

Project Title: Yield evaluation of various cover crops - 2016

Objective: To evaluate various cover crops for forage yield performance in Northwestern Montana.

Results:

Significant difference in forage yield was observed for cool season cover crops, with an average of 0.9 T/A. Alsike clover and Purple top turnip did not produce any biomass. Otana Oat produced the highest biomass at 2.5 T/A for (Table 3).

Significant difference in forage yield was observed for warm season crops, with an average of 1.1 T/A, ranging from 0.5 T/A for TEFF to 2.1 T/A for both Sorghum-CARC and Indian Corn (Table 4).

Summary:

Cereal type forages consistently produced the highest biomass for either early or late planted cover crops.

Table 1. Materials and Methods — Cool season.

Seeding Date:	4/27/2016	Harvest Date:	6/23/2016
Julian Date:	118	Julian Date:	175
Seeding Rate:	NA	Soil Test:	116-11-125
Previous Crop:	Barley	Fertilizer:	50-25-60
Tillage:	Conventional	Pesticide:	NA
Irrigation:	None		
Soil Type:	Creston Silt Loam		

Table 2. Materials and Methods — Warm season.

Seeding Date:	6/3/2016	Harvest Date:	8/3/2016
Julian Date:	155	Julian Date:	216
Seeding Rate:	NA	Soil Test:	116-11-125
Previous Crop:	Barley	Fertilizer:	50-25-60
Tillage:	Conventional	Herbicide	Cornerstone 12 oz/A
Irrigation:	None		
Soil Type:	Creston Silt Loam		

Table 3. Cool season cover crop agronomic data.

Cultivar	YLD T/A
Otana Oat	2.50
Triticale	2.10
DKL 30-42 Canola	1.70
Omega Flax	1.30
6Mix Cool Season Early <sup>1</sup>	1.30
10Mix Diversity Early <sup>2</sup>	1.10
Arvika Spring Pea	1.00
Baldy Spineless Safflower	0.80
6Mix Warm Season Early <sup>3</sup>	0.30
7Mix Alternative Cool <sup>4</sup>	0.30
Hairy Vetch	0.20
Ground Hog Radish	0.10
Purple Top Turnip	0.00
Alsike Clover	0.00
Mean	0.90
CV	30.61
LSD	0.28
Pr>F	0.0001

YLD: yield.

<sup>1</sup> Ground Hog Radish, Purple Top Turnip, Arvika Spring Pea, DKL 30-42 Canola, Baldy Spineless Safflower, Otana Oat.

<sup>2</sup> Ground Hog Radish, Purple Top Turnip, Arvika Spring Pea, SSNS-1 FabaBean, Frontier ChickPea, DKL 30-42 Canola, Baldy Spineless Safflower, Peredovik Sunflower, Oatana Oat, Sorghum-CARC.

<sup>3</sup> Ground Hog Radish, Purple Top Turnip, Frontier ChickPea, SSNS-1 FabaBean, Peredovik Sunflower, Sorghum-CARC.

<sup>4</sup> Ground Hog Radish, Purple Top Turnip, SSNS-1 FabaBean, Loreto Black Bean, TEFF, Indian Corn, Sorghum-CARC.

Table 4. Warm season cover crop agronomic data.

Cultivar	YLD T/A
Sorghum-CARC	2.10
Indian Corn	2.10
6Mix Cool Season Late <sup>1</sup>	1.90
10Mix Diversity Late <sup>2</sup>	1.70
Golden German Millet	1.40
7Mix Alternative Warm <sup>3</sup>	1.00
Loreto Black Bean	0.90
Purple Top Turnip	0.80
SSNS-1 FabaBean	0.80
6Mix Warm Season Late <sup>4</sup>	0.80
Peredovik Sunflower	0.70
Frontier ChickPea	0.70
Ground hog Radish	0.60
Sheyenne Soybean	0.60
Berseem Clover	0.60
TEFF	0.50
Mean	1.08
CV	51.36
LSD	0.79
Pr>F	0.0001

YLD: yield.

<sup>1</sup> Ground Hog Radish, Purple Top Turnip, Arvika Spring Pea, DKL 30-42 Canola, Baldy Spineless Safflower, Otana Oat.

<sup>2</sup> Ground Hog Radish, Purple Top Turnip, Arvika Spring Pea, SSNS-1 FabaBean, Frontier ChickPea, DKL 30-42 Canola, Baldy Spineless Safflower, Peredovik Sunflower, Oatana Oat, Sorghum-CARC.

<sup>3</sup> Ground Hog Radish, Purple Top Turnip, SSNS-1 FabaBean, Loreto Black Bean, TEFF, Indian Corn, Sorghum-CARC.

<sup>4</sup> Ground Hog Radish, Purple Top Turnip, Frontier ChickPea, SSNS-1 FabaBean, Peredovik Sunflower, Sorghum-CARC.