

Title: Evaluation of Advanced Spring Wheat Experimental Lines -2017

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

Results:

High temperatures and low rainfall reduced crop height, which averaged only 24 inches. Height ranged from 32.9 inches for Thatcher to a low of 21.3 inches for SY Tyra. Heading spanned 9 days with an average of 174 days. MT 1659 was the earliest at 170.3 days and WB 172 was the latest at 179.3 days. Days to physiological maturity spanned 4 days, with the average being 202.1 days (July 21). High temperatures and low rainfall also depressed yields, which only averaged 55 bu/A. Yields range from a high of 67.8 bu/A for MT 1601 to a low of 45 bu/A for Choteau. At the same time, protein was high and averaged 14.9 %, ranging from a high of 16.68 % for Egan to a low of 13.6 % for WF 162. Test weights averaged 58.8 lb/bu, with WB 173 having the heaviest grain at 61.7 lb/bu and Egan the lightest at 55.6 lb/bu. Seed size varied substantially among the entries, ranging from 42.6 g for MT 1653 to 29.1 g for Thatcher.

Summary:

MT 1601 was the top performer this year producing 67.8 bu/A, 14.86 % protein and a test weight of 59.4 lb/bu.

Table 1. Materials and Methods.

Seeding Date:	5/3/2017	Harvest Date:	8/15/2017
Julian Date:	123	Julian Date:	227
Seeding Rate:	80 lb/A	Soil Type:	Creston SiL
Previous Crop:	peas	Soil Test:	29-16-156
Tillage:	Conventional	Fertilizer:	150-30-30

Table 2. Agronomic data from advanced spring wheat lines, Kalispell MT. 2017

Cultivar	HD Julian	HT inch	PM Julian	YLD bu/A	PRO %	TWT lb/bu	TKW g
MT 1601	171.3	23.4	201.7	67.8	14.86	59.4	37.0
MT 1320	174.0	26.8	204.3	66.9	14.54	59.7	36.4
MT 1621	171.7	24.0	201.7	64.7	14.80	59.1	36.9
MT 1401	172.0	24.0	201.7	64.0	14.08	61.0	33.7
WF 162	176.0	22.0	201.7	63.9	13.60	57.7	33.0
MT 1653	176.0	25.5	205.0	62.3	14.37	59.2	42.6
SY Soren	173.0	24.5	202.3	61.3	15.23	59.3	32.3
NS Presse	179.0	25.1	204.3	60.6	14.89	56.6	32.6
MT 1624	171.3	23.1	201.7	60.3	14.89	58.7	34.4
Vida	177.3	25.1	204.3	60.2	14.53	57.7	32.1
WB 171	172.0	22.7	202.3	59.5	15.27	58.5	36.6
MT 1651	174.3	24.0	202.7	59.4	15.12	60.0	37.5
LIMAGR 17	172.7	25.5	202.7	59.3	14.80	59.9	34.6
MT 1625	172.0	25.7	201.7	59.1	14.95	58.8	33.6
MT 1451	173.7	23.5	203.0	59.0	14.13	59.4	39.6
Lanning	175.3	23.0	203.3	58.8	15.23	56.9	36.2
MT 1666	176.3	24.6	203.0	58.7	15.30	58.5	42.1
MT 1664	171.7	23.3	202.0	58.3	14.81	59.6	37.5
AGRIPR 16	176.0	23.3	201.3	58.0	14.84	58.0	35.4
MT 1348	172.3	23.9	201.7	57.9	14.65	59.1	36.9
WB 172	179.3	22.7	204.3	57.9	16.11	58.5	36.0
MT 1619	171.3	22.3	201.7	57.8	15.45	59.1	29.3
WB 173	176.0	22.2	203.3	57.0	14.43	61.7	36.3
Corbin	171.3	23.9	201.7	56.9	14.66	60.1	41.1
MT 1570	171.3	21.9	201.3	56.4	13.96	59.3	34.7
WB Gunni	174.3	22.3	202.0	56.2	13.80	59.3	38.6
SY Tyra	173.3	21.3	202.7	56.0	14.57	61.2	38.0
MT 1455	172.0	22.7	201.0	56.0	14.65	58.8	34.9
SY Ingmar	172.3	23.7	201.0	56.0	15.11	60.3	33.8
MT 1542	172.0	23.9	201.0	55.8	14.56	59.4	34.6
MT 1607	171.3	25.2	201.0	55.0	14.74	59.2	36.5
Reeder	178.7	23.5	204.3	54.9	15.18	58.0	32.1
Mean	173.9	24.0	202.1	55.6	14.91	58.8	35.1
LSD P=.05	1.82	2.29	1.43	8.68	0.58	1.47	3.96
CV	0.65	5.93	0.44	9.67	2.41	1.55	6.97
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

