Project Title: 2023 Intrastate Spring Barley Off-Station Trial

Objective: To evaluate the agronomic performance of barley grown in northwestern Montana.

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Summary:

There were 25 Barley varieties/lines planted on 26 April 2023, and harvested on 7 Sept. 2023. Detailed cultural practices are shown in Table 1. The trial was grown under rainfed conditions receiving 5.8 inches of rain between planting and harvest on a field with subsurface water recharge.

The average yield was 99.90bu/A with MT19_M065_05 being the highest with an average yield of 164.8 bu/A and MT16F01601 being the lowest at 8.7 bu/A. The trial had an average plumps of 98% with MT16M01801 being the best performer with 99.9% plump and MT17F02410 the lowest performer with 95.3%. The study had an average protein of 12.3% with MT19_H11_04 having the highest protein (14.6%) and MT Boy Howdy being the lowest (10.5%).

Table 1. Management information.

Seeding date:	4/26/2023 (116)	Field Location:	Y2
Seeding rate:	N/A	Harvest date:	9/7/2023 (250)
Previous crop:	Peas	Soil type:	Creston Silt Loam
Herbicide	Axial Bold, Cleansweep	Tillage:	Conventional
Insecticide	N/A	Soil residual nutrient (N, P, K lb/A):	140.5, 13, 117
Fungicide	N/A	Nutrient fertilizer applied (N, P, K lb/A):	25, 30, 90

Table 2. Agronomic performance

ID	HD (J)	PM (J)	GRNFILL (DAYS)	YLD (BU/A)	PRO (%)	PLUMP (%)
MT19_M065_05	178	208	30	**164.8**	11.04	99.6
MT18M10106	180	206	26	161.3	10.83	99.83
MT16M01801	176	208	32	161.0	11.06	**99.94**
MT19_M034_16	180	205	25	156.7	10.66	99.22
MT Endurance	173	205	31	154.0	11.27	99.49
Hockett	178	204	26	153.9	12.19	99.21
MT18M11002	177	206	28	153.8	11.77	99.75
MT19_M064_04	179	205	26	153.0	11.24	99.75
LCS Odyssey	180	211	31	151.4	11.03	99.91
Havener	178	204	26	147.4	13.13	99.08
MT18M11004	177	204	28	142.8	11.73	99.55
Buzz	175	208	32	137.3	11.72	99.73
MT19_H11_05	177	204	27	132.9	13.25	98.97
MT18H02702	177	204	28	109.6	13.77	99.53
MT Boy Howdy	172	205	32	97.3	10.52	99.79
MT19_H11_04	178	204	26	88.5	**14.59**	99.19
Haxby	171	204	32	62.8	11.94	99.53
Haymaker	174	205	30	29.3	13.37	97.18
MT17F02410	179	204	24	29.2	12.64	95.32
MT18F00803	178	**203**	**25**	27.2	13.92	98.34
MT Cowgirl	176	204	28	14.6	12.68	97.57
MT19_F04_02	177	204	27	13.5	13.52	99.03
Lavina	176	205	28	11.6	13.76	97.55
MT18F00507	177	203	27	11.1	12.55	97.48
MT16F01601	**171**	205	34	8.7	13.43	96.38
MEAN	**177**	**205**	**28**	**99.0**	**12.30**	**98.8**
C.V.	1	0.7	7.7	13.5	4.1	1
LSD	2.92	2	3.66	21.29	0.79	0.016
P-VALUE	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Bold= Highest, earliest, or shortest value within the column. HD= heading date, PM= physiological maturity, GRNFILL= grain fill duration, YLD= yield, PRO= Protein