Title: Evaluation of Advanced Spring Wheat Experimental Lines – 2015

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, percent stripe rust infection, height, lodging and yield. Protein and test weight values were reported from a representative sample of each variety. Heading date averaged 170 days (June 19) and spanned a six day period ranging from 168 to 174 days. Stripe rust pressure was generally low this year. Average percent infection was 16.9% and ranged from 4.6% for WB 9668 to 47.5% for LNR-0757. The mean height was 35.2 inches and ranged from 29.0 for WB 9668 to 45.4 inches for Thatcher. Lodging averaged 5.7% with a range from 0.0% to 56.7 percent. Grain yield averaged 111.2 bu/A and ranged from 89.2 bu/A for MT 1429 to 131.5 bu/a for MT 1451. Protein averaged 15.5 % and ranged from 13.4% for WPSP2-VIDA1 to 17.0% for Egan. Test weight averaged 61.9 lb/bu and ranged from 59.5 for WB 9507 to 63.6 for MT 1415 and LCS Breakaway.

Summary:

Despite the season's drought, the spring wheat nursery afforded yields greater than those from 2014. Vida and Duclair were the highest yielding commercially available varieties at 123.5 and 122.0 bu/A, respectively. Egan, a variety with resistance to the orange wheat blossom midge, yielded 115.9 bu/A and provided the highest percent protein at 17.0 percent.

Table 1. Materials and Methods - Evaluation of Advanced Spring Wheat Experimental Lines - 2015

Seeding Date:	4/22/2015	Harvest Date:	8/19/2015
Julian Date:	112	Julian Date:	231
Seeding Rate:	80 lb/A	Soil Type:	Creston SiL
Previous Crop:	Winter Wheat	Soil Test:	63-16-242
Tillage:	Conventional	Fertilizer:	250-40-90
Irrigation:	None	Herbicide:	Huskie Complete 13.7oz/A
Instecticide:	Warrior II 1.92 floz/A	Fungicide:	Quadris 6 floz/A

Table 2. Agronomic data from the evaluation of advanced spring wheat lines 2015.

Cultivar	HD Julian	SR %	HT in	LOD %	YLD[1] bu/A	PRO[2] %	TWT[1] lb/bu
MT 1451	171	9.2	36.6	3.3	131.5	16.0	62.1
LIMAGR143	170	14.6	40.0	15.0	125.3	15.7	62.5
MT 1453	169	15.2	34.4	6.7	124.6	14.7	62.2
MT 1414	173	12.1	35.5	0.0	123.9	15.0	60.8
VIDA	172	21.3	36.6	19.0	123.5	15.6	61.6
DUCLAIR	169	9.2	34.8	0.7	122.0	15.8	60.7
WPSP2-VIDA2	173	10.0	35.3	0.0	121.6	14.2	62.7
WB 9668	168	4.6	29.0	0.0	121.6	16.9	62.0
MT 1422	172	13.2	42.2	56.7	120.7	15.0	62.7
MT 1406	168	10.9	37.4	0.0	120.6	16.1	61.6
MT 1331	169	30.8	33.5	0.0	120.2	14.7	60.2
SY ROWYN	169	12.9	33.8	14.0	120.2	14.1	62.4
SY INGMAR	171	12.4	33.2	0.0	119.2	15.8	63.2
SY VALDA	171	19.5	32.8	0.0	118.8	14.2	63.2
MT 1418	173	9.9	35.5	0.0	118.3	15.3	60.9
MT 1338	169	36.0	36.3	0.0	117.8	16.1	62.9
MT 1412	173	12.3	35.4	0.0	117.5	15.4	62.2
MT 1348	169	27.6	35.3	20.0	117.4	16.0	61.8
LCS BREAKAWAY	169	11.7	34.8	0.0	117.1	16.5	63.6
WPSP2-VIDA1	173	16.0	36.4	0.0	116.1	13.4	62.9
EGAN	173	5.8	35.0	0.0	115.9	17.0	61.4
MT 1401	168	8.5	36.2	35.0	114.9	16.8	62.0
CORBIN	169	19.1	35.5	5.0	114.8	14.8	62.6
REEDER	171	15.4	37.1	0.0	114.2	14.8	62.8
MT 1426	168	13.8	36.8	1.7	114.1	16.1	60.6
LNR-0311	171	24.1	37.2	11.7	114.0	13.9	63.3
WPSP2-CHOTEAU1	169	16.9	35.8	3.3	113.9	15.8	62.1
MT 1219	169	20.5	33.5	30.0	113.5	15.1	61.7
WB9879CLP	169	14.4	34.8	0.0	113.2	15.8	61.7
WB 9377	172	9.4	30.4	0.0	112.9	14.9	62.5
MT 1425	169	12.6	36.4	0.7	112.8	16.0	61.8
MT 1442	172	18.4	35.4	3.3	112.8	16.0	62.5

