

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

## 2023 South Dakota Spring Wheat Variety Trial Results Miller

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**Location:** 44.524030°, -98.781479°

Soil Type: Houdek-Prosper loams, 0-2% slopes

Previous crop: soybeans
Tillage: no-till
Row spacing: 8"

Seeding Rate: 1.8 million PLS/acre

Fertilizer:

-Starter: 90 lb/acre 30-10-10

-Other: 243 lb/acre 46-0-0 + 2 gal/acre Coron (applied with herbicide)

Herbicide:

-Burndown: none

-Post: 16 oz/acre WideMatch

Fungicide: 2 oz/acre Quilt (applied with herbicide) + 8 oz/acre Prosaro (at flowering)

**Date seeded:** 4/26/2023 **Date harvested:** 8/17/2023



## 2023 South Dakota Spring Wheat Variety Trial Results Miller

Table 1. 2023 spring wheat variety performance trial results (average of 4 replications) at Miller, SD.

Entries are sorted by overall 3-year yield. Varieties yielding in the top 1/3 of the trial are boldfaced and shaded light blue.

Cost   Cost	Verietr	Height	Lodging*	Test Wt	Protein	2021	2022	2023	2-year	3-year
Brawn-SD         24         1.8         59.7         13.9         24.0         59.1         63.5         61.3         48.9           LCS Trigger         25         2.5         59.6         12.9         24.2         53.9         66.7         60.3         48.3           Driver         27         2.3         58.7         14.9         28.0         52.3         61.6         56.9         47.3           SY Valda         24         2.3         58.2         15.2         26.6         55.4         57.9         56.7         46.6           Ascend-SD         27         2.8         58.0         15.3         21.5         56.6         58.0         57.3         45.4           LCS Cannon         23         1.5         59.9         16.1         21.7         60.0         54.1         57.0         45.2           CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6	Variety	(in)	(1-5)	(lbs)	%	(bu/a)#	(bu/a)	(bu/a)	(bu/a)	(bu/a)
LCS Trigger         25         2.5         59.6         12.9         24.2         53.9         66.7         60.3         48.3           Driver         27         2.3         58.7         14.9         28.0         52.3         61.6         56.9         47.3           SY Valda         24         2.3         58.2         15.2         26.6         55.4         57.9         56.7         46.6           Ascend-SD         27         2.8         58.0         15.3         21.5         56.6         58.0         57.3         45.4           LCS Cannon         23         1.5         59.9         16.1         21.7         60.0         54.1         57.0         45.2           CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5	LCS Buster	25	1.3	57.6	13.3	22.8	58.6	66.0	62.3	49.1
Driver   27	Brawn-SD	24	1.8	59.7	13.9	24.0	59.1	63.5	61.3	48.9
SY Valda         24         2.3         58.2         15.2         26.6         55.4         57.9         56.7         46.6           Ascend-SD         27         2.8         58.0         15.3         21.5         56.6         58.0         57.3         45.4           LCS Cannon         23         1.5         59.9         16.1         21.7         60.0         54.1         57.0         45.2           CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.	LCS Trigger	25	2.5	59.6	12.9	24.2	53.9	66.7	60.3	48.3
Ascend-SD         27         2.8         58.0         15.3         21.5         56.6         58.0         57.3         45.4           LCS Cannon         23         1.5         59.9         16.1         21.7         60.0         54.1         57.0         45.2           CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2<	Driver	27	2.3	58.7	14.9	28.0	52.3	61.6	56.9	47.3
LCS Cannon         23         1.5         59.9         16.1         21.7         60.0         54.1         57.0         45.2           CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0 <td>SY Valda</td> <td>24</td> <td>2.3</td> <td>58.2</td> <td>15.2</td> <td>26.6</td> <td>55.4</td> <td>57.9</td> <td>56.7</td> <td>46.6</td>	SY Valda	24	2.3	58.2	15.2	26.6	55.4	57.9	56.7	46.6
CP3099A         29         1.3         57.6         13.1         22.8         42.0         66.6         54.3         43.8           MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4	Ascend-SD	27	2.8	58.0	15.3	21.5	56.6	58.0	57.3	45.4
