

Title: Statewide Winter Wheat Variety Evaluation - 2016

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

Results:

Winter wheat yields averaged 97.3 bu/A, and ranged from 16.4 bu/A for Bearpaw to 148.9 bu/A for MT1471 (Table 2). No fungicide applications were made and stripe rust was prevalent throughout the nursery. This in turn, had a negative effect on yield (Figure 1). The average infection level was 69.5 %, and ranged from 21.7 % for MT1488 to 99.3 % for WB4059CLP. Days to fifty percent heading averaged 149 days (May 28) and ranged from 139 days (May 18) for Freeman to 153 days (June 1) for WB-Quake and BZ9W09-2212. Height averaged 41.0 inches and ranged from 32.6 inches for WB4059CLP to 46.5 inches for WB3768. Lodging averaged 8.0 % and ranged from 0.0 % to 70.0 % for MT1348. Percent protein averaged 12.33 % and ranged from 10.93 % for WB3768 to 15.44 % Bearpaw. Test weights also were affected by stripe rust (Figure 2). Test weight averaged 53.7 lb/bu and ranged from a low of 38.7 lb/bu for Byrd to a high of 59.7 lb/bu for MT1488 and Warhorse. Falling numbers were fairly high for this nursery and averaged 336 seconds. The range in falling numbers was only 93 seconds and varied from a high of 390 for WB4623CLP to low of 297 for T158. The latter was the only entry which failed to meet the 300 second discount level.

Summary:

The 2016 growing conditions provided significant disease pressure resulting in noticeable yield reductions.

Table 1. Materials and Methods.

Seeding Date: 10/1/2015	Harvest Date: 8/16/2016
Julian Date: 274	Julian Date: 229
Seeding Rate: 80 lb/A	Soil Type: Creston SiL
Previous Crop: Spring Wheat	Soil Test: 209-32-244-34
Tillage: Conventional	Fertilizer: 9-40-40, TD: 75-0-40
Herbicide: Huskie 11oz/A + Axial 16.4 oz/A + NIS 1qt/100gal + UAN 28% 1qt/A	

Table 2. Agronomic data from the Intrastate Winter Wheat nursery, Kalispell - 2016.

Cultivar	HD	Percent Stripe Rust		HT	LOD	YLD ¹	PRO ²	TWT ¹	FN
	Julian	5/24	6/30	in	%	bu/A	%	lb/bu	sec
MT1471	151	1.7	35.0	43.4	0.0	148.9	12.66	59.4	352
WB4623CLP	151	1.3	29.0	42.0	14.0	145.0	13.79	59.1	339
Colter	151	6.7	38.3	43.0	0.0	141.9	11.93	58.7	349
MTW1491	151	3.3	51.0	44.0	22.7	138.8	11.08	59.5	322
MT1444	151	8.7	70.3	43.6	0.0	136.1	11.18	57.6	332
MT1488	152	9.0	21.0	40.9	35.7	135.1	12.36	59.7	340
MT1465	150	2.0	37.7	39.7	0.0	135.0	11.86	58.7	375
Northern	152	11.3	51.7	42.9	15.0	133.6	11.84	56.7	341
MT1138	152	3.3	71.7	43.8	0.0	132.3	11.28	56.7	336
MT1348	149	2.7	57.3	42.9	70.0	132.2	11.60	57.7	345
MT1354	152	9.7	78.7	44.1	0.0	132.0	11.28	57.9	363
SY Sunrise	144	3.3	36.7	37.3	0.0	130.6	12.06	57.4	335
MT1265	152	6.3	66.7	44.9	13.3	130.0	11.00	57.1	340
Loma	151	22.7	34.3	40.2	43.7	128.0	11.88	57.2	319
MT1332	152	2.7	76.0	44.8	12.3	127.8	11.55	57.1	361
SY Monument	148	2.0	33.3	41.2	0.0	127.0	12.39	54.9	301
Warhorse	151	6.0	37.7	41.6	14.0	126.7	13.05	59.7	390
WB3768	151	6.3	83.3	46.5	11.7	126.7	10.93	57.5	321
MTCL1131	151	13.0	87.3	45.3	0.0	121.5	11.00	56.2	339
MT1446	148	3.3	62.7	42.8	11.0	121.1	11.28	57.0	353
MT1356	152	6.3	70.7	43.3	3.3	120.9	11.10	56.7	333
Judee	149	6.0	25.7	41.2	11.7	118.8	12.25	58.0	320
WB-Quake	153	15.0	66.7	41.1	6.0	117.4	11.47	58.9	330
SY Clearstone 2CL	150	10.3	86.3	43.7	0.0	117.2	11.44	55.3	344
T158	141	4.0	48.3	39.1	12.3	115.6	12.70	56.0	297
MT1257	150	17.7	84.7	43.3	0.0	112.3	11.60	56.4	364
MT1460	151	6.7	76.3	42.9	0.0	110.5	11.50	57.2	344
MT1443	151	27.3	82.3	40.7	0.0	106.8	11.10	56.5	357
Keldin	149	5.3	84.3	39.1	0.0	101.1	11.30	55.8	329
SY Wolf	145	13.7	50.3	41.0	0.0	98.6	12.65	52.4	307
MT1478	149	18.0	90.7	43.2	0.0	96.6	11.32	54.4	335
Yellowstone	150	7.3	86.7	42.7	0.7	94.9	11.06	56.0	337
BZ9W09-2212	153	67.3	66.7	37.7	7.3	88.9	12.34	56.6	325
MTS1407	151	19.0	69.3	36.9	0.0	88.1	12.65	52.8	308
Freeman	139	5.3	67.7	42.3	20.0	80.1	12.19	48.8	336

HD: heading, HT: height, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight, FN: falling number.

