

PROJECT TITLE: 2001 Montana Intra-State Alfalfa Variety Trials

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OBJECTIVES:

To identify superior alfalfa varieties for dryland forage production in central Montana.

METHODS:

Entries are seeded in RCB arrangement in 4-5' x20'plots with 1' row spacing. Plots are typically harvested with a self-propelled 4'wide harvester with scale.

RESULTS:

Yield results for alfalfa variety nurseries seeded in the years 2001, 2000, 1998, and 1997 are presented in tables 1, 2, 3, and 4, respectively. Drought conditions persisting since the spring of 1997 continue to depress alfalfa forage yields. Warm winter weather which allow perennials, such as alfalfa, to remain actively growing through the late fall, winter and or early spring cause the plants to deplete soil water reserves while producing little vegetation. Yield levels are one third to one fourth of the expected yields. No significant variations in disease infections or insect feedings have been observed. Little variation in plot/treatment ranking across years has been observed. This indicates the importance of getting a good stand to start with.

SUMMARY:

Ladak 65 yield levels continue to be similar to those of more modern varieties which have greater disease resistance. However, recent years have been dry and unsuitable for outstanding yield levels. In better yield conditions, this researcher expects modern varieties to exhibit a higher yield level relative to Ladak 65.

FUTURE PLANS:

We will continue with the current alfalfa trials that are in place. A 2002 Montana intra-state alfalfa variety trial will be established if there is sufficient interest from seed companies

Table F1. 2001 Yield results of 2001 Intrastate alfalfa variety yield trial at Moccasin
01iayt Central Agricultural Research Center, Moccasin, Montana.

TRT#	Variety	Yield Dry Matter t/a	8/21/2001 Plant Ht "	Percent of mean Yld
MT 2	Ladak65	0.438	18	97
MT 146	Wrangler	0.484	16	107
MT 328	Shaw	0.497	17	110
MT 122	Riley*	0.417	20	92
MT335	Cooper	0.475	18	105
MT384	WBRR	0.454	20	100
MT 336	Plumas	0.458	18	101
MT 372	Ameristand403T	0.456	16	101
MT 373	Goliath	0.420	17	93
MT 374	MarinerII	0.436	19	96
MT 375	Reliance	0.428	15	95
MT 376	MonumentII	0.368	17	81
MT 377	DAK9901	0.525	18	116
MT 378	Ascend552	0.395	19	87
MT 379	Abound	0.461	18	102
MT 380	Alliant	0.467	17	103
MT 381	DKA42-15	0.455	18	101
MT 382	A30-06	0.478	20	106
MT 383	WL327	0.483	21	107
OVERALL MEAN		0.452	18	100
CV (S/MEAN) %		13.65		
LSD(0.05 by t		0.09		
Planted: 4-Apr-01 Riley low seed germination			Harvest: 21-Aug-01	
Fertilizer: 100 lbs 11-52-00 ppi			Herbicide: Bromoxynil (1 pint/a) early June	

Table F2 2001 Dry matter yield of 2000 Montana intrastate alfalfa variety trial.
00IAYT01 Central Agricultural Research Center, Moccasin, Montana.

ID#	Variety	2000 Yield t/a	2001 Yield t/a	2yr total Yield t/a	Yld Percent of 2Y mean %
MT 365	ZX9450A	0.520	0.418	0.938	103
MT 364	AMERIGRA	0.554	0.440	0.994	110
MT 281	INNOVATO	0.563	0.424	0.987	109
MT 350	631GARST	0.459	0.498	0.957	106
MT 370	WINTERCR	0.481	0.405	0.886	98
MT 369	SELECT	0.527	0.431	0.957	106
MT 368	MILLENIA	0.505	0.433	0.938	104
MT 366	4200 FOR	0.413	0.353	0.766	85
MT 367	FG 3R139	0.470	0.412	0.882	97
MT 346	53V08	0.446	0.389	0.835	92
MT 336	PLUMASEU	0.472	0.385	0.857	95
MT 229	ULTRA EU	0.520	0.421	0.941	104
MT 328	SHAW M	0.522	0.400	0.923	102
MT 335	MT 9503	0.479	0.492	0.971	107
MT 2	LADAK 65	0.511	0.417	0.928	102
MT 146	WRANGLER	0.459	0.369	0.828	91
MT 244	5246 MSU	0.400	0.456	0.856	94
MT 122	RILEY M	0.420	0.456	0.876	97
OVERALL MEAN =		0.484	0.422	0.906	100
CV (S/MEAN) % =		11.99	13.84		
LSD(0.05 by t)=		0.082	0.083		

Seeded: 10-Apr-00 No-Till into fallow following 1998 barley crop in SW3-S.

