Title: Western Regional Soft White Spring Wheat Evaluation - 2015

Objective: To evaluate soft white spring wheat varieties for agronomic performance in environments representative of northwestern Montana.

Results:

Significant differences were observed in heading date, percent stripe rust infection, plant height, lodging, yield, protein, test weight and falling number. Heading dates averaged 172 Julian days (June 21) and spanned a 7 day period that ranged from 169 to 176 days. Stripe rust was observed on all cultivars and averaged 7.4%, ranging from 3.3% for M12001 to 15.7% for ALPOWA. Plant heights averaged 34.1 inches, ranging from 30.7 inches for WB6121 to 36.3 inches for ARS-Loualp68. Lodging was minimal with the exception of LOUISE and ARS-Loualp68 at 41.7% and 53.3%, respectively. Yield averaged 125.5 bu/A and ranged from 110.2 bu/A for ALPOWA to 142.5 bu/A for WA8224. Protein averaged 10.6%, ranging from 10.0% for M12003 and ARS-Alplou37 to 12.2% for WB6121. Test weight averaged 61.6 lb/bu and ranged from 60.4 lb/bu for Treasure to 62.5 lb/bu for ARS-Loualp61. Falling number averaged 308.5 seconds, and ranged from a low of 256.5 seconds for M12001 to a high of 345.1 for ALPOWA.

Summary:

WA8224 was the highest yielding variety and statistically equivalent to the greatest test weight and falling number values. Preliminary findings demonstrate that WA8224 is a suitable soft white wheat for this region. However, cultivar differences were prevalent and continual screening of soft white wheats is necessary to identify those which perform best in northwestern Montana.

Table 1. Materials and Methods - Western Regional Soft White Spring Wheat - 2015

Seeding Date:	4/22/2015	Harvest Date:	8/13/2015
Julian Date:	112	Julian Date:	225
Seeding Rate:	80 lb/A	Soil Type:	Creston SiL
Previous Crop:	Winter Wheat	Soil Test:	63-16-242
Tillage:	Conventional-Till	Fertilizer:	250-40-90
Irrigation:	None	Herbicide:	Huskie Complete 13.7 oz/A
Fungicide:	Quadris 6 floz/A	Insecticide:	Warrior II 1.92 floz/A

Table 2. Agronomic data from the evaluation of Western Regional Soft White Spring Wheat lines 2015.

Cultivar	HD Julian	SR %	HT in	LOD %	YLD[1] bu/A	PRO[2] %	TWT[1] lb/bu	FN sec
WA8224	172	4.0	35.0	0.0	142.5	10.1	62.2	324.3
WA8239	173	4.0	32.7	0.0	136.9	10.7	62.0	310.7
WA8214	169	7.7	32.7	0.0	135.1	10.9	61.0	328.3
M12003	174	4.3	33.7	0.0	133.9	10.0	61.0	264.7
SY3024-2	170	6.0	36.0	8.3	130.2	10.4	61.7	314.9
UI Stone	172	8.7	35.3	0.0	128.8	10.3	62.2	293.0
M12001	173	3.3	32.0	0.0	127.0	10.4	61.2	256.5
IDO1401	169	5.7	33.7	3.3	125.0	10.5	61.4	299.9
ARS-Loualp61	173	13.7	35.7	0.0	124.2	10.4	62.5	304.3
ARS-Loualp68	175	8.0	36.3	53.3	122.9	11.1	62.1	343.7
IDO1403	173	5.0	31.7	3.3	121.8	11.2	61.8	308.6
WB6121	169	4.0	30.7	0.0	120.4	12.2	61.2	291.3
ARS-Alplou37	174	13.0	36.0	5.0	118.2	10.0	61.4	333.5
LOUISE	173	7.3	36.0	41.7	117.3	10.5	61.3	323.3
Treasure	176	8.3	34.0	8.3	113.7	10.9	60.4	294.7
ALPOWA	174	15.7	33.7	0.0	110.2	10.1	61.8	345.1
Mean	172	7.4	34.1	7.7	125.5	10.6	61.6	308.5
CV	0.5	48.8	4.6	213.7	5.9	2.3	0.5	4.8
LSD	1.3	6.0	2.6	27.5	12.3	0.4	0.5	24.7
Pr>F	0.0001	0.0029	0.0007	0.0077	0.0004	0.0001	0.0001	0.0001

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

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