

Project Title: Evaluation of Advanced Spring Wheat Experimental Lines – 2014

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

Results:

Heading dates averaged 178 Julian days (June 27) and spanned a 9 day period that ranged from 175 to 184 days. Stripe rust averaged 6.9% and was observed on all cultivars except for Egan, MT 1276, and MT 1331. Jedd was the most susceptible cultivar to stripe rust at 52.7% infection. Plant heights averaged 34.9 inches and ranged from 27.7 inches for Jedd to 49.0 inches for Thatcher. Lodging was minimal this year with an average of 1.0% and was observed in 15 of the 64 cultivars. Thatcher, the tallest cultivar, had the highest degree of lodging at 15.0%. Yields averaged 107.2 bu/A and ranged from 85.8 bu/A for Jedd to 130.8 bu/A for LIMAGR143. The highest yielding commercially available cultivar was McNeal at 121.9 bu/A. Protein content averaged 14.2% and ranged from 12.7% for LIMAGR142 to 15.8% for MT 1360. Test weights averaged 59.8 lb/bu and ranged from 54.4 lb/bu for MT1228 to 61.8 lb/bu for WB144 and WB Gunnison. Cultivars varied in susceptibility to the herbicide treatment. Crop injury averaged 14.0% and ranged from 6.0% for MT 1234 to 40.8% for both WB Gunnison and Buckpronto. Septoria infection was low affecting 3 of the 64 cultivars.

Summary:

The 2014 growing season had low pressure from insects and diseases, which resulted in high yields.

Table 1. Materials and Methods - Evaluation of Advanced Spring Wheat Experimental Lines - 2014

Seeding Date:	4/30/2014	Harvest Date:	9/8/2014
Julian Date:	120	Julian Date:	252
Seeding Rate:	80 lb/A	Soil Test:	163-14-138
Previous Crop:	Alfalfa	Fertilizer:	200-30-100
Tillage:	Conventional	Herbicide:	Huskie 11 floz/A and Axial XL 16.4 floz/A
Irrigation:	None	Insecticide:	Warrior 1.5 floz/A
Soil Type:	Creston Sil		

Table 2. Agronomic data from the evaluation of advanced spring wheat lines 2014.

Cultivar	HD Julian	SR %	HT in	LOD %	YLD bu/A	PRO %	TWT lb/bu	CI %	SEP %
LIMAGR143	178	3.7	41.3	3.3	130.8	13.7	61.5	23.7	0.0
MCNEAL	182	8.0	35.7	0.0	121.9	13.3	60.5	8.5	0.0
MT 1225	179	7.0	33.7	0.0	119.3	14.0	58.5	12.5	0.0
MT 1316	176	5.7	34.7	0.0	118.7	15.0	60.4	18.0	0.0
MT 1234	179	10.0	37.7	3.3	117.6	14.3	60.9	6.0	0.0
MT 1276	178	0.0	36.3	0.0	116.9	13.7	59.8	18.0	0.0
LIMAGR141	182	2.7	33.7	0.0	116.4	13.3	58.7	12.2	0.0
WB GUNNISON	179	5.0	34.3	0.0	116.1	13.3	61.8	40.8	0.0
CORBIN	179	3.0	35.7	0.0	115.6	13.3	61.0	22.0	0.0
LIMAGR142	177	5.0	35.3	0.0	114.3	12.7	61.4	10.8	0.0
MT 1230	180	4.0	35.3	0.0	113.5	14.6	58.9	9.2	0.0
MT 1236	178	3.3	34.3	0.0	113.0	14.9	59.2	10.2	0.0
WB143	176	4.0	28.7	0.0	112.4	15.3	59.6	12.0	0.0
MT 1346	177	6.3	36.7	0.0	112.3	14.5	59.8	37.5	0.0
MT 1227	182	4.7	35.7	1.7	112.0	14.6	58.4	8.5	0.0
MT 1320	177	0.7	39.0	0.0	112.0	14.1	60.7	10.5	0.0
MT 1273	180	3.3	36.0	1.7	111.6	12.9	60.7	13.5	0.0
MOTT	182	7.7	40.3	0.0	111.3	13.2	59.9	8.0	0.0
VOLT	183	0.7	32.3	0.0	111.1	13.5	61.3	9.7	0.0
VIDA	181	1.3	35.7	1.7	110.8	14.2	59.9	10.5	0.0
SY SOREN	179	1.7	33.0	0.0	110.7	14.6	60.6	20.8	0.0
BUCK PRONTO	176	3.7	37.0	0.0	110.7	14.5	60.3	40.8	0.0
WB142	180	1.7	30.3	0.0	110.7	14.7	59.3	10.2	0.0
MT 1203	176	16.7	35.3	1.7	109.6	14.7	59.7	12.2	0.0
MT 1343	179	7.3	37.0	0.0	109.3	14.8	59.7	10.2	0.0
MT 1118	178	4.0	32.3	0.0	109.2	14.3	57.4	12.2	0.0
MT 1206	178	4.0	34.3	10.0	109.2	14.0	61.1	7.5	0.0
MT 1219	178	3.7	34.3	1.0	109.2	13.7	60.1	7.5	0.0
EGAN	181	0.0	36.3	0.0	109.2	15.4	60.3	9.5	0.0
MT 1338	176	4.3	36.0	0.0	109.2	14.4	61.5	15.0	0.0
SY ROWYN	177	4.3	32.7	2.7	109.0	13.7	59.5	13.0	0.0
WB141	178	27.3	37.0	0.0	108.8	13.4	57.7	17.0	0.0

