

Title: Spring Wheat Off Station Variety Trial – 2016

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

Results:

This nursery was established to evaluate spring wheat varieties for yield and agronomic performance in the absence of fungicide or insecticide inputs. Significant differences were observed for heading, height, stripe rust, tan spot, lodging, yield, protein, test weight, wheat midge, and falling numbers. Heading averaged 179 days with a low of 177 days for MT 1401 and a high of 181 days for MT 1173. Height averaged 34.8 inches, with a low of 30.4 inches for SY Tyra and a high of 44.4 inches for Fortuna. Stripe rust was prevalent in this nursery. The average level of infection increased from 7.7% on June 24 to 48.3% on July 15. Egan demonstrated the highest level of resistance with an infection level peaking at 20 percent. Tan spot averaged 42.5%, with a low of 0.0% for MT1173 and a high of 83.3% for SY Soren. Lodging averaged 3.6 percent. Fortuna had the most lodging at 25 percent. Yield averaged 61.8 bu/A, with a low of 34.5 bu/A for Oneal to a high of 98.4 bu/A for Egan. Protein averaged 14.04%, with a low of 13.00% for Gunnison to a high of 15.37% for Egan. Test weight averaged 56.5 lb/bu, with a low of 49.7 lb/bu for SY Tyra, to 60.8 lb/bu for Fortuna. Wheat midge averaged 3.8 per spike with a low of 0.0 for Egan to a high of 7.9 to Alum. Falling numbers averaged 373.7 seconds, with a low of 302.0 for MT 1173, to a high of 483.0 for McNeal.

Summary:

Egan was the highest yielding commercially available variety. It also had the highest protein, and resistance to the wheat midge.

Table 1. Material and Methods.

Seeding Date:	5/2/2016	Harvest Date:	8/19/2016
Julian Date:	123	Julian Date:	232
Seeding Rate:	80 lb/A	Soil Type:	Creston Sil
Previous Crop:	Spring Wheat	Soil Test:	99-32-432-40
Tillage:	Conventional	Fertilizer:	235-40-60
Fungicide:	None	Insecticide:	None
Herbicide:	Huskie 11 oz/A + Axial 16.4 oz/A + NIS 1qt/100gal + UAN 28% 1qt/A		

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

Cultivar	HD	HT	Percent Stripe Rust		TS	LOD	YLD ¹	PRO ²	TWT ¹	WM	FN
	Julian	in.	6/24	7/15	%	%	bu/A	%	lb/bu	no./spike	sec
Egan	179	36.7	0.0	20.0	27.7	0.0	98.4	15.37	58.4	0.0	470.0
Reeder	179	37.3	3.0	25.0	31.7	0.0	84.5	14.03	59.7	0.1	374.5
Fortuna	180	44.4	1.0	38.3	58.3	25.0	79.8	14.20	60.8	7.5	365.8
Alum	180	36.2	2.0	36.7	45.3	21.7	77.4	14.13	59.3	7.9	352.6
MT 1316	179	35.4	4.7	28.3	35.0	3.3	72.8	13.43	57.6	3.5	389.1
Gunnison	178	32.6	3.3	23.3	38.3	0.0	72.0	13.00	58.8	4.8	403.9
MT 1348	178	34.4	1.7	41.7	53.3	6.7	71.5	13.93	57.1	1.2	349.9
Duclair	178	33.3	0.7	38.3	65.0	3.3	68.0	14.57	54.6	2.6	335.2
Brennan	178	32.7	8.7	61.7	43.3	0.0	63.1	13.93	59.4	2.9	392.4
Vida	179	34.4	7.7	46.7	36.7	0.0	62.1	14.13	56.9	7.4	331.1
MT 1401	177	33.6	5.0	45.0	47.7	11.7	60.9	13.80	56.7	2.1	343.4
McNeal	179	36.5	6.0	53.3	16.7	0.0	57.6	13.33	55.6	6.2	483.0
SY Soren	179	32.6	18.3	61.7	83.3	0.0	55.4	13.83	56.9	3.7	411.3
Choteau	178	32.4	5.3	50.0	40.0	0.0	52.6	14.23	54.5	2.0	371.8
WB9879CLP	179	33.5	8.0	46.7	43.3	0.0	51.6	15.03	54.3	3.7	360.2
Mott	179	36.6	20.0	83.3	18.3	0.0	48.6	13.23	58.9	2.7	323.4
Corbin	178	34.5	5.7	60.0	38.3	0.0	48.4	14.07	55.9	6.8	365.6
SY Tyra	179	30.4	11.0	71.7	80.0	0.0	39.6	14.17	49.7	1.2	338.4
MT 1173	181	35.3	22.3	63.3	0.0	0.0	36.6	13.67	52.1	4.2	302.0
Oneal	179	33.1	20.3	70.0	47.7	0.0	34.5	14.70	51.9	4.8	410.2
Mean	179	34.8	7.7	48.3	42.5	3.6	61.8	14.04	56.5	3.8	373.7
LSD	0.8	1.9	12.6	16.4	37.4	13.1	6.4	0.40	1.1	2.5	30.9
CV	0.3	3.4	98.7	20.6	53.2	220.5	6.3	1.73	1.2	40.0	5.0
Pr>F	0.0001	0.0001	0.0068	0.0001	0.0131	0.0055	0.0001	0.0001	0.0001	0.0001	0.0001

HD: heading date, HT: height, TS: tan spot, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight, WM: wheat midge, no./spike: number/spike, FN: falling numbers.

¹adjusted to 13% moisture.

²adjusted to 12% moisture.