

Project Title: 2023 Intrastate Winter Forage Barley



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

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Summary:

There were 16 varieties of winter barley planted on 27 September 2022, and harvested on 28 July 2023. Detailed cultural practices can be found in Table 1. They were managed under rainfed conditions and received 11.42 inches of precipitation between planting and harvest.

Average yield was 87.2 bu/A with Saturn being the highest (164.36 bu/A) and MTWF6(F3) _50-11 being the lowest (47.53 bu/A). Average forage yield was 6.7 tons/A with MTWF6(F2) _50-5 being the highest (7.7 tons/A) and MTWF6(F2) _51-9 being the lowest (3.9 tons/A). Average winter survival was 88.5% with MTF20189-WW the highest (95.67%) and MTWF5(F3) _28-1 the lowest (82.33%). Average grain fill days was 51 days, MTWF5(F3) _28-1 had the longest (60 days) and MTWF7_19-7 the shortest (41 days). Average protein was 14.00% with MTWF6(F3) _50-12 being the highest (15.33%) protein and Saturn being the lowest (11.29%).

Table 1. Management information

Seeding Date:	9/27/2022 (270)	Field Location:	Y1
Seeding rate:	N/A	Forage harvest date:	6/16/2023 (167)
Previous crop:	Peas	Harvest date:	7/28/2023 (209)
Herbicide:	Axial Bold	Soil type:	Creston Silt Loam
Insecticide:	N/A	Tillage:	Conventional
Fungicide:	Headline	Soil residual nutrient: (N, P, K, lb./A)	103.5,7,123
		Nutrient fertilizer applied: (N, P, K, lb./A)	26.5, 50, 90

Table 2. Agronomic performance

ID	WinSur (%)	GRNFILL (DAYS)	PRO (%)	DM (TONS/A)	YLD (BU/A)
Saturn	86.67	50.9	11.29	5	164.4
MTF20189-WW	95.67	44.0	12.88	6.2	156.3
MTWF6(F2) _50-2	90.00	50.2	13.62	5.3	100.2
MTWF6(F2) _51-5	89.00	52.3	12.70	5	99.0
MTWF5(F3) _27-2	79.67	51.3	14.08	4.7	91.9
MTWF6(F2) _50-5	90.67	52.0	14.38	7.7	89.3
MTWF7_19-7	92.67	40.8	13.69	5.1	88.7
MTWF5(F3) _28-1	82.33	59.8	14.17	5.7	86.5
MTWF6(F3) _50-13	85.00	52.4	14.66	5.1	77.9
MTWF6(F2) _50-7	84.33	50.1	14.88	6.2	77.0
MTWF6(F2) _51-9	91.67	52.1	14.53	3.9	75.8
MTWF6(F2) _50-1	86.67	51.6	14.63	5.3	65.3
MTWF5(F3) _27-1	92.33	52.4	14.79	7.1	64.1
MTWF5(F3) _29-2	84.67	52.3	14.73	5.9	60.6
MTWF6(F3) _50-12	89.67	52.1	15.34	4.7	52.1
MTWF6(F3) _50-11	95.67	51.7	13.74	7.4	47.5
MEAN	88.5	51	14.01	5.6	87.3
C.V.	6.5	1	5.5	22.7	23.1
LSD	10	7.4	1.26	2	30.39
P-VALUE	0.08216	<0.001	<0.001	0.06534	<0.001

Bold= Highest, latest value within the column. WinSur= winter survival, GRNFILL= grain fill, DM= dry matter, YLD= yield, PRO= protein.