¹ adjusted to 13% moisture.

² adjusted to 12% moisture.

Table 2. (continued).

Cultivar	HD	Percent Stripe Rust		HT	LOD	YLD ¹	PRO ²	TWT ¹	FN
	Julian	5/24	6/30	in	%	bu/A	%	lb/bu	sec
PSB13NEDH-14-71	143	39.7	92.7	38.2	0.0	77.9	12.54	51.3	305
Rampart	151	23.7	81.7	45.0	32.7	70.4	12.90	52.4	349
WB4614	150	30.3	82.3	37.4	1.0	64.2	13.68	51.0	335
Brawl CLP	143	40.7	84.3	40.8	0.0	54.4	13.93	43.3	329
Cowboy	149	67.0	93.7	38.9	0.0	45.5	11.69	47.3	327
CDC Falcon	150	62.7	97.0	36.9	2.7	43.5	12.69	51.0	343
CO11D174 (Avery)	147	62.7	93.7	41.3	0.0	38.0	13.16	42.6	324
WB4059CLP	144	64.7	99.3	32.6	0.0	34.6	14.37	43.4	309
Broadview	151	35.3	88.3	35.9	7.7	27.2	14.46	49.8	327
BZ9W09-2075	151	69.7	95.7	34.9	1.7	21.8	13.93	46.1	366
Byrd	145	42.0	95.3	38.5	0.0	20.6	13.90	38.7	316
Decade	150	41.0	92.3	37.9	20.0	18.5	14.29	42.9	355
Jerry	151	61.3	96.7	42.7	3.3	18.2	14.60	44.1	313
Bearpaw	148	46.0	95.7	37.3	0.0	16.4	15.44	39.6	345
Mean	149	21.3	69.5	41.0	8.0	97.3	12.33	53.7	336.0
CV	1.0	39.5	13.9	3.3	127.5	6.5	2.81	2.2	4.6
LSD	2.3	13.6	15.7	2.2	16.6	10.2	0.56	1.9	25.3
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

HD: heading, HT: height, LOD: lodging, YLD: yield, PRO: protein, TWT: test weight, FN: falling number.

¹ adjusted to 13% moisture.

² adjusted to 12% moisture.

Figure 1.

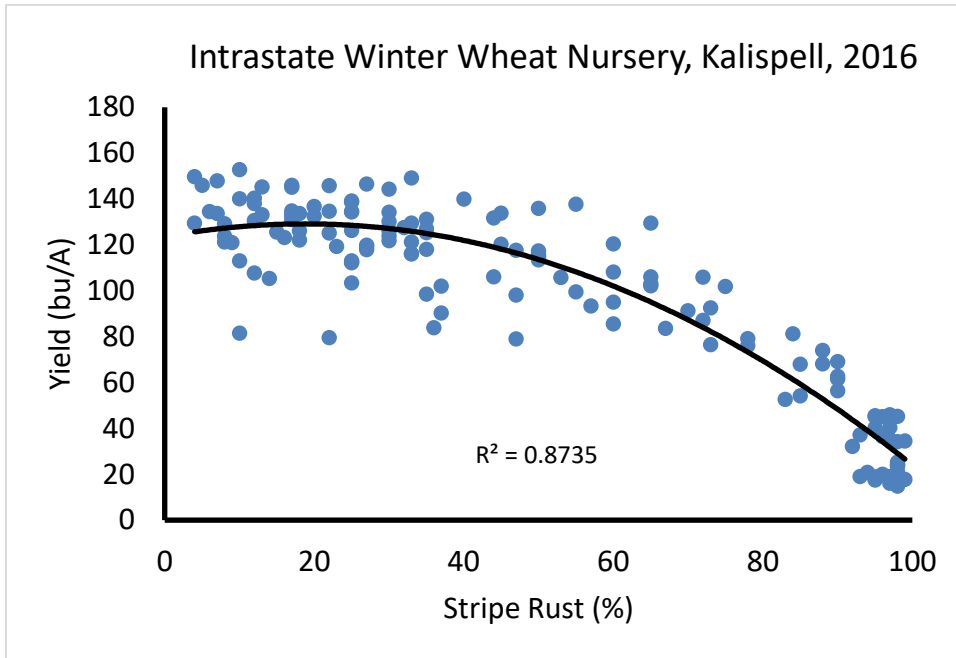


Figure 2.

