

Title: Statewide Spring Wheat Variety Evaluation – 2016

Objective: To evaluate spring wheat varieties and experimental lines for agronomic performance in environments and cropping systems representative of northwestern Montana.

Results:

Significant differences were observed in heading date, height, lodging, percent stripe rust infection, percent tan spot infection, yield, protein, test weight, and pre-harvest sprout. Heading date averaged 172 days (June 20) and spanned a nine day period ranging from 168 to 177 days. The mean height was 34.1 inches and ranged from 29.1 inches for WB 161 to 46.5 inches for Fortuna. Lodging averaged 0.9% with a range from 0.0% to 12.7 percent. Grain yield averaged 82.5 bu/A and ranged from 61.2 bu/A for MT 1517 to 107.5 bu/A for HRS 3504. Despite having applied a fungicide, stripe rust did occur in all varieties. Average percent infection was 33.4% and ranged from 2.0% for WB 161 to 63.3% for MT 1510. Protein averaged 14.80% and ranged from 12.53% for WB 162 to 16.27% for SY Igmar. Test weight averaged 61.0 lb/bu and ranged from 59.2 for MT 1510 and MT 1565 to 62.7% for SY Tyra. Pre-harvest sprout averaged 64.7 and ranged from 11.4 for LCS Prime to 191.8 for WB 161.

Summary:

Overall, average yields were less in 2016 (82.5 bu/A) compared to the previous year (111.2 bu/A), which is partially attributed to the combined effects of stripe rust and tan spot. HRS 3504 was the highest yielding variety, but LCS Prime, Egan, LCS Pro, SY Valda, WB Gunnison, Reeder and Vida were statistically equivalent.

Table 1. Materials and Methods.

Seeding Date:	4/22/2016	Harvest Date:	8/30/2016
Julian Date:	113	Julian Date:	243
Seeding Rate:	80 lb/A	Soil Type:	Creston SiL
Previous			
Crop:	Winter Wheat	Soil Test:	96-8-200
Tillage:	Conventional	Fertilizer:	235-40-60
Herbicide:	Post - Huskie 11oz/A + Axial 16.4 oz/A + NIS 1qt/100gal + UAN 28% 1qt/A		
Herbicide:	Late Post -Stinger 1/3pt/A		
Insecticide:	Warrior II 1.92 floz/A	Fungicide:	Tilt 4oz/A

Table 2. Agronomic data from the evaluation of advanced spring wheat lines, Kalispell, MT - 2016.

Cultivar	HD Julian	HT in	LOD %	SR %	TS %	YLD ¹ bu/A	PRO ² %	TWT ¹ lb/bu	PHS Delta
HRS 3504	175	32.7	0.0	26.3	22.3	107.5	13.93	61.3	54.4
LCS Prime	172	34.4	0.0	31.0	27.0	101.7	13.50	63.0	11.4
Egan	173	37.3	0.0	7.0	21.7	100.8	15.83	59.4	107.1
LCS Pro	172	39.1	2.3	27.7	22.7	100.3	15.10	62.6	53.2
SY Valda	172	32.4	0.0	31.7	28.0	97.9	14.10	62.0	27.6
WB Gunnison	173	36.1	0.0	16.0	23.3	96.7	13.90	61.1	42.6
Reeder	172	36.9	0.0	29.3	30.7	96.6	15.20	61.7	28.6
Vida	174	33.9	1.7	34.0	35.0	96.2	15.07	60.9	31.2
MT 1426	168	35.4	8.3	39.3	38.3	94.9	14.60	60.8	101.9
MT 1514	172	37.4	1.0	26.7	21.7	94.1	15.43	60.7	49.9
MT 1173	176	36.5	0.0	27.7	27.7	93.5	14.57	61.0	26.6
MT 1542	170	35.0	0.0	19.7	30.7	91.9	14.77	61.3	81.7
MT 1570	170	31.0	0.0	42.7	53.3	90.8	13.13	61.8	112.6
Duclair	172	35.3	0.0	34.3	32.7	90.7	14.93	60.4	67.8
MT 1538	173	34.5	0.0	10.0	35.7	89.6	13.73	60.4	80.1
Fortuna	170	46.5	12.3	14.0	25.0	89.4	15.63	61.3	21.3
MT 1509	173	35.0	1.7	24.3	38.7	89.3	14.83	60.8	52.9
MT 1401	170	35.8	12.7	21.0	33.3	89.1	15.00	61.9	133.1
WB 163	173	31.6	0.0	37.3	39.0	87.8	13.27	62.1	84.4
MT 1543	170	34.0	0.0	23.3	25.0	87.6	14.63	60.1	66.2
MT 1320	170	37.3	1.7	17.3	37.3	87.3	14.37	61.4	78.0
HRS 3530	177	36.9	0.0	30.0	30.7	87.3	13.43	61.3	40.8
WB 161	170	29.1	0.0	2.0	20.0	86.8	16.07	60.9	191.8
McNeal	170	35.2	0.0	20.3	23.3	86.5	15.90	60.4	17.0
MT 1348	170	34.8	0.0	16.7	34.3	85.8	13.97	61.3	55.6
SY Tyra	174	31.9	0.0	25.3	31.0	85.6	14.07	62.7	28.3
MT 1572	173	32.4	0.0	39.0	37.0	84.8	14.87	61.9	74.0
MT 1442	173	34.5	1.7	19.0	36.0	84.5	15.20	60.7	45.5
MT 1574	173	32.7	0.0	45.7	45.0	84.2	14.17	60.6	101.0
MT 1451	171	34.5	0.0	34.0	36.7	83.8	14.47	60.3	152.6
MT 1512	171	35.0	1.7	47.3	70.0	82.5	14.50	61.5	43.4
MT 1427	170	33.3	1.7	61.7	67.7	82.3	14.53	59.5	129.7
MT 1511	173	34.6	0.0	39.3	42.7	81.3	14.87	59.9	43.4
Corbin	171	36.1	0.0	30.7	29.0	80.8	15.33	61.9	39.3
MT 1219	173	31.9	1.7	51.7	55.3	80.4	14.97	60.8	88.6
MT 1519	174	31.6	0.0	40.7	33.3	80.4	15.07	60.2	60.0
Alum	174	34.9	4.0	14.3	53.3	79.3	13.57	61.3	56.5
WB 162	168	32.5	0.0	60.0	50.0	79.0	12.53	61.9	92.1
MT 1316	169	32.7	0.0	28.3	51.0	78.6	15.17	60.5	113.5
MT 1518	171	34.5	0.0	48.3	38.3	78.6	15.10	60.5	75.7

