

**Project Title:** 2019 Intrastate Barley Variety Trial

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

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**Summary:**

Forty-nine barley varieties were planted in spring, 2019, and managed under rainfed conditions (Table 1). Leandra was the top yielder at 190.3 bushels/acre, MT16M01705 had the lowest yield at 138.4 bushels/acre, and the average yield was 160.2 bushels/acre (Table 2).

Six varieties had test weights of 56.0 or higher, and Hockett had the highest of those at 56.3 lb/bu. MT16M00408 had the lowest test weight of 52.9 lb/bu and the trial average was 54.9 lb/bu. Protein topped out at 13.4% (MT16M06404) and the study average was 11.6%. Plump percentages were clustered within the 97%-99% range, with the average at 98.6%.

**Table 1.** Management information

Seeding date:	4/29/19	Field:	X4
Julian date:	119	Harvest date:	8/27 and 8/28/2019
Seeding rate:	n/a	Julian dates:	239 and 240
Previous crop:	Faba	Soil type:	Fine sandy loam
Herbicide:	Huskie/Axial: 5/23	Tillage:	Conventional
Insecticide:	None	Soil residual nutrient (NO <sub>3</sub> <sup>-</sup> , P, K lb/A):	122-14-212
Fungicide:	None	Nutrient fertilizer applied ( N, P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O lb/A):	28-35-90

**Table 2.** Agronomic performance of the barley varieties

Variety	Grain Yield (bu/A)	Height (cm)	Protein (%)	TWT (lb/bu)	Plump (%)
Leandra	190.3	67.0	11.4	54.1	99.2
Opera	182.9	69.7	10.6	54.4	97.7
MT16M01902	177.5	85.7	11.6	55.2	97.8
Ellinor	175.9	73.7	11.3	53.7	99.2
Odyssey	175.8	70.0	10.8	54.3	98.9
MT16M00406	174.2	91.7	11.6	53.7	98.8
MT16M05403	172.2	86.7	11.1	56.1	97.0
MT16M02101	170.9	92.3	11.3	54.7	95.8
MT16M00806	170.8	97.8	12.4	55.3	99.0
Merit 57	170.6	87.7	10.8	54.9	98.1
MT16M00709	169.0	101.0	10.7	55.2	98.9
MT16M02003	167.9	85.2	11.2	55.1	97.9
MT090202	166.2	92.7	11.3	54.9	98.8
MT16M02106	165.7	90.5	11.5	54.8	98.3
MT16M00707	165.2	93.3	11.5	55.6	98.8
MT16M00407	165.1	92.7	12.3	54.6	99.1
MT16M01801	164.3	94.2	10.9	54.4	99.0
MT16M01405	163.6	86.8	11.9	54.2	99.3
IK14-8413	162.4	81.0	12.0	55.0	98.9
MT16M02201	162.0	85.3	11.8	54.7	98.4
MT16M00610	161.6	89.8	12.4	55.8	98.9
MT16M00305	160.8	86.5	11.8	54.2	98.0
MT16M01806	160.3	88.0	10.6	55.2	99.2
Hockett	160.1	90.7	12.3	56.3	97.4
MT16M06404	158.8	91.7	13.4	55.8	99.1
Genie	158.3	72.5	11.4	55.0	97.7
MT124112	158.2	84.2	11.5	53.7	98.6
MT16M00209	157.6	78.5	11.1	54.2	99.3
MT16M10204	157.4	96.8	n/a	56.0	97.3
MT16M00504	157.4	84.8	12.5	55.3	99.3
2IM14-8212	157.4	80.8	11.1	54.0	99.2
Metcalfe	157.4	94.3	12.2	56.1	97.7
MT16M05610	156.5	91.7	11.5	55.1	99.3
MT16M07806	156.4	87.8	11.7	56.1	99.0
MT16M06110	155.2	80.5	11.0	54.3	98.8
MT16M02107	154.5	91.0	12.3	56.2	96.8
MT16M01204	154.4	81.0	12.1	53.8	99.4

**Table 2.** Continued

<b>Variety</b>	<b>Grain Yield (bu/A)</b>	<b>Height (cm)</b>	<b>Protein (%)</b>	<b>TWT (lb/bu)</b>	<b>Plump (%)</b>
MT16M01901	153.8	86.8	11.3	54.1	99.1
MT16M01819	153.2	79.8	12.3	54.9	98.4
MT16M00807	152.5	90.5	11.2	54.4	99.3
MT16M01803	151.0	87.5	11.7	55.4	99.0
MT16M02008	149.5	89.3	11.5	54.5	99.0
Bow	147.8	90.7	11.6	54.8	99.4
Fraser	144.5	81.5	11.7	54.2	99.2
MT16M09602	144.4	76.3	11.4	55.0	99.2
MT16M05902	140.2	78.0	11.5	55.8	98.5
MT16M00603	139.7	85.0	12.2	54.4	99.1
MT16M00408	139.5	85.8	12.0	52.9	98.9
MT16M01705	138.4	88.7	11.8	55.7	97.3
<b>Mean</b>	<b>160.2</b>	<b>86.0</b>	<b>11.6</b>	<b>54.9</b>	<b>98.6</b>
<b>LSD (0.05)</b>	<b>19.9</b>	<b>8.1</b>	<b>0.5</b>	<b>0.7</b>	<b>0.8</b>
<b>CV%</b>	<b>6.30</b>	<b>4.70</b>	<b>2.27</b>	<b>0.62</b>	<b>0.42</b>
<b>Pr&gt;F</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>

TWT = test weight

n/a: unable to obtain protein values via NIR analysis for this variety due to its dark purple color

\*test weight and yield standardized to 12% moisture levels