HD: heading date, SR: stripe rust, HT: height, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight, CI: crop injury, SEP: Septoria

Table 2. continued.

Cultivar	HD Julian	SR %	HT in	LOD %	YLD bu/A	PRO %	TWT lb/bu	CI %	SEP %
MT 1304	175	2.0	34.0	2.0	108.7	13.9	61.5	12.5	0.0
MT 1319	177	3.0	37.3	0.0	108.7	14.6	60.6	12.2	0.0
MT 1348	176	2.3	34.0	1.7	108.4	14.1	60.5	8.8	0.0
MT 1349	178	2.3	33.0	0.0	108.4	15.0	58.6	14.5	0.0
CHOTEAU	178	7.3	35.3	3.3	108.0	13.5	59.9	13.2	0.0
MT 1224	178	10.3	35.0	0.0	107.3	13.4	58.9	13.2	0.0
DUCLAIR	177	11.7	35.3	0.0	106.5	14.3	59.7	30.5	0.0
SY605 CL	175	1.7	38.0	0.0	105.5	14.8	61.5	6.8	0.0
MT 1333	178	3.7	34.7	0.0	105.2	14.4	61.0	11.7	0.0
MT 1264	177	5.0	33.7	0.0	104.9	14.3	59.0	9.3	0.0
WB144	180	3.7	31.0	0.0	104.6	13.4	61.8	16.2	0.0
REEDER	179	1.3	36.3	0.0	104.5	14.3	60.8	11.3	0.0
MT 1340	177	15.7	29.0	0.0	103.9	14.5	58.6	16.5	8.3
MT 1341	176	6.3	33.3	0.0	103.7	14.3	60.1	14.7	0.0
WB9879CL	180	3.3	34.3	0.0	102.6	13.7	60.0	13.3	5.0
MT 1360	178	2.3	36.3	0.0	101.5	15.8	58.5	17.5	0.0
SY TYRA	179	4.7	31.3	0.0	101.1	13.5	59.8	12.3	0.0
MT 1007	178	13.7	34.0	0.0	100.4	14.4	60.5	8.0	0.0
SY INGMAR	178	3.3	33.0	0.0	100.3	15.3	60.7	15.2	0.0
MT 1231	177	4.7	34.7	0.0	100.2	14.6	59.6	7.2	0.0
MT 1336	177	19.7	32.0	0.0	100.2	14.2	59.2	14.2	0.0
ONEAL	182	19.3	35.3	0.0	99.4	13.8	60.5	9.7	0.0
MT 1205	176	16.3	34.7	8.3	98.3	13.7	60.1	13.0	0.0
MT 1222	177	15.0	35.0	0.0	98.3	15.6	58.8	12.5	0.0
MT 1331	178	0.0	32.0	0.0	98.2	13.9	56.8	10.8	0.0
MT 1228	180	9.3	35.3	0.0	97.7	13.9	54.4	10.8	0.0
FORTUNA	180	3.3	43.3	3.3	97.5	14.6	61.4	10.8	0.0
MT 1337	176	19.0	33.0	0.0	94.9	15.4	55.4	10.0	18.3
BRENNAN	176	2.0	30.7	0.0	94.0	14.7	59.7	21.8	0.0
MT 1315	175	2.3	36.3	0.0	93.1	15.5	60.8	15.0	0.0
THATCHER	184	9.7	49.0	15.0	87.9	13.8	59.3	14.2	0.0
JEDD	176	52.7	27.7	0.0	85.8	13.2	59.2	10.2	0.0
Mean	178	6.9	34.9	1.0	107.2	14.2	59.8	14.0	0.5
CV	0.7	72.2	4.7	285.1	9.8	NA	NA	33.0	583.5
LSD	1.9	8.1	2.6	4.4	16.9	NA	NA	7.5	4.7
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0042	NA	NA	0.0001	0.0001

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