Title: Spring Wheat Commercial Variety Evaluation - 2016

Objective: To evaluate experimental and commercially available spring wheat varieties for agronomic performance in environments representative of northwestern Montana.

Results:

Significant differences were observed in heading date, percent stripe rust infection, height, lodging, yield, protein, test weight and falling number. Heading date averaged 174 days (June 22) and spanned an eight day period ranging from 170 to 177 days. Despite the application a fungicide, significant stripe rust infection was observed. The average percent infection on July 15 was 17.6% and ranged from 5.0% for Solano to 31.7% for HRS 3361. The mean height was 33.2 inches and ranged from 28.6 for Cabernet to 37.8 inches for HRS 3530. Lodging was minimal and ranged from 0.0 to 3.7 percent. Grain yield averaged 85.0 bu/A and ranged from 58.7 bu/A for HRS 3361 to 107.2 bu/A for HRS 3504. Protein averaged 15.74% and ranged from 14.71% for HRS 3504 to 16.84% for SY3051-9. Test weight averaged 60.0 lb/bu and ranged from 56.9 lb/bu for SY Coho to 62.4 lb/bu for SY3051-9. Falling number averaged 317.6 seconds, ranging from 178.7 seconds for SY Teton to 489.8 for SY3051-9.

Summary:

HRS 3504 and SY 3015-8 were the highest yielding varieties. However, HRS 3504 had the lowest protein while SY 3015-8 produced falling numbers that would result in dockage penalties. This nursery demonstrates that there is tremendous genetic variation for yield and grain quality parameters in experimental private varieties and continual screening is important to identify those wheats that perform best in northwestern Montana.

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 11 oz/A + Axial 16.4 oz/A + NIS 1 qt/100gal + UAN 28% 1 qt/A		
Herbicide:	Late Post - Stinger 1/3 pt/A		
Insecticide:	Warrior II 1.92 floz/A	Fungicide:	Tilt 4 oz

Table 2. Agronomic data from the evaluation of Industry Spring Wheat lines - 2016

	HD	SR	HT	LOD	YLD[1]	PRO[2]	TWT[1]	FN
	Julian	%	in	%	bu/A	%	lb/bu	sec
HRS 3504	176	20.0	33.1	0.0	107.2	14.71	61.4	337.8
SY3015-8	174	21.7	33.2	0.0	99.3	15.62	60.8	256.3
SY Coho	176	8.3	32.6	0.0	91.3	16.02	56.9	216.9
Egan	175	13.3	37.0	0.0	91.2	16.68	58.9	473.4
SY Teton	170	11.7	31.1	0.0	87.3	14.85	58.7	178.7
SY Selway	172	18.3	36.5	0.0	86.7	15.41	58.9	298.0
SY3051-9	175	10.0	34.0	0.0	86.7	16.84	62.4	489.8
HRS 3530	177	23.3	37.8	3.7	85.2	15.00	60.4	280.0
Solano	176	5.0	28.7	0.0	84.9	15.93	59.2	310.7
Cabernet	174	10.0	28.6	0.0	79.5	15.92	59.9	317.0
HRS 3100	173	26.7	32.7	0.0	78.1	15.20	60.8	334.7
HRS 3616	174	28.3	34.3	0.0	68.7	16.51	60.3	329.5
HRS 3361	174	31.7	32.7	0.0	58.7	15.88	61.0	305.4
Mean	174	17.6	33.2	0.3	85.0	15.7	60.0	317.6
CV	0.4	23.5	4.5	113.6	7.3	1.9	0.7	6.2
LSD	1.3	7.0	2.5	0.5	10.5	0.5	0.7	33.3
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0001	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