MS Cobra         25         2.5         58.5         13.9         21.5         53.3         56.3         54.8         43.7           WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5	LCS Cannon	23	1.5	59.9	16.1	21.7	60.0	54.1	57.0	45.2
WB9606         25         2.3         58.3         14.6         22.4         50.6         57.7         54.2         43.6           MN-Rothsay         24         2.0         58.8         14.5         22.2         49.0         58.2         53.6         43.1           AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13	CP3099A	29	1.3	57.6	13.1	22.8	42.0	66.6	54.3	43.8
MN-Rothsay       24       2.0       58.8       14.5       22.2       49.0       58.2       53.6       43.1         AP Gunsmoke CL2       24       2.3       58.3       16.9       21.0       52.5       53.3       52.9       42.3         AP Murdock       23       2.3       58.0       14.9       18.6       52.9       51.9       52.4       41.1         WB9719       27       1.0       58.5       16.2       17.4       50.9       55.0       52.9       41.1         Surpass       25       2.3       58.1       16.0       20.7       53.8       48.2       51.0       40.9         AP Revolution       23       1.5       59.0       16.4       21.0       52.9       48.1       50.5       40.7         Prevail       25       2.0       57.9       16.5       17.4       55.0       47.8       51.4       40.1         MS Charger       24       2.3       58.7       13.7       -       53.6       60.0       56.8       -         LCS Boom       23       2.3       59.6       16.0       -       55.4       54.5       55.0       -         LCS Hammer AX       22 </td <td>MS Cobra</td> <td>25</td> <td>2.5</td> <td>58.5</td> <td>13.9</td> <td>21.5</td> <td>53.3</td> <td>56.3</td> <td>54.8</td> <td>43.7</td>	MS Cobra	25	2.5	58.5	13.9	21.5	53.3	56.3	54.8	43.7
AP Gunsmoke CL2         24         2.3         58.3         16.9         21.0         52.5         53.3         52.9         42.3           AP Murdock         23         2.3         58.0         14.9         18.6         52.9         51.9         52.4         41.1           WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13.7         -         53.6         60.0         56.8         -           LCS Boom         23         2.3         59.6         16.0         -         55.4         54.5         55.0         -           LCS Hammer AX         22         2.5         57.2         15.7	WB9606	25	2.3	58.3	14.6	22.4	50.6	57.7	54.2	43.6
AP Murdock       23       2.3       58.0       14.9       18.6       52.9       51.9       52.4       41.1         WB9719       27       1.0       58.5       16.2       17.4       50.9       55.0       52.9       41.1         Surpass       25       2.3       58.1       16.0       20.7       53.8       48.2       51.0       40.9         AP Revolution       23       1.5       59.0       16.4       21.0       52.9       48.1       50.5       40.7         Prevail       25       2.0       57.9       16.5       17.4       55.0       47.8       51.4       40.1         MS Charger       24       2.3       58.7       13.7       -       53.6       60.0       56.8       -         LCS Boom       23       2.3       59.6       16.0       -       55.4       54.5       55.0       -         LCS Ascent       26       2.5       58.5       15.5       -       54.6       55.2       54.9       -         LCS Hammer AX       22       2.5       56.5       13.2       -       53.8       55.7       54.7       -         CAG Reckless       25       2	MN-Rothsay	24	2.0	58.8	14.5	22.2	49.0	58.2	53.6	43.1
WB9719         27         1.0         58.5         16.2         17.4         50.9         55.0         52.9         41.1           Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13.7         -         53.6         60.0         56.8         -           LCS Boom         23         2.3         59.6         16.0         -         55.4         54.5         55.0         -           LCS Ascent         26         2.5         58.5         15.5         -         54.6         55.2         54.9         -           LCS Hammer AX         22         2.5         57.2         15.7         -         54.4         55.3         54.9         -           CAG Justify         24         2.5         56.5         13.2         - </td <td>AP Gunsmoke CL2</td> <td>24</td> <td>2.3</td> <td>58.3</td> <td>16.9</td> <td>21.0</td> <td>52.5</td> <td>53.3</td> <td>52.9</td> <td>42.3</td>	AP Gunsmoke CL2	24	2.3	58.3	16.9	21.0	52.5	53.3	52.9	42.3
