Project title: 2023 Off-Station Spring Wheat Trial

Objective: To evaluate the performance of selected spring wheat in a farmer-field production environment in northwestern Montana.

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Summary:

There were 25 entries of spring wheat planted as a farmer-field trial. This trial was under rainfed conditions and seeded on 27 April 2023 and harvested on 17 August 2023. Cultural practices are provided in Table 1. This farmer-field trial received 3.17 inches of rain.

Average yield was 57.1 bu/A, PI 690450 had the highest yield with 63.5 bu/A and WB9879CLP was the lowest yielding with 49.2 bu/A. The average protein was 15%, with MT 21074 having the highest protein (16.1%) and MT 2050 being the lowest (14.4%). The average heading date was day 179 (28 June) with PI 690450 heading the earliest (day 168; 17 June) and PI 679964 as the latest (day 176; 25 June). The average test weight was 57.5 lbs./bu, AGRIPR 10 was the highest (59.5 lbs./bu) and PI 676978 the lowest (56.3 lbs./bu). Average falling number (FN) was 588 seconds, and FN values of all entries were above critical level (330 seconds) for amylase activity.

Table 1. Management information

Seeding date:	4/27/2023 (117)	Field Location:	Jaquette Rd
Seeding rate:	N/A	Harvest date:	8/17/2023 (229)
Previous crop:	Winter Wheat	Soil type:	Creston silt loam
Herbicide:	Axial Bold, Cleansweep	Tillage:	No Till
Insecticide:	none applied	Soil residual nutrient (NO3-1, P, K lb/A):	14-21-0
Fungicide:	none applied	Nutrient fertilizer applied (N, P2O5, K20 lb/A):	124-20-14

Table 2. Agronomic Performance

ID	HEIGHT	GRNFILL	HD	YIELD	TWT	PRO	TKW	FN
	(IN.)	(DAYS)	(J)	(BU/AC)	(LB/BU)	(%)	(g)	(sec)
PI 690450	32	**33**	**168.7**	**63.5**	57.5	14.9	26.8	611
MT 2050	31.3	29.3	172.7	**61**	**58.3**	14.4	**31**	558
MT 1939	30.9	**29.7**	171.3	**60.9**	56.6	14.8	26.8	553
MT 2030	31.1	**30.7**	173	**60.9**	56.7	15.1	26.9	631
MT 1809	29.5	**30**	172.3	**59.2**	57.5	15	22.9	564
MT 21037	30	29.3	171.7	**59.2**	57.1	14.4	26.2	554
BZ 917-277	28.7	27.7	175	**59.1**	58	15.2	22.9	**772**
SYN 182	29.9	**30.7**	**170.3**	**58.8**	57.9	14.9	26	**772**
MT 2049	31.9	**32**	**169**	**58.7**	**58.2**	14.5	**28.6**	585
MT 21105	30.2	**30.3**	171.3	**58.5**	57.4	15.1	**29.1**	585
AGRIPR 10	28	**30.7**	**170.3**	58	**59.5**	14.6	25.9	652
PI 642366	30.3	29	173.3	58	57.8	14.5	25.4	535
MT 2063	31	**31.3**	**170.7**	57.4	58	14.4	25.4	521
AGRIPR 14	28.4	**30**	**171**	56.7	57.6	15.1	25.5	660
ND 695	**33.3**	**31**	172.7	56.5	55.9	**15.7**	25.1	549
PI 699957	30.8	**32.3**	**170.7**	56.4	**58.5**	15.3	22.4	605
MT 21016	30	**30.3**	**170.7**	56.4	57.3	**15.5**	25.5	510
PI 679964	31.3	27.7	176.7	56.2	56.7	15	26.6	597
PI 676978	29.5	**30.7**	172.3	55.8	56.3	14.7	**30.6**	504
MT 21074	31.2	**33.3**	173.3	55.7	**58.2**	**16.1**	26.5	551
MT 21104	29.6	**29.7**	171.3	55.6	56.8	15.2	23.8	535
PI 660981	31	**30.3**	**170.7**	53.7	56.9	15.4	26.1	468
AGRIPR141	28.8	25.7	175.3	51.7	57.5	15.3	22.9	705
BZ 996434	30.6	**31.7**	**169.3**	49.6	57.8	15.4	27.6	582
WB9879CLP	29.1	28	173	49.2	57.4	15.4	24.6	614
MEAN	**30.3**	**30.2**	**171.9**	**57.1**	**57.5**	**15**	**26**	**588**
C.V.	5.9	6.8	0.9	5.8	1.6	3	8.3	5.5
LSD(0.05)	**ns**	**3.7**	**2.5**	**5.2**	**1.4**	**0.7**	**3.2**	**54**
P VALUE	0.2	<0.05	<0.001	<0.001	<0.05	<0.001	<0.01	<0.001

Bold: highest or earliest value within a column, **bold**: equal value to highest or earliest value within a column based LSD(0.05), GRNFILL= grain fill duration, HD= heading date, TWT= test weight, PRO= Protein, TKW= thousand kernel weight, FN= falling number, ns= not significant.