



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

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

# 2021 South Dakota Winter Wheat Variety Trial Results Brookings

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**Cooperator:** SDSU Farm Department, Jack Ingemansen, Manager.  
**Location:** 44.364022°, -96.794327°  
**Soil Type:** Kranzburg-Brookings silty clay loams, 0-2% 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: 50-0-0 fall applied as UAN, 56-0-0 spring applied as UAN  
**Herbicide:**  
-Burndown: 36 oz/acre Tomahawk + 27 oz/acre 2,4-D  
-Post: 1 pt/acre Maestro Advanced  
**Fungicide:** 6.5 oz/acre Prosaro at flowering (Feekes 10.5.1)  
**Date seeded:** 9/21/2020  
**Date harvested:** 7/20/2021  
**Notes:** This trial location is set up with a split-plot design. All varieties are tested without (Table 1) and with (Table 2) fungicide.



## 2021 South Dakota Winter Wheat Variety Trial Results Brookings

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Table 1. 2021 winter wheat variety performance trial results (average of four replications) at Brookings, South Dakota. Entries are sorted by overall two-year yield. Varieties yielding in the top third of the trial are shaded light blue.

Variety	Height (in)	Lodging* (1-5)	Test Wt (lbs)	Protein (%)#	2019 (bu/a)#	2020 (bu/a)	2021 (bu/a)	2-year§ (bu/a)
Winner	31.8	1.0	60.8	11.4	no data	93.9	90.2	92.1
WB4462	33.8	1.5	61.9	11.3	-	90.4	90.5	90.4
LCS Helix AX	28.0	1.3	62.1	11.4	-	90.9	88.5	89.7
Oahe	34.5	1.0	62.5	11.4	-	89.5	89.8	89.7
Cowboy	31.5	1.0	61.5	11.2	-	90.9	87.5	89.2
WB4309	32.0	1.3	60.9	11.6	-	89.7	88.8	89.2
SD Andes	32.0	1.0	62.4	10.9	-	87.9	89.5	88.7
CP7017AX	29.5	1.3	60.4	11.0	-	88.1	89.1	88.6
CP7909	29.3	1.3	61.7	11.3	-	90.7	86.5	88.6
Redfield	32.3	1.0	61.8	12.2	-	88.3	87.0	87.6
Overland	33.5	1.0	62.4	11.4	-	88.4	86.3	87.4
Draper	31.8	1.0	61.1	11.9	-	87.9	85.1	86.5
Ideal	30.0	1.0	62.2	11.4	-	84.8	88.2	86.5
AP 18AX	29.3	1.0	60.4	11.4	-	88.6	83.6	86.1
Guardian	31.5	1.8	61.7	11.1	-	85.4	86.9	86.1
Langin	28.8	1.0	61.7	11.3	-	89.8	82.4	86.1
SY Wolverine	28.5	1.0	60.9	12.3	-	85.0	87.1	86.0
ND Noreen	34.8	1.0	63.3	12.3	-	83.7	86.4	85.0
Crescent AX	29.3	1.0	61.7	12.0	-	91.2	76.3	83.8
Expedition	32.8	1.5	61.9	12.1	-	87.1	77.5	82.3
Thompson	33.8	1.0	61.2	11.8	-	79.6	81.2	80.4
CP7050AX	31.5	1.0	62.2	13.0	-	86.9	73.2	80.1
SY 517 CL2	27.8	1.0	62.4	12.0	-	84.5	69.6	77.0
LCS Steel AX	32.3	1.0	61.0	10.9	-	-	92.5	-
AP Clair	30.5	1.0	61.2	11.7	-	-	90.5	-
AP Bigfoot	29.8	1.0	60.7	11.8	-	-	87.8	-
Whistler	33.3	1.8	61.1	11.1	-	-	86.9	-
LCS Chrome	34.3	1.0	60.7	12.4	-	-	86.3	-
CP7869	30.5	1.3	61.2	10.9	-	-	83.6	-
LCS Julep	29.8	1.3	63.5	12.6	-	-	83.0	-
MS Iceman	29.0	1.0	62.9	12.9	-	-	82.1	-
LCS Photon AX	30.5	1.0	62.0	12.8	-	-	81.8	-
<b>Trial Average¶</b>	31.5	1.1	61.7	11.8	-	87.5	86.1	86.5
<b>LSD (0.05)†</b>	-	-	0.9	0.8	-	5.0	8.3	-
<b>C.V. %‡</b>	-	-	1.0	4.8	-	4.1	6.9	-

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

# Grain yield and grain protein content are corrected to 13% moisture.

§ Three-year yields are not reported as the location was not harvested in 2019.

