

PROJECT TITLE: 2002 Evaluation of non-alfalfa perennial legumes.

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OBJECTIVES:
 Determine yield levels of modern varieties of non-bloat causing perennial forage legumes, such as sainfoin, birdsfoot trefoil, and cicer milkvetch, relative to yields of alfalfa check varieties.

METHODS:
 Entries are seeded in RCB arrangement in 4-5' x 20' plots with 1' row spacing for the 2000 nursery and 2' for the 1999 nursery. Species are to be harvested with a self-propelled forage plot harvester when the alfalfa is in early bloom. These nurseries have been established at other Montana research centers and the Sheridan, WY research and extension center.

RESULTS:
 Dry weather and other droughty conditions have been hard on the non-bloat causing perennial legumes. In dry matter yield production for 2002, 2001 and 2000, the alfalfa entries have proven to be superior to the entries of sainfoin, birdsfoot trefoil, and cicer milkvetch. Within each species and between varieties, there appears to be some differences in forage yield (see Tables F6 & F7). Due to the unusually dry weather the past couple of years, (hopefully it remains classified as “unusually dry” rather than the beginning of a new norm), it is best not to make any conjectures about relative yield levels of the various varieties.

Table F6 2002 Yield of 2000 perennial legume species and variety trial
 Exp. 00PLG01 Central Agricultural Research Center, Moccasin, Montana

ID	Variety	Species	Plant Ht	---- Dry Matter Yield ----			Percent of
			2002	2001	2002	2 Yr Total	Mean total
			inches	t/a	t/a	t/a	%
PL1	Remont	sainfoin	20	0.280	0.566	0.846	124
PL2	RnDinyWY	sainfoin	21	0.327	0.566	0.893	131
PL3	Nova	sainfoin	19	0.334	0.588	0.922	135
PL4	WY-PX2-9	sainfoin	22	0.304	0.632	0.936	137
PL5	Eski	sainfoin	20	0.309	0.503	0.812	119
PL6	1,2 Synth	birdsfoot trefoil	9	0.111	0.204	0.314	46
PL7	Shaw	alfalfa	16	0.636	0.763	1.399	205
PL8	Ladak 65	alfalfa	16	0.643	0.684	1.327	194
PL9	Windsor	cicer mlkvetch	10	0.110	0.361	0.471	69
PL10	Monarch	cicer mlkvetch	8	0.081	0.219	0.300	44
PL11	Lutana	cicer mlkvetch	9	0.053	0.274	0.327	48
PL12	Leo	birdsfoot trefoil	8	0.119	0.304	0.423	62
PL13	Empire	birdsfoot trefoil	8	0.108	0.184	0.291	43
PL14	Viking	birdsfoot trefoil	8	0.101	0.163	0.264	39
PL15	Tretana	birdsfoot trefoil	8	0.094	0.098	0.192	28
PL16	Forager	alfalfa	13	0.543	0.661	1.204	176
OVERALL MEAN			13.33	0.259	0.423	0.683	100
CV (S/MEAN) %			13.26	24.32	20.88	17.39	
LSD (0.05 by t			2.517	0.090	0.126	0.169	

Seeded: May 3, 2000

Harvested: 6/16/02 6/27/02

Table F7 2002 Forage yield of the 1999 perennial legume species/variety trial.
Exp. 99PLG01 Central Agricultural Research Center, Moccasin, Montana.

ID	Variety	Species	----- Dry Matter Yield -----					Percent of 3 Yr mean
			2000 t/a	2001 t/a	2002 t/a	01+02 total t/a	3 Yr total t/a	
PF1	AC Grazeland	alfalfa	0.469	0.740	1.221	1.961	2.430	182
PF3	Ladak-65	alfalfa	0.459	0.756	1.200	1.956	2.415	181
PF4	97-1	sainfoin	0.191	0.239	0.842	1.081	1.272	95
PF5	Remont	sainfoin	0.097	0.299	0.604	0.902	0.999	75
PF6	RnDInyWY	sainfoin	0.125	0.216	0.801	1.016	1.141	85
PF7	WYPX 2-94	sainfoin	0.146	0.199	0.856	1.054	1.200	90
PF8	Eski	sainfoin	0.125	0.168	0.556	0.724	0.848	63
PF9	Monarch	cicer milkvetch	0.232	0.156	0.377	0.533	0.765	57
PF10	Windsor	cicer milkvetch	0.207	0.130	0.269	0.399	0.606	45
PF11	Lutana	cicer milkvetch	0.290	0.201	0.351	0.552	0.843	63
PF12	L-2 Synthetic B	birdsfoot trefoil	0.403	0.277	0.409	0.686	1.089	81
PF13	Tretana	birdsfoot trefoil	0.309	0.178	0.363	0.541	0.850	64
PF15	3lbs+8lbs	alfalfa+sainfoin	0.449	0.506	1.248	1.754	2.203	165
PF16	3lbs+16lbs	alfalfa+sainfoin	0.390	0.614	1.129	1.743	2.133	160
Mean			0.273	0.334	0.730	1.064	1.337	100
F-Ratio			11.780	22.910	17.560	22.610		
P-Value			0.000	0.000	0.000	0.000		
CV (S/MEAN) %			24.920	27.740	23.550	22.150		
LSD (0.05 by t)			0.097	0.133	0.246	0.337		

Seeded: May 14, 1999

Harvested: 6/26/00 6/16/01 6/26/02

Row spacing: 24"

Due to a partially plugged drop tube at seeding, every other row was removed.

C.V. numbers are very high. This reflects the shortness of the stand and inability to pick up all the forage.