Surpass         25         2.3         58.1         16.0         20.7         53.8         48.2         51.0         40.9           AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13.7         -         53.6         60.0         56.8         -           LCS Boom         23         2.3         59.6         16.0         -         55.4         54.5         55.0         -           LCS Ascent         26         2.5         58.5         15.5         -         54.6         55.2         54.9         -           LCS Hammer AX         22         2.5         57.2         15.7         -         54.4         55.3         54.9         -           CAG Justify         24         2.5         56.5         13.2         -         53.8         55.7         54.7         -           CAG Reckless         25         2.3         58.4         15.4         - </td <td>AP Murdock</td> <td>23</td> <td>2.3</td> <td>58.0</td> <td>14.9</td> <td>18.6</td> <td>52.9</td> <td>51.9</td> <td>52.4</td> <td>41.1</td>	AP Murdock	23	2.3	58.0	14.9	18.6	52.9	51.9	52.4	41.1
AP Revolution         23         1.5         59.0         16.4         21.0         52.9         48.1         50.5         40.7           Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13.7         -         53.6         60.0         56.8         -           LCS Boom         23         2.3         59.6         16.0         -         55.4         54.5         55.0         -           LCS Ascent         26         2.5         58.5         15.5         -         54.6         55.2         54.9         -           LCS Hammer AX         22         2.5         57.2         15.7         -         54.4         55.3         54.9         -           CAG Justify         24         2.5         56.5         13.2         -         53.8         55.7         54.7         -           CAG Reckless         25         2.3         58.4         14.9         -         54.4         52.9         53.7         -           LCS Dual         24         2.0         58.4         15.4         -	WB9719	27	1.0	58.5	16.2	17.4	50.9	55.0	52.9	41.1
Prevail         25         2.0         57.9         16.5         17.4         55.0         47.8         51.4         40.1           MS Charger         24         2.3         58.7         13.7         -         53.6         60.0         56.8         -           LCS Boom         23         2.3         59.6         16.0         -         55.4         54.5         55.0         -           LCS Ascent         26         2.5         58.5         15.5         -         54.6         55.2         54.9         -           LCS Hammer AX         22         2.5         57.2         15.7         -         54.4         55.3         54.9         -           CAG Justify         24         2.5         56.5         13.2         -         53.8         55.7         54.7         -           CAG Reckless         25         2.3         58.8         14.9         -         54.4         52.9         53.7         -           LCS Dual         24         2.0         58.4         15.4         -         50.1         50.9         50.5         -           PFS Buns         26         1.0         56.9         12.8         -	Surpass	25	2.3	58.1	16.0	20.7	53.8	48.2	51.0	40.9
MS Charger       24       2.3       58.7       13.7       -       53.6       60.0       56.8       -         LCS Boom       23       2.3       59.6       16.0       -       55.4       54.5       55.0       -         LCS Ascent       26       2.5       58.5       15.5       -       54.6       55.2       54.9       -         LCS Hammer AX       22       2.5       57.2       15.7       -       54.4       55.3       54.9       -         CAG Justify       24       2.5       56.5       13.2       -       53.8       55.7       54.7       -         CAG Reckless       25       2.3       58.8       14.9       -       54.4       52.9       53.7       -         LCS Dual       24       2.0       58.4       15.4       -       50.1       50.9       50.5       -         PFS Buns       26       1.0       56.9       12.8       -       -       73.6       -       -       -	AP Revolution	23	1.5	59.0	16.4	21.0	52.9	48.1	50.5	40.7
