

Project Title: 2022 Spring Wheat Advanced Yield Trial

MONTANA

wheat & barley

Objective: To evaluate the performance of developmental spring wheat lines in northwestern Montana

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Summary:

Spring Wheat was seeded on April 27th, 2022 and managed under rainfed conditions (Table 1). A total of 8.8 inches of rainfall was received during the growing period (April-August).

The highest yielding variety was LCS HammerAX with an average yield of 106.7 bu/A. The lowest yielding variety was THATCHER with an average yield of 55.4 bu/A. The overall yield average was 78.4 bu/A. The average protein content was 10.7%. The highest protein content was 11.6% from MT 21091 and the lowest was 9.7% for MT 2063. The average test weight was 63.3 lb/bu and ranged from 65.6 lb/bu for WB 9719 to 61.6 lb/bu for MT 2049. The average heading date was 185 julian with the earliest heading date at 183 julian for eighteen of the varieties, to the latest at 189 julian from NS PRESSER CLP.

Table 1. Management information

Seeding date: 4/27/2022	Field Location: NWARC Y-8
Julian date: 117	Harvest date: 8/30/2022
Seeding rate: NA	Julian date: 242
Previous crop: Canola	Soil type: Creston Silt Loam
Herbicide: MCPA+bromoxynil+flur-oxypyr+pinoxadin	Tillage: Conventional
Insecticide: None	Soil residual nutrient (NO₃⁻¹, P, K lb/A): 71-40-342
Fungicide: None	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A): 80-20-25-10s

Table 2. Agronomic performance of spring wheat

Variety/Line	HD (julian)	YLD (bu/A)	TWT (lb/bu)	PRO (%)	TKW (g)
LCS HammerAX	184	<u>106.7</u>	63.0	10.2	39.0
MT 21105	185	94.4	63.2	10.7	43.3
DUCLAIR	184	93.2	62.8	10.5	39.4
MT 1939	184	92.6	63.5	10.6	41.8
DAGMAR	184	88.8	63.8	10.8	42.4
MT 21104	184	88.6	63.7	10.4	40.9
MT 21082	183	87.9	62.7	11.1	37.9
LCS Dual	184	87.4	63.1	9.9	37.9
MT 21016	183	87.3	63.2	11.4	37.4
MT 21019	183	86.9	62.9	10.6	44.2
MT 2063	183	85.9	64.2	9.7	42.2
MT 2022	183	85.8	63.9	10.4	39.8
MT 2050	185	83.9	63.0	10.9	38.7
MT 21023	184	83.5	64.2	11.0	39.8
MT 21031	183	83.1	65.1	11.3	40.5
SY ROCKFORD	186	83.0	62.5	10.8	40.1
MT 21003	186	82.7	63.5	10.7	37.8
MS Rancho	184	82.6	62.8	10.6	38.5
WB 9929	186	82.5	62.0	10.2	43.3
MT 21091	184	82.1	62.4	<u>11.6</u>	41.6
MT 21074	186	82.0	63.9	10.9	40.6
MT 2030	184	81.9	62.4	10.8	42.1
MT SIDNEY	183	81.6	64.1	10.4	33.1
WB 9516	185	81.5	63.7	10.1	43.8
SY Longmire	184	81.2	63.9	10.6	37.3
MT 21024	183	81.0	64.3	10.2	39.9
LCS Ascent (LNR 0046)	183	80.6	64.0	10.3	35.0
MT 21073	184	80.6	63.6	11.1	40.1
AP Gunsmoke CL2	184	80.2	62.7	11.0	38.8
ROCKER	186	80.1	63.6	10.3	36.7
CORBIN	184	78.8	63.5	9.9	46.0
AP Smith	186	78.7	63.6	11.3	35.4
CHOTEAU	185	78.6	63.3	10.3	37.9
WB GUNNISON	186	78.2	63.1	10.6	46.8
WB 9879 CLP	185	77.9	63.8	10.4	35.8
MT 21005	183	77.8	62.7	11.2	39.0
SY INGMAR	186	77.1	64.0	11.3	34.7
MT 21062	183	77.0	63.7	10.2	38.9
MT 2054	184	75.9	63.1	10.9	<u>48.8</u>
MT 1809	186	75.2	62.3	10.8	40.1

Table 2. continued					
Variety/Line	HD (julian)	YLD (bu/A)	TWT (lb/bu)	PRO (%)	TKW (g)
AAC Concord	188	74.8	62.5	11.1	41.2
ND HERON	184	74.4	64.6	11.1	37.6
MT 21021	183	74.3	64.4	10.8	42.6
WB 9668	183	73.8	64.0	10.9	35.9
MT 2013	183	73.1	63.9	10.4	39.3
MT 21111	183	73.1	63.5	11.2	43.3
WB 9719	186	73.0	65.6	10.1	38.0
MT 2038	183	72.8	62.5	11.2	44.7
MT 21075	185	72.5	63.8	11.1	39.7
SY 611 CL2	185	72.3	63.5	10.9	36.6
MS Cobra	184	71.4	63.7	10.6	35.7
MT 21037	184	71.2	62.9	10.8	40.9
NS PRESSER CLP	189	71.2	62.6	10.0	41.4
MT 21102	184	70.9	64.5	11.1	38.4
MT 2049	183	69.7	61.6	10.9	39.5
VIDA	186	69.5	63.2	10.2	41.4
MT 21089	184	68.8	62.0	11.2	43.5
MT 21099	188	68.8	62.4	10.2	40.0
MT 2007	183	66.9	63.0	10.7	41.7
REEDER	185	66.3	63.3	11.0	41.1
LANNING	184	66.1	62.6	11.1	40.0
MCNEAL	186	65.2	62.8	10.9	41.9
MT 21076	187	64.5	62.1	10.7	37.0
THATCHER	187	55.4	62.6	10.7	33.0
Mean	185	78.4	63.3	10.7	39.9
C.V.	0.3	7.2	0.3	2.3	1.7
LSD(0.05)	1.1	9.7	0.3	0.4	1.1
PR>F	<0.001	<0.001	<0.001	<0.001	<0.001

Bold = highest value in column; **Bolding** denotes equal value to highest or earliest value within a column based on LSD(0.05)

HD = heading date, YLD = yield, PRO = protein, TWT = test weight, TKW = thousand kernel weight