Project Title: 2021 Early Yield Trial 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-five barley varieties were planted on April 28th, 2021 and managed under rainfed conditions (Table 1). A total of 8.9 inches of rainfall was received throughout their growing period (April-Aug).

Average forage biomass yield was 4.1 tons/A, with the highest yield being 4.73 tons/A for Lavina, to 3.31 tons/A for MT19_F04_03. Average 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. Test weight averaged 43.7 lb/bu for all varieties, ranging from 46.5 lb/bu for MT16F02408 to 40.4 lb/bu for MT19_F07_04. Average plant height was 79.4 cm, ranging from the tallest variety MT18F01104 at 93.3 cm to MT19_F03_05. At 67.8 cm (Table 2).

Table 1. Management information

Seeding date:	4/28/2021	**Field Location:**	Y1
Julian date:	118	**Harvest date:**	8/6/2021
Seeding rate:	NA	**Julian date:**	218
Previous crop:	Winter Wheat	**Soil type:**	Silty Clay Loam
Herbicide:	Axial Bold / CleansweepM 5/27/2021	**Tillage:**	Conventional
Insecticide:	None	**Soil residual nutrient (NO_3^{-1}, P, K lb/A):**	92-20-292
Fungicide:	None	**Nutrient fertilizer applied (N, P_2O_5, K_20 lb/A):**	50-30-50-10S

Table 2. Agronomic performance of forage barley

Variety/Line	Height (cm)	Forage Biomass (tons/A)	Yield (bu/A)	Test Weight (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
Hays	74.8	3.7	**99.3**	44.9
MT18F00607	81.8	3.6	**97.4**	43.2
MT19_F06_04	75.9	**4.1**	**96.9**	42.0
MT19_F04_02	80.8	**4.1**	**95.5**	41.8
MT19_F03_05	67.8	**4.2**	**95.5**	44.0
MT16F02902	85.0	**4.3**	**95.5**	45.2
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
Lavina	78.7	**4.7**	89.5	43.9
MT17F01611	79.1	**4.2**	89.5	44.5
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)