Project Title: 2020 Intrastate Forage Barley Trial

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

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Summary:

Twenty-five barley varieties/lines were planted in spring, and managed under rainfed condition (Table 1). A total of 11.2 inches rainfall was received during the growing period (April-Aug.).

On average, the forage yield was 6.1 t/A, and ranging from 8.4t/A for MT18F00507 to 4.9 t/A for MT18F00117. Grain yield averaged 98.9 bu/A, ranging from 79 bu/A for MT18F00410 to 110.4 bu/A for MT18F00607 (Table 2). Average grain protein content was 9.7%; MT18F00410 had the highest protein content at 12.1%, whereas Hays had the lowest protein content at 8.8%. The tallest variety was MT18F01104 at 41.1 inches and the shortest on was MT18F00805 at 29.5 inches, while the average height over the varieties was 33.5 inches. Grain test weight (TWT) averaged 49.8 lbs/bu, ranging from 52.8 lbs/bu for MT18F01104 to 47 lbs/bu for MT18F00117. Plump percentages were clustered within the 84.9%-96.6% range, with the average at 92.4%.

Table 1. Management information

Seeding date:	4/21/2020	Field:	P2
Julian date:	112	Harvest date:	Forage: 7/13, Grain: 8/18
Seeding rate:	n/a	Julian dates:	195, 230
Previous crop:	Winter wheat	Soil type:	Creston silt loam
Herbicide:	6/1: Cleansweep M & Axial	Tillage:	Conventional
Insecticide:	None	Soil residual nutrient (NO_3^-, P, K lb/A):	Fall, 2019: 122-20-376
Fungicide:	None	Nutrient fertilizer applied (N, P_2O_5, K_20 lb/A):	4/8/20: 84-10-35 (10 S)

Table 2. Agronomic performance of the forage barley entries

Variety	Forage yield t/A	Grain yield (bu/A)	Grain Protein (%)	Height (inch)	TWT (lbs/bu)	Plump (%)
MT18F00507	8.4	99.8	9.4	30.3	49.2	87.0
MT18F00410	8.3	79.0	12.1	37.7	47.3	95.9
MT18F00503	7.4	97.0	9.4	34.1	50.6	95.2
Lavina	7.0	110.3	9.5	31.6	50.3	87.2
MT18F00502	6.7	102.2	9.8	33.3	49.1	95.5
MT18F01104	6.7	95.5	10.4	41.1	52.8	96.6
MT16F02410	6.5	102.5	9.5	29.6	50.2	90.3
Hays	6.3	103.2	8.8	29.8	50.7	90.7
MT16F01601	6.3	103.2	9.8	31.9	50.9	93.2
MT18F01003	6.3	94.0	9.5	38.6	51.6	96.4
MT18F00110	6.2	98.8	9.6	36.0	50.7	95.9
MT18F01010	6.2	97.1	9.1	30.8	50.3	94.2
MT18F00403	6.0	101.8	9.6	33.5	48.6	91.4
MT16F02408	6.0	101.2	10.1	34.4	52.4	95.1
MT18F01012	6.0	99.2	9.2	34.4	49.7	92.2
MT18F00411	5.7	95.5	10.7	33.1	47.6	90.1
Haymaker	5.6	96.0	9.8	32.5	50.5	89.1
MT18F00607	5.5	110.4	8.8	32.4	48.8	90.7
MT16F01603	5.3	96.2	9.8	31.6	49.6	92.7
MT17F01611	5.1	103.1	9.2	32.9	50.5	93.9
MT16F02902	5.1	99.8	9.4	32.4	50.8	93.3
MT18F00805	5.1	95.9	9.9	29.5	48.5	89.2
MT16F02910	5.0	101.6	9.6	37.5	49.1	93.6
MT18F00206	5.0	90.8	10.2	36.0	48.3	94.7
MT18F00117	4.9	98.1	9.9	33.1	47.0	84.9
Mean	6.1	98.9	9.7	33.5	49.8	92.4
CV	28.1	7.5	3.8	7.4	0.8	1.6
LSD	2.4	10.2	0.5	4.1	0.6	2.5

TWT = test weight; test weight and yield standardized to 12% moisture levels