HD: heading date, SR: stripe rust, HT: height, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight

[1] adjusted to 13% moisture, [2] adjusted to 12%

Table 2. continued.

Cultivar	HD Julian	SR %	HT in	LOD %	YLD[1] bu/A	PRO[2] %	TWT[1] lb/bu
WB GUNNISON	171	19.3	33.8	0.0	112.4	15.2	63.5
SY SOREN	171	28.4	31.4	0.0	112.3	16.1	63.1
MT 1427	168	18.4	35.1	1.3	112.2	15.4	60.9
MT 1404	172	9.8	35.0	29.0	112.0	15.2	62.0
CHOTEAU	171	12.4	34.6	0.0	111.7	15.5	61.8
MT 1454	169	12.4	35.1	0.0	110.7	15.0	61.3
MT 1320	168	11.3	35.8	1.7	110.4	16.5	62.6
MT 1337	168	12.6	36.8	0.0	110.1	15.8	61.9
MT 1319	168	11.2	35.3	0.0	109.8	16.0	61.5
MT 1316	168	10.1	33.6	0.0	108.7	16.7	61.4
MT 1455	170	12.6	33.1	0.0	107.7	15.9	61.5
MT 1432	170	9.4	32.9	3.3	107.3	16.0	60.9
MT 1415	173	9.5	33.9	0.0	107.2	15.8	63.6
MT 1349	171	12.9	34.8	0.0	107.0	16.0	59.6
MT 1413	172	17.8	35.7	0.0	106.9	14.7	61.5
SY TYRA	171	41.8	30.6	0.0	106.4	14.3	63.1
MT 1439	170	12.1	35.4	0.0	106.0	15.4	61.9
MT 1417	173	16.2	35.2	1.7	105.5	16.0	62.3
MT 1424	173	19.3	33.3	0.0	104.6	15.3	62.2
MT 1436	170	14.4	36.6	0.7	103.8	15.0	61.3
MT 1447	169	9.8	34.6	3.3	103.7	16.2	61.0
MT 1421	171	16.3	36.3	0.0	102.9	16.2	60.9
BRENNAN	169	18.8	30.8	0.0	102.4	15.9	62.6
MT 1448	170	8.7	34.8	26.7	100.8	15.1	61.5
MCNEAL	173	19.6	31.5	0.0	99.7	15.1	61.7
MT 1434	168	30.5	34.1	0.0	95.6	15.2	61.1
FORTUNA	171	11.1	41.7	30.0	95.4	15.9	61.6
THATCHER	174	14.9	45.4	28.3	93.9	16.1	61.2
WB 9507	172	41.1	35.9	8.3	92.9	14.1	59.5
MT 1408	173	36.5	33.9	0.0	91.1	14.5	61.5
LNR-0757	173	47.5	35.8	0.0	90.7	13.5	59.8
MT 1429	169	26.7	34.7	1.7	89.2	15.9	61.2
Mean	170	16.9	35.2	5.7	111.2	15.5	61.9
LSD at 0.05	1.5	13.6	2.4	24.1	10.3	NA	NA

HD: heading date, SR: stripe rust, HT: height, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight

[1] adjusted to 13% moisture, [2] adjusted to 12%