

Project Title: 2022 Spring Cereal Forage Variety Trial

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

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Summary:

Thirteen forage varieties were planted on May 2nd, 2022, and managed under rainfed conditions (Table 1). Species planted included eight varieties of barley, one variety triticale, three varieties of oat, and one variety of spring wheat (Table 2).

Forage biomass was harvested on July 18th and the overall average yield was 8.2 tons/A. There was not a significant effect of variety on forage biomass yield. The average yield of oat was 9.3 tons/A, average yield of barley was 8.1 tons/A, and triticale had an average yield of 8.4 tons/A. The average heading date was 161 julian, however there was no significant difference between heading date based on variety. The highest ADF % and NDF % came from Tritical 141. The highest sulfur content came from MT Cowgirl at .1%, and the average was .073%. The average protein content was 10.1%, with the highest value being 10.9% for MT18F00607 and the lowest at 8.6% for Goliath (Table 2).

Table 1. Management information

Seeding date:	5/2/2022	Field Location:	X4
Julian date:	122	Harvest date:	NA
Seeding rate:	NA	Julian date:	NA
Previous crop:	Canola	Soil type:	Creston Silt Loam
Herbicide:	2,4-D (12fl oz/A) - 6/7/22	Tillage:	Conventional
Insecticide:	NA	Soil residual nutrient (NO₃⁻¹, P, K lb/A):	109-16-312
Fungicide:	NA	Nutrient fertilizer applied (N, P₂O₅, K₂O lb/A):	4-20-30

Table 2. Agronomic performance of spring cereal forage

Variety	Type	Biomass (tons/A)	Heading (julian)	ADF (%)	NDF (%)	Sulfur (%)	Protein (%)
GOLIATH	Oat	9.3	163	36.3	59.3	0.050	8.6
LAVINA	Barley	7.6	162	29.6	51.5	0.083	10.9
MT							
COWGIRL	Barley	8.9	161	32.4	55.6	<u>0.100</u>	10.8
MT16F01601	Barley	7.5	161	30.3	52.1	0.095	10.2
MT16F02401	Barley	8.1	163	32.2	55.7	0.073	10.6
MT18F00503	Barley	8.3	160	28.4	48.0	0.090	10.3
MT18F00607	Barley	7.7	166	32.8	58.2	0.085	<u>10.9</u>
MT18F00714	Barley	9.6	161	29.6	50.7	0.083	10.2
MT18F00803	Barley	7.1	162	27.8	48.0	0.083	10.5
RUSHMORE	Oat	9.1	161	35.3	57.4	0.045	8.9
SD170463	Oat	9.4	160	37.6	61.6	0.030	8.7
TRICAL 141	Triticale	8.4	163	<u>39.9</u>	<u>66.4</u>	0.053	10.6
WB PATRON	Spring Wheat	5.3	155	33.0	51.1	0.083	10.7
Mean		8.2	161	32.7	55.0	0.073	10.1
CV		21.2	2.6	4.8	5.3	34.6	7.1
LSD		-	-	2.3	4.2	0.0	1.0
PR>F		0.068	0.125	<.001	<.001	0.006	<.001

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

ADF = acid detergent fiber, NDF = neutral detergent fiber