

Project Title: 2021 Advanced Yield Trial Intrastate Forage Barley

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

Personnel: Clint Beiermann, Jamie Sherman, Jessica Pavelka, Gregory Lutgen

Summary:

Twenty-four barley varieties/lines were planted in the spring of 2021 and managed under rain fed conditions (Table 1). A total of 8.9 inches of rainfall was received during the growing period (April-Aug).

Forage biomass yields averaged 4.1 tons/A, and the highest yielding variety was Lavina at 7.4 tons/A and the lowest yielding was MT19_F04_03 at 3.3 tons/A. On average the harvested grain yield was 92.1 bu/A. Grain yields ranged from 105.7 bu/A for MT17F02406 to 58.4 bu/A for MT18F01104. Plant heights averaged 79.4 cm, with the tallest variety being MT18F01104 at 93.3 cm to the shortest variety MT19_F03_05 at 67.8 cm. The average test weight was 43.7 lb/bu (Table 2).

Table 1. Management information

Seeding date: 4/28/2021	Field Location: Y1
Julian date: 118	Harvest date: 8/5/2021
Seeding rate: NA	Julian date: 217
Previous crop: Winter Wheat Axial Bold /	Soil type: Silty Clay Loam
Herbicide: CleansweepM 5/27/2021	Tillage: Conventional
Insecticide: None	Soil residual nutrient (NO₃⁻¹, P, K lb/A): Fall 2020, 92-20-292
Fungicide: None	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A): Spring 2021, 50-30-50-10S

Table 2. Agronomic performance of forage barley

Variety/Line	Height (cm)	Forage Biomass (tons/A)	Yield (bu/A)	TWT (lb/bu)
MT17F02406	84.1	4.2	105.7	45.6
MT18F00503	79.5	4.5	104.2	44.3
MT18F00803	79.4	4.6	101.2	40.7
MT16F01601	83.5	4.5	100.5	45.0
MT16F02408	81.9	4.3	100.3	46.5
Haymaker	84.2	4.1	99.7	45.7
MT16F02410	76.5	4.4	99.3	44.6
MT18F00607	81.8	3.6	97.4	43.2
MT19_F06_04	75.9	4.1	96.9	42.0
MT16F02902	85.0	4.3	95.5	45.2
MT19_F03_05	67.8	4.2	95.5	44.0
MT19_F04_02	80.8	4.1	95.5	41.8
MT18F00403	85.9	3.9	93.3	41.2
MT18F00507	80.1	4.5	92.0	42.6
MT19_F04_03	70.4	3.3	90.9	46.1
MT19_F05_03	80.6	4.1	90.4	43.0
MT18F01010	77.2	4.3	89.6	43.7
MT17F01611	79.1	4.2	89.5	44.5
Lavina	78.7	4.7	89.5	43.9
MT19_F05_04	75.5	4.3	88.0	42.4
MT19_F07_04	71.6	3.8	87.5	40.4
MT19_F06_02	75.3	4.7	84.3	41.0
MT19_F07_02	81.7	3.9	58.7	46.4
MT18F01104	93.3	3.4	58.4	42.9
Mean	79.4	4.1	92.1	43.7
CV	4.9	10.8	10.2	1.5
LSD	6.0	0.7	14.4	0.9

Bolding denotes equal value to highest or earliest value within a column based on LSD(0.05)

TWT = test weight