HD: heading date, HT: height, PM: physiological maturity, YLD: yield, PRO: protein
TWT: test weight, TKW: thousand kernel weight

Table 2. continued

Cultivar	HD Julian	HT inch	PM Julian	YLD bu/A	PRO %	TWT lb/bu	TKW g
Duclair	171.0	23.1	201.0	54.8	13.80	58.2	35.4
MT 1525	174.3	21.9	202.3	54.5	14.77	61.5	35.4
WF 161	173.3	23.4	202.7	54.5	15.12	58.8	35.9
MT 1543	172.0	23.4	201.7	54.4	14.77	58.4	40.6
MT 1659	170.3	23.1	201.7	54.4	14.45	59.8	32.2
SY Valda	172.3	23.5	202.0	54.3	14.04	58.9	31.5
MT 1512	172.7	25.1	201.0	54.2	14.57	59.1	38.3
MT 1627	172.7	26.1	201.0	54.2	15.18	60.1	33.0
LCS Pro	175.3	26.4	201.3	53.9	14.90	57.4	35.2
MT 1630	171.7	23.5	201.0	53.8	15.24	58.6	35.0
MT 1668	171.0	21.7	201.0	53.5	15.53	59.0	39.9
Alum	175.3	25.1	203.0	53.3	14.87	58.9	38.9
MT 1509	177.0	23.2	204.0	53.3	14.77	59.2	37.6
MT 1622	171.0	22.9	201.3	53.2	15.49	57.1	34.2
McNeal	178.0	24.5	203.3	53.1	15.05	56.5	35.1
MT 1672	173.7	23.3	201.7	52.4	15.40	58.0	35.6
MT 1617	175.3	23.6	202.0	52.1	14.62	58.0	30.6
MT 1442	173.3	24.1	202.7	52.0	14.82	59.6	36.4
WF 163	178.3	26.7	202.3	52.0	15.33	57.5	32.5
WB							
9879CLP	174.7	23.9	201.0	51.9	15.24	58.7	31.2
MT 1643	172.0	23.4	201.3	51.8	15.50	59.1	31.2
MT 1635	175.0	23.0	201.7	50.9	15.74	57.9	32.5
MT 1673	172.3	23.5	201.0	50.6	15.45	56.4	31.7
Brennan	171.7	21.7	201.0	50.3	15.55	60.1	34.7
MT 1645	173.7	23.3	201.7	49.7	14.92	60.1	35.4
LCS Prime	173.3	24.0	201.0	49.7	14.01	59.1	33.9
Egan	177.3	23.7	201.0	49.0	16.68	55.6	30.9
MT 1636	174.7	23.1	201.7	48.9	15.47	59.2	29.9
Thatcher	178.0	32.9	202.7	48.6	15.35	57.0	29.1
Fortuna	174.7	30.6	201.7	48.6	14.81	59.3	40.3
MT 1514	177.3	23.5	202.7	47.3	15.66	56.4	36.4
Choteau	175.3	22.3	201.0	45.0	15.22	58.0	31.5
Mean	173.9	24.0	202.1	55.6	14.91	58.8	35.1
LSD P=.05	1.82	2.29	1.43	8.68	0.58	1.47	3.96
CV	0.65	5.93	0.44	9.67	2.41	1.55	6.97
Pr>F	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

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