¶ 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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**2021 South Dakota  
Winter Wheat Variety Trial Results  
Brookings with fungicide**

Table 2. 2021 winter wheat variety performance trial results (average of four replications) at Brookings, South Dakota. Entries are sorted by overall two-year yield. Varieties yielding in the top third of the trial are shaded light blue.

Variety	Height (in)	Lodging* (1-5)	Test Wt (lbs)	Protein %	2019 (bu/a)	2020 (bu/a)	2021 (bu/a)	2-year§ (bu/a)
Winner	not reported	not reported	62.3	12.0	no data	95.5	93.8	94.7
Cowboy	reported	reported	62.0	12.2	-	92.4	93.6	93.0
SD Andes	-	-	62.8	12.0	-	91.1	94.3	92.7
WB4462	-	-	62.7	11.8	-	92.4	91.5	91.9
Thompson	-	-	61.9	11.5	-	85.4	98.0	91.7
Redfield	-	-	62.5	12.1	-	91.5	91.8	91.6
WB4309	-	-	62.3	12.2	-	93.1	88.1	90.6
Guardian	-	-	63.0	12.3	-	91.9	87.9	89.9
Oahe	-	-	62.5	12.4	-	87.1	92.2	89.7
SY Wolverine	-	-	62.6	12.0	-	89.9	89.3	89.6
Draper	-	-	62.2	12.4	-	89.6	88.8	89.2
Ideal	-	-	62.9	11.6	-	86.0	92.3	89.2
CP7017AX	-	-	62.1	10.6	-	89.1	88.8	88.9
Overland	-	-	62.4	11.8	-	88.9	88.7	88.8
Langin	-	-	62.2	11.3	-	91.0	85.4	88.2
ND Noreen	-	-	63.0	12.2	-	81.0	94.3	87.6
CP7909	-	-	62.2	11.0	-	92.8	82.4	87.6
AP 18AX	-	-	61.7	12.9	-	90.1	83.7	86.9
LCS Helix AX	-	-	62.8	11.6	-	89.9	82.4	86.2
Crescent AX	-	-	62.3	12.1	-	92.6	77.5	85.1
CP7050AX	-	-	62.8	11.4	-	89.7	77.4	83.5
Expedition	-	-	62.7	11.9	-	82.0	79.3	80.7
SY 517 CL2	-	-	63.2	12.5	-	84.7	73.0	78.9
AP Clair	-	-	62.3	12.1	-	-	97.8	-
Whistler	-	-	62.6	11.2	-	-	94.8	-
CP7869	-	-	62.0	12.8	-	-	94.1	-
LCS Steel AX	-	-	61.3	12.9	-	-	92.9	-
AP Bigfoot	-	-	62.0	12.2	-	-	90.5	-
LCS Julep	-	-	64.2	11.5	-	-	83.9	-
MS Iceman	-	-	63.9	10.9	-	-	79.6	-
LCS Chrome	-	-	61.8	11.5	-	-	79.3	-
LCS Photon AX	-	-	63.0	12.5	-	-	75.3	-
<b>Trial Average#</b>	-	-	62.4	11.9	-	88.5	88.7	88.6
<b>LSD (0.05)†</b>	-	-	0.5	0.5	-	4.9	8.1	-
<b>C.V. %‡</b>	-	-	0.6	3.3	-	3.9	6.5	-

\* Lodging score: 1, perfectly standing; to 5, completely flat.  
 # Grain yield and grain protein content are corrected to 13% moisture.  
 § Three-year yields are not reported as the location was not harvested in 2019.  
 ¶ 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.  
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