

Project Title: 2021 Spring Wheat Advanced Yield Trial

Objective: To evaluate the performance of selected spring wheat varieties in northwestern Montana

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Summary:

Spring Wheat was seeded on April 21, 2021 and managed under rainfed conditions (Table 1). A total of 8.9 inches of rainfall was received during the growing period (April-Aug).

The highest yielding variety was MT 2013 with an average yield of 125.0 bu/A. The lowest yielding variety was SYN 213 with an average yield of 77.9 bu/A. The overall yield average was 97.5 bu/A. The average protein content was 11%. There was a three way tie for the highest protein percentage at 12.7% between MT 2013, SYN 211, and MT 2049. The lowest protein was MT 2034 at 9.5%. The average test weight was 59.6 lb/bu and ranged from 62.6 lb/bu for WB 173 to 56.6 lb/bu for BZ917-252. While 43 varieties showed no signs of lodging, 21 varieties ranged from slight to very substantial lodging. The highest lodged variety was CI 10003 at 71.7% (Table 2).

Table 1. Management information.

Seeding date: 4/21/2021	Field Location: Y3
Julian date: 111	Harvest date: 8/25/2021
Seeding rate: NA	Julian date: 237
Previous crop: Canola	Soil type: Silty Clay Loam
Herbicide: Axial Bold/ CleansweepM 5/27/21	Tillage: Conventional
Insecticide: None	Soil residual nutrient (NO₃⁻¹, P, K lb/A): 97.5-16-286
Fungicide: None	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A): 50-30-50-10S

Table 2. Agronomic performance of spring wheat.

Variety/Line	HD (julian)	HT (in)	LOD (%)	YLD (bu/A)	PRO (%)	TWT (lb/bu)	TKW (g)
MT 2013	175	35.0	13.3	125.0	12.7	59.8	41.3
LIMAGR 201	182	34.7	0.0	119.1	10.9	57.2	37.3
MT 2045	176	34.1	16.7	115.9	11.1	59.5	42.0
MT 2063	175	33.0	23.3	115.9	10.7	59.7	41.5
MT 2049	174	31.9	30.0	115.5	12.7	58.4	40.2
WB 211	180	31.8	0.0	114.5	12.6	60.7	43.5
MT 1716	177	36.4	21.7	113.7	11.4	60.4	41.3
MT 2038	175	35.4	3.3	112.2	11.6	60.3	44.0
MT 1927	178	35.9	6.7	110.8	11.3	58.1	39.6
MT 1939	175	33.5	10.0	110.2	11.4	59.3	42.2
PI 679964	178	36.0	20.0	107.1	11.2	59.4	39.2
MS 201	175	38.3	13.3	105.5	10.0	59.0	38.4
MT 1809	178	37.0	0.0	105.3	10.1	59.3	38.0
MS 212	177	33.0	0.0	105.2	12.5	60.2	33.7
MT 2043	178	35.5	0.0	105.0	12.1	58.5	39.5
MT 2065	173	33.8	0.0	104.8	12.5	60.6	39.3
MT 1934	176	33.5	13.3	103.1	11.0	59.8	37.3
AGRIPR 161	180	32.5	0.0	103.0	11.6	58.1	37.0
MT 2030	177	34.4	0.0	102.1	11.0	58.6	38.4
WB 171	179	29.8	0.0	102.0	11.8	59.3	39.3
LIMAGR 211	176	35.7	0.0	101.0	10.3	59.8	34.7
MT 1855	177	35.8	0.0	100.9	10.5	59.7	39.1
MT 2021	176	36.2	0.0	100.7	10.7	59.0	40.0
MT 1951	179	37.0	0.0	100.0	12.5	56.8	35.0
BZ917-252	179	30.8	0.0	99.1	11.4	56.6	34.6
BZ 996434	176	34.7	8.3	98.7	10.2	59.9	44.7
SYN 211	178	31.5	0.0	98.2	12.7	60.4	34.1
BZ917-277	177	36.0	0.0	98.2	10.9	60.8	35.4
SYN 182	177	32.7	0.0	97.3	10.5	61.1	36.1
SYN 183	177	31.4	10.0	96.9	10.3	61.1	34.8
MT 1904	177	36.9	0.0	96.6	9.9	60.6	35.5
WB 173	179	32.7	0.0	96.5	10.8	62.6	37.4
MT 2050	176	34.1	0.0	96.0	10.9	58.7	38.0
BZ 92413R	178	32.6	0.0	96.0	10.6	60.7	44.1
MT 2072	178	36.7	0.0	95.9	9.8	60.5	37.2
LIMAGR 212	178	34.9	0.0	95.6	9.7	59.7	36.6
PI 676978	177	34.4	0.0	95.3	11.2	59.8	38.1
ND 695	179	34.6	0.0	95.2	11.2	61.2	39.1
PI 642366	178	35.7	0.0	95.0	10.5	59.8	39.4

MT 2047	174	32.3	13.3	94.7	11.3	59.9	34.1
Table 2. (continued)							
Variety/Line	HD (julian)	HT (in)	LOD (%)	YLD (bu/A)	PRO (%)	TWT (lb/bu)	TKW (g)
MT 2075	175	33.2	0.0	94.4	10.5	60.3	39.1
MT 2007	174	33.1	0.0	92.3	10.3	60.1	39.6
MT 2019	177	33.7	0.0	92.3	12.3	58.2	35.4
MT 2022	174	35.5	3.3	92.0	10.6	59.5	39.6
PI 574642	178	35.1	0.0	91.8	10.9	60.2	39.7
PI 660981	175	35.7	0.0	91.7	10.6	59.1	37.2
MT 1931	175	32.7	10.0	91.5	10.8	59.2	43.5
MT 1938	177	34.1	3.3	90.8	10.7	58.9	37.1
MT 2018	175	34.7	33.3	89.6	10.8	61.0	31.6
SYN 212	176	34.1	0.0	89.6	10.4	59.2	36.0
AGRIPR 141	177	30.5	0.0	88.4	11.3	61.1	34.7
SYN 181	176	33.2	0.0	88.4	10.8	61.7	40.2
CI 10003	180	47.0	71.7	87.9	11.9	59.0	31.5
MT 2011	178	34.5	0.0	86.8	10.4	59.3	39.0
MT 2020	175	34.3	3.3	86.8	10.4	58.4	38.1
MT 2054	176	37.1	0.0	86.5	10.3	60.6	47.5
WB 9879 CLP	178	33.1	0.0	84.5	10.7	59.3	35.2
PI 633974	176	36.1	0.0	84.5	10.3	59.4	37.3
MT 2005	175	32.8	0.0	83.8	10.5	60.4	39.4
PI 690450	175	33.5	0.0	83.8	10.5	59.5	41.2
MT 2034	176	32.3	0.0	82.4	9.5	58.5	40.1
PI 671855	178	32.7	0.0	80.0	12.0	59.4	34.5
MS 211	178	40.7	40.0	79.4	10.4	58.9	39.8
SYN 213	175	31.0	0.0	77.9	10.0	59.6	35.8
Mean	177	34.4	5.8	97.5	11.0	59.6	38.3
C.V.	0.6	3.5	187.2	6.7	4.6	0.7	2.5
LSD(0.05)	2	2.1	17.5	11.3	0.9	0.8	1.7
PR>F	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Bolding denotes equal value to highest or earliest value within a column based on LSD(0.05)

HD = heading date, HT = height, LOD = lodging, YLD = yield, PRO = protein, TWT = test weight, TKW = thousand kernel weight