



# 2020 South Dakota Winter Wheat Variety Trial Results Brookings

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

**Location:** 44.363878°, -96.790808°

**Soil Type:** Vienna-Brookings complex, 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, 80-60-40-30S spring applied granular broadcast

**Herbicide:**

- Burndown: 36 oz/acre Tomahawk + 27 oz/acre 2,4-D
- Post: 1 pt/acre Bronate + 1 pt/acre Goldsky applied 5/11/20

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

**Date seeded:** 9/20/2019

**Date harvested:** 7/20/2020

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

Table 1. 2020 winter wheat variety performance trial results (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 shaded light blue.

Variety	Height (in)	Lodging* (1-5)	Test Wt (lbs)	Protein %	2018 (bu/a)	2019 (bu/a)	2020 (bu/a)	3-year§ (bu/a)
Keldin	35	1.0	60.5	10.5	75.9	-	96.3	86.1
Winner	33	1.3	59.7	10.7	73.6	-	93.9	83.7
WB4462	36	1.5	60.4	11.1	75.9	-	90.4	83.1
Langin	33	2.3	59.5	10.1	75.5	-	89.8	82.6
Cowboy	34	2.5	59.5	10.2	72.3	-	90.9	81.6
Oahe	38	2.5	61.3	11.1	73.2	-	89.5	81.4
Ideal	35	1.3	58.9	11.2	77.9	-	84.8	81.4
Redfield	33	1.0	59.7	11.1	73.0	-	88.3	80.7
SY Sunrise	32	1.3	57.9	10.6	73.8	-	86.9	80.4
SY Monument	34	1.0	57.8	10.6	72.2	-	87.5	79.8
Draper	34	1.0	58.3	11.8	67.6	-	87.9	77.8
Overland	37	2.0	61.2	11.2	65.0	-	88.4	76.7
Expedition	38	2.5	60.4	11.9	63.3	-	87.1	75.2
SY 517 CL2	33	1.5	62.0	11.2	65.6	-	84.5	75.0
Thompson	37	1.3	60.0	10.3	69.3	-	79.6	74.5
WB-Grainfield	34	1.5	61.3	10.8	59.6	-	88.6	74.1
Crescent AX	35	2.3	61.4	11.5	-	-	91.2	-
LCS Helix AX	34	2.0	61.3	10.8	-	-	90.9	-
CP7909	34	2.8	59.8	10.5	-	-	90.7	-
WB4309	35	1.8	59.1	12.5	-	-	89.7	-
AP 18AX	35	1.5	58.8	10.6	-	-	88.6	-
NE14696	37	2.3	61.1	11.4	-	-	88.2	-
CP7017CA	33	1.8	58.2	10.5	-	-	88.1	-
NW13493	33	2.3	61.1	11.1	-	-	88.0	-
LCS Diesel	34	1.8	60.3	11.1	-	-	88.0	-
WB4595	32	1.3	61.4	10.8	-	-	87.5	-
CP7050CA	36	2.0	61.8	12.4	-	-	86.9	-
Guardian	35	1.5	60.9	10.4	-	-	85.4	-
Flathead	36	1.0	59.7	11.4	-	-	85.0	-
SY Wolverine	31	1.0	58.6	10.3	-	-	85.0	-
14NORD-1	36	1.3	62.7	11.6	-	-	83.7	-
CP7010	30	1.3	61.8	10.3	-	-	81.8	-
Northern	34	1.0	58.3	12.3	-	-	76.9	-
MTF 1435	42	1.0	56.8	12.3	-	-	68.6	-
<b>Trial Average#</b>	35	1.7	60.1	11.1	68.9	-	87.5	79.6
<b>LSD (0.05)†</b>	1.6	0.6	1.3	1.1	5.0	-	5.0	-
<b>C.V. %‡</b>	3.2	-	1.5	6.8	5.2	-	4.1	-

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

# Trial averages may include values from experimental lines that are not reported.

† Value required ( $\geq$ 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.

§ Reported 3-year yields are actually an average of 2018 and 2020 as the location was not harvested in 2019.

Table 2. 2020 winter wheat variety performance trial results (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 shaded light blue.

Variety	Height (in)	Lodging* (1-5)	Test Wt (lbs)	Protein %	2018 (bu/a)	2019 (bu/a)	2020 (bu/a)	3-year§ (bu/a)
Keldin	35	1.0	60.7	10.2	78.7	-	94.9	86.8
WB4462	36	1.5	60.9	11.2	79.7	-	92.4	86.0
Redfield	33	1.0	60.2	11.9	76.5	-	91.5	84.0
Winner	33	1.3	60.5	10.2	72.4	-	95.5	83.9
Cowboy	34	2.5	59.3	10.4	75.4	-	92.4	83.9
SY Sunrise	32	1.3	59.6	10.6	74.3	-	90.2	82.2
SY Monument	34	1.0	59.3	10.7	76.0	-	86.1	81.0
Draper	34	1.0	59.0	11.2	72.0	-	89.6	80.8
Ideal	35	1.3	58.2	10.5	73.5	-	86.0	79.8
Langin	33	2.3	59.9	10.7	68.0	-	91.0	79.5
Thompson	37	1.3	60.5	10.9	73.7	-	85.4	79.5
Oahe	38	2.5	62.0	11.3	71.6	-	87.1	79.4
Overland	37	2.0	61.5	11.0	67.8	-	88.9	78.4
SY 517 CL	33	1.5	61.3	11.0	61.6	-	84.7	73.2
WB-Grainfield	34	1.5	61.0	10.6	55.4	-	87.6	71.5
Expedition	38	2.5	61.2	11.1	60.0	-	82.0	71.0
WB4309	35	1.8	60.0	11.8	-	-	93.1	-
CP7909	34	2.8	59.7	10.7	-	-	92.8	-
Crescent AX	35	2.3	60.9	10.8	-	-	92.6	-
Guardian	35	1.5	60.7	10.8	-	-	91.9	-
AP 18AX	35	1.5	59.6	10.2	-	-	90.1	-
SY Wolverine	31	1.0	59.8	11.3	-	-	89.9	-
LCS Helix AX	34	2.0	61.5	10.6	-	-	89.9	-
CP7050CA	36	2.0	61.8	12.2	-	-	89.7	-
CP7017CA	33	1.8	58.6	10.5	-	-	89.1	-
LCS Diesel	34	1.8	60.0	11.3	-	-	88.5	-
WB4595	32	1.3	61.8	10.0	-	-	88.2	-
NE14696	37	2.3	60.2	10.6	-	-	88.2	-
Flathead	36	1.0	60.6	11.0	-	-	87.1	-
NW13493	33	2.3	61.1	10.8	-	-	86.5	-
CP7010	30	1.3	62.0	9.9	-	-	85.1	-
14NORD-1	36	1.3	62.5	11.4	-	-	81.0	-
Northern	34	1.0	59.7	11.7	-	-	80.7	-
MTF 1435	42	1.0	57.6	11.3	-	-	69.2	-
<b>Trial Average#</b>	35	1.7	60.5	10.9	70.4	-	88.5	80.1
<b>LSD (0.05)†</b>	1.6	0.6	1.1	1	5.7	-	4.9	-
<b>C.V. %‡</b>	3.2	-	1.3	6.8	5.7	-	3.9	-

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

# Trial averages may include values from experimental lines that are not reported.

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