Harvest Date: 22-Aug-00 16-Jun-01

Below average precipitation coupled with above average temperatures, particularly fall and winter, severely reduced alfalfa and other perennial forage yields.

Table F3 2001Yields (D.M.) of the 1998 intrastate alfalfa variety trial.
98IAYT01 Central Agricultural Research Center, Moccasin, Montana

ID#	Variety	YR:	Dry		Matter	Yield	Percent of	
			1998	1999	2000	2001	Total	4Ymean Yld
			t/a	t/a	t/a	t/a	t/a	%
MT 349	Ripin		0.74	0.94	0.46	0.35	2.490	108
MT 362	A-395		0.73	0.89	0.42	0.40	2.440	106
MT 353	Rambo		0.77	0.89	0.41	0.38	2.450	106
MT 361	PS595-106		0.69	0.88	0.41	0.36	2.340	101
MT 348	Enhancer		0.73	0.87	0.45	0.33	2.380	103
MT 358	Focus		0.72	0.88	0.41	0.35	2.360	102
MT 2	Ladak 65		0.74	0.89	0.38	0.36	2.370	103
MT 280	Imperial		0.67	0.87	0.4	0.35	2.290	99
MT 357	Reno		0.71	0.86	0.4	0.34	2.310	100
MT 309	Oneida VR		0.65	0.81	0.42	0.35	2.230	97
MT 363	NL 91229		0.70	0.89	0.38	0.31	2.280	99
MT 350	631		0.85	0.85	0.4	0.33	2.430	105
MT 359	TMF Multiplier II		0.75	0.84	0.42	0.32	2.330	101
MT 360	NL 90732		0.73	0.84	0.42	0.31	2.300	100
MT 146	Wrangler		0.73	0.84	0.41	0.32	2.300	100
MT 351	Emperor		0.60	0.85	0.4	0.32	2.170	94
MT 347	Magnum V		0.62	0.81	0.43	0.32	2.180	94
MT 355	Mountaineer		0.82	0.85	0.41	0.30	2.380	103
MT 352	ZX9852		0.72	0.84	0.37	0.34	2.270	98
MT 356	Rebound		0.71	0.8	0.38	0.37	2.260	98
MT 122	Riley		0.67	0.85	0.41	0.28	2.210	96
MT 281	Innovator +Z		0.72	0.81	0.42	0.31	2.260	98
MT 346	53V08		0.58	0.79	0.38	0.32	2.070	90
	Mean		0.71	0.85	0.41	0.34	2.310	100
	CV%		22.7	7.2	6.7	15.6		
	LSD (0.05)		0.09	0.04	NS	0.04		

Seeded: 21-Apr-98

Harvested: 27-Jul-98 29-Jun-99 23-Jun-00 18-Jun-01

Table F4 2001 Yield of the Montana 1997 intrastate alfalfa variety trial.
97IAYT01 Central Agricultural Research Center, Moccasin, Montana.

ID	Variety	Dry Matter Yield					Five Year Total	Percent of 5Y mean
		1997	1998	1999	2000	2001		
		t/a	t/a	t/a	t/a	t/a	t/a	%
MT 2	LADAK 65	1.48	1.175	0.91	0.438	0.372	4.374	96
MT 146	WRANGLER	1.43	1.235	0.89	0.468	0.402	4.425	97
MT 309	ONEIDA VR	1.73	1.127	0.94	0.470	0.390	4.657	102
MT 122	RILEY	1.31	1.27	0.88	0.453	0.326	4.238	93
MT 336	3L 102	1.35	1.158	0.90	0.510	0.364	4.282	94
MT 337	ACE	1.35	1.053	0.82	0.401	0.337	3.960	87
MT 338	CIMMARON 3i	1.47	1.105	0.89	0.472	0.367	4.304	95
MT 339	RHINO	1.75	1.247	0.93	0.470	0.424	4.824	106
MT 340	5301	1.58	1.255	0.88	0.493	0.356	4.564	100
MT 341	645	1.72	1.32	0.94	0.478	0.382	4.840	107
MT 342	DK 140	2.04	1.253	0.90	0.462	0.341	4.997	110
MT 343	DK 142	1.84	1.225	0.89	0.452	0.408	4.815	106
MT 344	DK 143	1.73	1.200	1.00	0.461	0.350	4.741	104
MT 345	5396	1.76	1.190	0.91	0.425	0.386	4.671	103
MEAN		1.61	1.201	0.90	0.4609	0.372	4.544	100
CV (S/MEAN) %		24.09	6.369	6.369	5.635	15.61		
LSD(0.05 by t)		0.56	0.1094	0.109	0.0372	0.08		
Harvested:		30-Jun	27-Jun	29-Jun	20-Jun	20-Jun		
Seeded: 29-Apr-97		Fert: 50lbs 18-46-0 w/seed.						