LCS Boom       23       2.3       59.6       16.0       -       55.4       54.5       55.0       -         LCS Ascent       26       2.5       58.5       15.5       -       54.6       55.2       54.9       -         LCS Hammer AX       22       2.5       57.2       15.7       -       54.4       55.3       54.9       -         CAG Justify       24       2.5       56.5       13.2       -       53.8       55.7       54.7       -         CAG Reckless       25       2.3       58.8       14.9       -       54.4       52.9       53.7       -         LCS Dual       24       2.0       58.4       15.4       -       50.1       50.9       50.5       -         PFS Buns       26       1.0       56.9       12.8       -       -       73.6       -       -	Prevail	25	2.0	57.9	16.5	17.4	55.0	47.8	51.4	40.1
LCS Ascent       26       2.5       58.5       15.5       -       54.6       55.2       54.9       -         LCS Hammer AX       22       2.5       57.2       15.7       -       54.4       55.3       54.9       -         CAG Justify       24       2.5       56.5       13.2       -       53.8       55.7       54.7       -         CAG Reckless       25       2.3       58.8       14.9       -       54.4       52.9       53.7       -         LCS Dual       24       2.0       58.4       15.4       -       50.1       50.9       50.5       -         PFS Buns       26       1.0       56.9       12.8       -       -       73.6       -       -	MS Charger	24	2.3	58.7	13.7	_	53.6	60.0	56.8	-
LCS Hammer AX     22     2.5     57.2     15.7     -     54.4     55.3     54.9     -       CAG Justify     24     2.5     56.5     13.2     -     53.8     55.7     54.7     -       CAG Reckless     25     2.3     58.8     14.9     -     54.4     52.9     53.7     -       LCS Dual     24     2.0     58.4     15.4     -     50.1     50.9     50.5     -       PFS Buns     26     1.0     56.9     12.8     -     -     73.6     -     -	LCS Boom	23	2.3	59.6	16.0	-	55.4	54.5	55.0	-
CAG Justify     24     2.5     56.5     13.2     -     53.8     55.7     54.7     -       CAG Reckless     25     2.3     58.8     14.9     -     54.4     52.9     53.7     -       LCS Dual     24     2.0     58.4     15.4     -     50.1     50.9     50.5     -       PFS Buns     26     1.0     56.9     12.8     -     -     73.6     -     -	LCS Ascent	26	2.5	58.5	15.5	_	54.6	55.2	54.9	_
CAG Reckless     25     2.3     58.8     14.9     -     54.4     52.9     53.7     -       LCS Dual     24     2.0     58.4     15.4     -     50.1     50.9     50.5     -       PFS Buns     26     1.0     56.9     12.8     -     -     73.6     -     -	LCS Hammer AX	22	2.5	57.2	15.7	_	54.4	55.3	54.9	-
LCS Dual         24         2.0         58.4         15.4         -         50.1         50.9         50.5         -           PFS Buns         26         1.0         56.9         12.8         -         -         73.6         -         -	CAG Justify	24	2.5	56.5	13.2	-	53.8	55.7	54.7	-
PFS Buns 26 1.0 56.9 12.8 <b>73.6</b>	CAG Reckless	25	2.3	58.8	14.9	_	54.4	52.9	53.7	-
	LCS Dual	24	2.0	58.4	15.4	_	50.1	50.9	50.5	-
MN-Torgy 24 2.5 58.6 14.6 64.8	PFS Buns	26	1.0	56.9	12.8	-	-	73.6	-	-
1	MN-Torgy	24	2.5	58.6	14.6	_	-	64.8	-	-
CAG Recoil 23 1.3 57.8 14.0 <b>59.8</b>	CAG Recoil	23	1.3	57.8	14.0	-	-	59.8	-	-
CP3188 26 3.0 57.8 13.3 <b>58.4</b>	CP3188	26	3.0	57.8	13.3	-	-	58.4	-	-
ND Heron 27 2.5 58.4 16.8 48.8	ND Heron	27	2.5	58.4	16.8	_	_	48.8	_	_
WB9590   22   1.0   57.3   17.7   -   -   47.4   -   -	WB9590	22		57.3	17.7	_	_	47.4	_	-
AP Venom 22 1.3 55.0 15.2 42.6	AP Venom	22	1.3		15.2	-	-		-	-
Trial Average# 25 2.1 58.2 15.0 21.2 52.6 55.7 55.0 44.2		25	2.1	58.2	15.0	21.2	52.6	55.7	55.0	44.2
LSD (0.05)† 0.6 1.4 3.2 2.8 3.6		-				!			_	_
C.V. %‡ 10.7 3.9 4.6		_	_	_	_				_	_

<sup>\*</sup> Lodging score: 1, perfectly standing; to 5, completely flat.

<sup>#</sup> Trial averages may include values from experimental lines that are not reported, yield is reported @13%M, protein is @12%M.

<sup>†</sup> Value required (≥LSD) to determine if varieties are significantly different from one another.

<sup>‡</sup> C.V. is a measure of variability or experimental error, 15% or less is considered acceptable.