

Project Title: Timothy Cutting Height/Forage Yield Trial

Project Leader: Louise Strang

Objective: To compare the effects of different cutting heights on forage yield, regrowth potential, and stand persistence of 6 timothy (*Phleum pratense*) germplasm lines.

Results:

The seed was collected in August, 2004, from a nursery containing 359 different germplasm accessions. Five of these accessions plus a bulk sample of common timothy seed were seeded at 3.6 lbs/a in 100 ft<sup>2</sup> plots arranged in a split block design with cutting heights as main plots and germplasm lines as subplots randomized within each main plot. Each set of treatments was replicated 3 times. All plots were harvested twice in 2007.

Since this was the first year of height treatments, the stubble height effect on stand density could not be assessed. Variation in yield was related to the proportion of topgrowth removal. Differences in mean cultivar yield were not significant at  $P=0.05$ , but 2 “trends” may be noted: the ‘bulk’ entry yielded the most forage at first harvest but the least at second harvest. Entries ‘419615’ and ‘262469’ produced the most forage for the second cutting (usually very poor for timothy), while the bulk and other lines produced 60% less forage. If this trend continues it may identify germplasm lines with superior late season regrowth potential which is a trait notably lacking in northwest Montana timothy.

Summary:

There may be variation among timothy germplasm lines for second cutting regrowth potential.

Future Plans:

These treatments will be continued with tiller density data added.

## Timothy Harvest Timing/Forage Yield Trial

Kalispell, 2007

### *First Cutting*

<u>Cultivar</u>	<u>Stubble HT</u>			mean
	short	medium	tall	
206717	4.03	3.47	3.10	3.53
235548	3.44	2.96	2.96	3.12
262469	3.99	3.35	3.20	3.51
419615	4.39	3.61	3.04	3.68
419641	3.52	3.19	3.49	3.40
bulk	4.56	4.36	3.35	4.09
mean	<b>3.99</b>	3.49	3.19	
	<u>Cultivar</u>	<u>Stubble</u>	<u>Cult x Ht</u>	
Pr>F	0.0873	0.01	0.66	
LSD(0.05)	NS	0.36	NS	
CV(%mean)	19.3	41.4	19.8	

### *Second Cutting*

<u>Cultivar</u>	<u>Stubble HT</u>			mean
	short	medium	tall	
206717	0.56	0.29	0.19	0.35
235548	0.42	0.27	0.41	0.37
262469	0.78	0.46	0.30	0.52
419615	0.80	0.31	0.70	0.60
419641	0.40	0.31	0.41	0.37
bulk	0.31	0.20	0.46	0.32
mean	<b>0.55</b>	0.31	<b>0.41</b>	
	<u>Cultivar</u>	<u>Stubble</u>	<u>Cult x Ht</u>	
Pr>F	0.2149	0.0438	0.5961	
LSD(0.05)	NS	0.19	NS	
CV(%mean)	79.6	64.9	59.5	

### *Total Yield 2007*

<u>Cultivar</u>	<u>Stubble HT</u>			mean
	short	medium	tall	
206717	4.59	3.76	3.29	<b>3.88</b>
235548	3.39	3.23	3.37	3.33
262469	4.78	3.82	4.22	<b>4.27</b>
419615	5.19	3.93	3.74	<b>4.29</b>
419641	3.93	3.50	3.91	<b>3.78</b>
bulk	4.87	4.57	3.81	<b>4.42</b>
mean	<b>4.46</b>	3.80	3.72	
	<u>Cultivar</u>	<u>Stubble</u>	<u>Cult x Ht</u>	
Pr>F	0.0490	0.0016	0.7212	
LSD(0.05)	0.83	0.46	NS	
CV(%mean)	26.8	47.3	14.1	