

Project Title: 2022 Winter Wheat Off-Station Trial

MONTANA

wheat & barley

Objective: To evaluate the performance of selected winter wheat varieties in a production environment in northwestern Montana

Personnel: Clint Beiermann, Suchismita Mondal, Jacob Tracy, Jessica Pavelka

Summary:

The off-station winter wheat trial was planted on September 30th, 2021, harvested on August 9th, 2022, and managed under rainfed conditions (Table 1).

There was no significant difference between the yield of the winter wheat varieties. Yields ranged from 50.7 bu/A for Northern to 85.6 bu/A for AAC Wildfire, with an overall average of 68.9 bu/A. The average test weight was 63.5 lb/bu. Ray had the lowest test weight at 62.1 lb/bu while Judee had the highest at 65.3 lb/bu. The average protein content was 13.6% with the lowest being 12.1% for AAC Wildfire and the highest at 15.0% for Warhorse. There was no significant difference between survival rates of the varieties, they ranged from a 90-98%. The average time for falling numbers was 406.0 seconds, with the lowest falling number variety being MT Warcat at 366.5 seconds, and Northern being the highest at 572.8 seconds, which also had the highest yield (Table 2).

Table 1. Management information

Seeding date: 9/30/2021	Field Location: Ronan, MT
Julian date: 273	Harvest date: 8/9/2022
Tillage: Conventional	Julian date: 221
Previous crop: Spring wheat	Soil type: Round Butte Silty Clay Loam
Herbicide: MCPA+ pinoxadin+ thifensulfuron+ tribenuron	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A): 120-52-30

Table 2. Agronomic performance of winter wheat varieties

Variety/Line	Stand (%)	HT (in)	YLD (bu/A)	TWT (lb/bu)	PRO (%)	FN (sec)
AAC Wildfire	93	31.4	85.6	64.5	12.1	423.8
MTS1908	97	33.9	83.6	64.4	12.9	416.0
MT1745	97	31.3	81.5	63.7	13.3	445.9
Bobcat	96	26.4	80.5	64.7	13.1	432.9
MTFH19132	96	30.7	80.1	63.5	13.1	462.1
FourOsix	95	30.7	79.8	63.9	13.4	427.9
SY Clearstone 2CL	96	35.0	79.4	63.3	13.1	458.7
MT19175	94	29.0	79.0	64.5	12.9	437.9
MT WarCat	90	24.5	74.5	62.6	14.3	366.5
Yellowstone	96	32.9	74.2	63.2	14.2	545.9
Keldin	92	28.3	73.7	62.8	13.8	463.5
Judee	94	29.6	73.4	<u>65.3</u>	14.0	451.0
StandClear CLP	98	31.4	70.3	64.0	13.7	423.5
MTS1903	94	32.1	67.3	64.4	13.2	478.7
LCS Jet	96	25.1	65.0	62.4	12.3	372.7
Loma	95	27.0	64.3	63.5	14.8	403.9
Ray	92	32.4	61.3	62.1	14.7	516.1
Brawl CL Plus	96	28.7	60.5	64.3	13.9	471.2
MTCL19151	96	26.3	58.2	63.2	13.9	533.0
MTCS20156	94	28.6	57.5	63.1	14.5	434.5
MTF20189	95	<u>39.9</u>	57.1	62.7	15.0	527.4
Warhorse	96	28.8	55.2	63.3	15.0	531.3
SY Monument	95	26.9	55.2	62.9	13.3	393.2
Flathead	94	31.4	54.1	63.2	14.7	509.6
Northern	91	26.6	50.7	62.8	12.1	<u>572.8</u>
Average	94.7	30.0	68.9	63.5	13.6	460.0
LSD (0.05)	-	5.7	-	1.4	-	66.0
C.V. (%)	2.6	9.6	23.2	1.1	12.8	8.7
P>F	0.1212	<0.0001	0.1647	0.0001	0.7422	<0.0001

Bold = highest value in column, **Bolding** indicates varieties with values equal to highest variety based on LSD (p =0.05)

HT = height, YLD = yield, TWT = test weight, PRO = protein, FN = falling number