

Project Title: 2019 Spring Cereal Forage Trial

Objective: To evaluate the performance of spring-planted oat, barley, and triticale forage varieties in northwestern Montana

Personnel: J.A. Torrion, Amanda Shine, Pat Carr

Summary:

The spring cereal forage trial was planted on April 23, 2019, and managed under rainfed conditions. Detailed management information is shown in Table 1. The trial included one triticale variety, 3 oat varieties, and 6 barley varieties. The triticale variety was later-maturing than the oat and barley varieties, and forage harvest took place a week after the rest of the varieties were harvested.

Tritical 141 (triticale) was the highest-producing forage variety at 4.0 t/A (Table 2). The lowest-producing varieties were MT16F02408 (barley) and Hayden (oat) at 2.9 t/A. Overall forage production averaged 3.2 t/A.

Tritical 141 was the tallest variety (average of 49.8 inches), MT16F01601 (barley) was the shortest (21.4 in.), and the average height across all varieties was 29.8 inches. Otana (oat) had the highest grain yield at 115.2 bu/A, and Tritical 141 had the lowest at 53.4 bu/A. Grain yield averaged 75.9 bu/A. Grain protein was highest in MT16F02902 (barley) at 16.0 % and lowest in Tritical 141 (13.1%). Mean protein was 14.4%.

Table 1. Management information

Seeding date:	4/23/2019	Field Location:	R4
Julian date:	112	Harvest date:	7/9 and 7/15/2019 (forage) 8/28/2019 (grain)
Seeding rate:	n/a	Julian date:	240
Previous crop:	Alfalfa	Soil type:	Fine sandy loam
Herbicide:	Detonate: 5/23/19	Tillage:	Conventional
Insecticide:	None	Soil residual nutrient (NO ₃ ⁻ , P, K lb/A):	26-6-146
Fungicide:	None	Nutrient fertilizer applied (N, P ₂ O ₅ , K ₂ O lb/A):	84-45-100

Table 2. Agronomic performance of the Spring Cereal Forage Trial entries

Cultivar/ Line	Cereal Type	Forage Yield t/A	Grain Yield bu/A	Height in.	Protein %	TWT lb/bu
Tritical 141	triticale	4.0	53.4	49.8	13.1	53.8
Otana	oat	3.5	115.2	36.3	14.1	40.5
Lavina	barley	3.2	71.2	22.2	15.4	48.8
MT16F02902	barley	3.2	62.2	23.6	16.0	49.8
MT16F01602	barley	3.2	64.3	22.3	13.6	49.4
Goliath	oat	3.2	91.3	38.5	13.9	41.5
MT16F02903	barley	3.0	61.1	25.6	15.6	50.6
MT16F01601	barley	3.0	69.4	21.4	14.7	51.2
MT16F02408	barley	2.9	69.8	24.1	14.6	50.9
Hayden	oat	2.9	100.7	33.6	13.3	42.0
Mean		3.2	75.9	29.8	14.4	47.9
LSD		0.5	11.9	2.4	0.52	0.73
CV%		8.1	8.90	4.00	2.10	0.87
Pr>F		0.002	<0.001	<0.001	<0.001	<0.001

TWT = test weight

Height = height at forage harvest