HD: heading date, HT: height, LOD: lodging, SR: stripe rust, TS: Tan Spot, YLD: yield, PRO: protein, TWT: test weight, PHS: pre-harvest sprout.

¹ adjusted to 13% moisture.

² adjusted to 12%.

Table 2. (continued).

Cultivar	HD Julian	HT in	LOD %	SR %	TS %	YLD ¹ bu/A	PRO ² %	TWT ¹ lb/bu	PHS Delta
Choteau	173	34.8	0.0	43.3	26.0	78.0	15.07	60.6	54.7
MT 1531	174	32.4	0.0	33.3	36.0	77.4	15.27	61.3	33.4
MT 1573	171	29.9	0.0	38.3	61.7	77.0	14.30	61.0	65.0
WPSP2-MCNEAL1	172	32.0	0.0	35.0	68.3	76.8	13.87	61.0	137.2
SY Igmar	174	33.2	0.0	24.0	31.3	76.1	16.27	61.8	30.8
MT 1523	172	33.6	0.0	34.0	34.0	75.7	14.90	61.2	35.1
HRS 3361	173	32.5	0.0	29.3	31.0	75.7	15.93	60.9	45.5
Thatcher	176	43.4	1.7	31.7	26.0	75.6	14.97	60.8	11.4
SY Soren	173	31.5	0.0	34.3	29.3	75.3	15.80	61.8	35.2
MT 1415	172	33.5	0.0	48.7	41.0	75.3	15.30	62.4	50.8
WB9879CLP	173	33.2	0.0	31.7	43.3	74.4	15.33	59.7	77.5
MT 1447	170	34.5	1.7	29.3	56.7	73.9	14.97	60.5	76.6
MT 1525	173	32.3	0.0	55.7	56.7	73.8	14.50	62.1	22.7
MT 1506	173	34.9	0.0	55.0	36.0	72.3	15.57	60.6	15.5
LNR12-0283	171	31.5	0.0	32.3	39.7	72.1	15.23	61.9	17.2
MT 1549	175	32.2	0.0	22.3	33.3	70.5	15.73	60.1	30.8
AGRIPR161	177	33.5	0.0	45.0	35.0	70.5	14.17	59.5	63.8
MT 1455	173	32.5	0.0	38.3	73.0	69.7	15.00	60.7	78.8
Brennan	170	31.2	0.0	32.7	43.3	69.3	14.87	61.4	83.3
MT 1510	170	32.9	0.0	63.3	59.0	68.3	14.97	59.2	56.1
MT 1565	174	33.6	0.7	40.0	51.7	66.7	15.90	59.2	17.5
MT 1533	173	33.2	1.7	53.3	63.3	66.6	15.60	60.1	163.1
MT 1556	174	33.1	0.0	35.0	63.3	63.6	14.93	59.6	128.1
MT 1517	173	29.3	0.0	58.3	55.0	61.2	15.17	60.4	52.5
Mean	172	34.1	0.9	33.4	39.5	82.5	14.80	61.0	64.7
CV	1.0	4.6	234.2	25.8	34.5	11.8	3.50	0.8	53.2
LSD	2.7	2.5	3.4	13.9	22.0	15.8	0.84	0.7	55.6
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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