0</b>	71.7
LCS Helix AX	37.5	1.8	57.9	12.9	<b>70.8</b>	69.1	73.8	71.4	71.2
AP Clair	34.0	1.0	56.3	12.8	<b>72.6</b>	71.0	69.5	70.3	71.0
MS Maverick	37.3	2.3	57.7	13.4	62.7	<b>74.3</b>	75.3	74.8	70.7
Crescent AX	36.3	1.8	57.2	12.6	68.6	69.8	72.7	71.2	70.4
WB4422	36.8	1.5	52.9	13.2	<b>72.4</b>	<b>75.7</b>	62.6	69.1	70.2
Byrd CL Plus	39.0	2.0	55.0	12.9	65.5	<b>78.1</b>	66.6	72.3	70.0
CP7017AX	33.5	1.3	55.6	12.8	<b>73.8</b>	64.6	67.6	66.1	68.7
CP7909	36.8	2.8	55.9	12.8	<b>69.6</b>	<b>73.1</b>	61.3	67.2	68.0
SY Wolverine	33.0	1.5	52.9	13.4	<b>74.0</b>	68.8	59.6	64.2	67.5
SD Pheasant	36.3	3.0	54.7	12.2	68.1	<b>80.1</b>	53.8	67.0	67.4
AP Bigfoot	35.0	1.0	54.9	12.6	65.8	67.6	67.2	67.4	66.9
LCS Chrome	38.0	1.3	56.3	13.8	61.9	64.7	73.7	69.2	66.7
Ideal	37.5	1.8	55.8	12.7	62.8	69.4	63.9	66.6	65.4
Kivari AX	36.0	3.0	52.9	12.3	60.6	67.7	57.5	62.6	61.9
Expedition	38.3	1.8	54.1	12.4	60.9	64.9	52.9	58.9	59.6
MS Sundown	37.0	2.0	58.4	12.7	-	69.1	<b>86.7</b>	<b>77.9</b>	-
SY Wolf	34.5	1.0	55.3	13.1	-	68.6	63.9	66.2	-
LCS Warbird AX	35.5	2.0	59.3	13.7	-	-	<b>90.7</b>	-	-
AP 24AX	38.3	1.0	57.4	12.5	-	-	<b>87.8</b>	-	-
LCS Missile	33.3	1.0	52.7	13.8	-	-	71.9	-	-
CO18042RA	35.5	2.0	54.8	12.8	-	-	69.2	-	-
LCS Julep	36.0	1.5	55.5	13.1	68.8	-	67.8	-	-
LCS Jet	31.3	1.0	51.1	14.2	-	-	67.0	-	-
21Nord-160	33.8	1.3	51.1	13.5	-	-	48.2	-	-
<b>Trial Average#</b>	36.2	1.6	55.6	13.2	67.1	72.0	71.0	71.7	70.1
<b>LSD (0.05) †</b>	1.7	-	1.3	0.3	3.2	7.0	5.6	-	-
<b>C.V. %‡</b>	3.3	-	1.6	1.6	3.4	7.0	5.7	-	-

\* Lodging score: 1, perfectly standing; to 5, completely flat.

# Corrected to 13% moisture. Note: 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 2. 2024 winter wheat variety performance trial results with fungicide (average of 4 replications) at Brookings, SD. Entries are sorted by overall 3-year yield. Varieties yielding in the top 1/3 of the trial are bold and shaded light blue.

Variety	Height (inches)	Lodging* (1-5)	Test Wt (lbs)	Protein %	2022 (bu/a)#	2023 (bu/a)	2024 (bu/a)	2-year (bu/a)	3-year (bu/a)
Winner	not reported	not reported	58.8	13.5	<b>70.6</b>	<b>86.5</b>	<b>93.3</b>	<b>89.9</b>	<b>83.5</b>
SD Andes			60.0	13.3	67.3	<b>83.3</b>	<b>91.9</b>	<b>87.6</b>	<b>80.8</b>
SD Midland	-	-	59.5	13.4	67.4	74.4	<b>96.1</b>	<b>85.3</b>	<b>79.3</b>
Draper	-	-	58.6	13.3	<b>68.4</b>	73.4	<b>93.1</b>	<b>83.2</b>	<b>78.3</b>
WB4510CLP	-	-	59.0	12.9	59.4	<b>79.0</b>	<b>96.2</b>	<b>87.6</b>	<b>78.2</b>
WB4422	-	-	56.6	13.2	<b>74.5</b>	<b>81.6</b>	76.5	79.0	<b>77.5</b>
WB4309	-	-	56.2	15.0	<b>70.1</b>	<b>82.0</b>	78.9	<b>80.4</b>	<b>77.0</b>
CP7266AX	-	-	57.5	13.6	63.1	78.8	<b>88.4</b>	<b>83.6</b>	76.8
CP7869	-	-	57.7	13.8	63.9	73.7	<b>89.9</b>	<b>81.8</b>	75.8
AP Clair	-	-	57.6	12.5	<b>72.0</b>	76.0	76.6	76.3	74.9
SD Pheasant	-	-	56.7	12.7	67.9	84.6	70.7	77.7	74.4
LCS Helix AX	-	-	58.5	12.9	<b>69.7</b>	68.1	85.0	76.5	74.3
CP7909	-	-	56.9	13.0	<b>68.9</b>	<b>79.1</b>	73.6	76.4	73.9
CP7017AX	-	-	57.4	12.6	68.0	74.5	78.7	76.6	73.7
SY Wolverine	-	-	56.2	13.3	<b>71.2</b>	75.0	74.8	74.9	73.7
Crescent AX	-	-	57.5	12.8	67.1	71.3	79.2	75.3	72.5
MS Maverick	-	-	57.0	13.4	63.8	74.8	74.9	74.9	71.2
LCS Chrome	-	-	56.8	14.0	62.5	71.3	79.1	75.2	70.9
Byrd CL Plus	-	-	56.0	12.9	66.6	73.1	72.4	72.7	70.7
Ideal	-	-	58.1	12.4	62.1	71.5	77.5	74.5	70.4
Kivari AX	-	-	54.4	12.6	61.7	<b>79.8</b>	66.2	73.0	69.2
AP Bigfoot	-	-	56.9	12.3	66.5	64.3	74.8	69.6	68.6
Expedition	-	-	55.9	12.5	60.1	66.8	63.8	65.3	63.6
MS Sundown	-	-	59.2	12.6	-	67.3	<b>88.9</b>	78.1	-
SY Wolf	-	-	57.4	12.7	-	77.6	74.9	76.2	-
LCS Warbird AX	-	-	59.7	13.8	-	-	<b>92.7</b>	-	-
AP 24AX	-	-	58.2	12.8	-	-	<b>92.7</b>	-	-
LCS Missile	-	-	54.7	13.7	-	-	83.5	-	-
LCS Julep	-	-	58.9	13.2	66.6	-	82.4	-	-
CO18042RA	-	-	56.1	12.8	-	-	80.2	-	-
LCS Jet	-	-	51.0	14.5	-	-	69.1	-	-
21Nord-160	-	-	52.0	13.1	-	-	59.6	-	-
<b>Trial Average#</b>	-	-	56.9	13.1	66.4	77.0	79.8	78.6	74.3
<b>LSD (0.05) †</b>	-	-	1.3	0.3	3.1	9.2	5.8	-	-
<b>C.V. %‡</b>	-	-	1.6	1.5	3.3	8.5	5.2	-	-

\* Lodging score: 1, perfectly standing; to 5, completely flat.

# Corrected to 13% moisture. Note: Trial averages may include values from experimental lines that are not reported.

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