

**PROJECT TITLE:** 2002 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' x 20' 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 2002, 2001, 2000, 1998, and 1997 are presented in tables F 1 through F 5, respectively. Drought conditions persisting since the spring of 1997 continue to depress alfalfa forage yields. Warm winter weather, which allows perennials such as alfalfa to remain actively growing through the late fall, winter and or early spring, causes the plants to deplete soil water reserves while producing little vegetation. Yield levels have been one half to one third 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 initially.

**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. The alfalfa nurseries have a scheduled longevity of four years. This provides sufficient information on yield potential. However, the stand longevity factor is not determined. Statewide alfalfa variety trial information is available at:  
[http://animalrangeextension.montana.edu/Forage/forage\\_pub.htm](http://animalrangeextension.montana.edu/Forage/forage_pub.htm)

**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 2002 Results of 2002 intrastate alfalfa yield trial  
 Exp. 02IAYT Central Agricultural Research Center, Moccasin, Montana

Treat	ID	Pedigree	Dry Matter Yield	Percent of Mean yld
#	#		t/a	%
13		Rugged	0.368	101
10		FG3R134	0.337	93
11		6420	0.368	101
12		Rebel	0.320	88
8		HybriForce400	0.368	101
7		Ladak DL (ZD0130)	0.340	94
6	MT 372	Ameristand403T	0.401	111
5	MT 336	Plumas	0.423	117
3	MT 328	Shaw	0.368	101
14		WL319HQ	0.321	88
2	MT 146	Wrangler	0.388	107
4	MT 335	Cooper	0.414	114
1	MT 2	Ladak-65	0.324	89
9		DS9809HYB	0.340	94
MEAN			0.363	100
CV (S/MEAN) %			19.16	
LSD (0.05 by t)			0.099	

Seeded: May 3, 2002

Harvested: October 9, 2002

Field: SW3 no-till barley stubble

Pest Control: Sprayed for grasshoppers twice.

Table F2 2002 Results of the 2001 intrastate alfalfa yield trial  
 Exp. 01IAYT Central Agricultural Research Center, Moccasin, Montana

ID	Pedigree	----- Dry Matter -----			Percent of 2 Yr mean
		2001	2002	2001+2002	
#		t/a	t/a	t/a	%
MT 2	Ladak65	0.438	0.811	1.248	97
MT 146	Wrangler	0.484	0.896	1.380	107
MT 328	Shaw	0.497	0.921	1.417	110
MT 122	Riley*	0.417	0.772	1.190	92
MT 335	Cooper	0.475	0.879	1.355	105
MT 384	WBRR	0.454	0.840	1.293	100
MT 336	Plumas	0.458	0.848	1.302	101
MT 372	Ameristand403T	0.456	0.844	1.300	101
MT 373	Goliath	0.420	0.778	1.197	93
MT 374	MarinerII	0.436	0.808	1.243	96
MT 375	Reliance	0.428	0.792	1.220	95
MT 376	MonumentII	0.368	0.681	1.050	81
MT 377	DAK9901	0.525	0.972	1.497	116
MT 378	Ascend552	0.395	0.730	1.125	87
MT 379	Abound	0.461	0.854	1.315	102
MT 380	Alliant	0.467	0.864	1.330	103
MT 381	DKA42-15	0.455	0.842	1.298	101
MT 382	A30-06	0.478	0.886	1.362	106
MT 383	WL327	0.483	0.896	1.380	107
MEAN		0.452	0.838	1.290	100
CV (S/MEAN) %		13.65	13.67	13.58	
LSD(0.05 by t		0.088	0.162	0.248	

Seeded: April 4, 2001

Harvested: 8/21/01 6/26/02

Table F3 2002 Yield results for 2000 intrastate alfalfa yield trial  
 Exp. 001AYT Central Agricultural Research Center, Moccasin, Montana

ID	Pedigree	----- Dry Matter Yield -----				Percent of Mean Yld
		2000	2001	2002	3 Yr Total	
#		t/a	t/a	t/a	t/a	%
MT 365	ZX9450A	0.520	0.418	0.675	1.611	99
MT 364	AmeriGraze 401+	0.554	0.440	0.688	1.678	103
MT 281	Innovator +Z AB	0.563	0.424	0.723	1.712	105
MT 350	631Garst	0.459	0.498	0.850	1.808	111
MT 370	WinterCrown Dai	0.481	0.405	0.743	1.628	100
MT 369	Select Forage	0.527	0.431	0.705	1.661	102
MT 368	Millenia Forage	0.505	0.433	0.685	1.620	100
MT 366	4200 For. Geneti	0.413	0.353	0.665	1.431	88
MT 367	FG 3R139 Forage	0.470	0.412	0.705	1.587	98
MT 346	53V08	0.446	0.389	0.788	1.623	100
MT 336	PlumasEureka/In	0.472	0.385	0.753	1.609	99
MT 229	Ultra Eureka/In	0.520	0.421	0.655	1.597	98
MT 328	Shaw MAES	0.522	0.400	0.688	1.612	99
MT 335	MT 9503 MAES	0.479	0.492	0.718	1.688	104
MT 2	Ladak 65 MSU c	0.511	0.417	0.638	1.566	96
MT 146	Wrangler MSU F	0.459	0.369	0.723	1.553	96
MT 244	5246 MSU FD3 ch	0.400	0.456	0.725	1.579	97
MT 122	Riley MSU FD3	0.420	0.456	0.838	1.709	105
OVERALL MEAN		0.484	0.422	0.720	1.626	100
CV (S/MEAN) %		11.99	13.84	17.85	9.24	
LSD (0.05 by t)		0.082	0.083	0.182	0.213	

Seeded: April 10, 2000

Harvested: 8/22/00 6/16/01 6/26/02

Table F4 2002 Yields (D.M.) of the 1998 intrastate alfalfa variety trial  
 Exp. 98IAYT01 Central Agricultural Research Center, Moccasin, Montana

ID#	Variety	----- Dry Matter Yield -----					Percent of	
		1998	1999	2000	2001	2002	5 Yr total	5 Yr mean
		t/a	t/a	t/a	t/a	t/a	t/a	%
MT 2	Ladak 65	0.74	0.89	0.38	0.36	0.941	3.311	102
MT 122	Riley	0.67	0.85	0.41	0.28	0.881	3.091	95
MT 146	Wrangler	0.73	0.84	0.41	0.32	0.881	3.181	98
MT 280	Imperial	0.67	0.87	0.40	0.35	0.961	3.251	100
MT 281	Innovator +Z	0.72	0.81	0.42	0.31	0.915	3.175	98
MT 309	Oneida VR	0.65	0.81	0.42	0.35	0.944	3.174	98
MT 346	53V08	0.58	0.79	0.38	0.32	1.075	3.145	97
MT 347	Magnum V	0.62	0.81	0.43	0.32	0.905	3.085	95
MT 348	Enhancer	0.73	0.87	0.45	0.33	0.904	3.284	101
MT 349	Ripin	0.74	0.94	0.46	0.35	0.991	3.481	107
MT 350	631	0.85	0.85	0.40	0.33	0.951	3.381	104
MT 351	Emperor	0.60	0.85	0.40	0.32	0.928	3.098	95
MT 352	ZX9852	0.72	0.84	0.37	0.34	0.958	3.228	99
MT 353	Rambo	0.77	0.89	0.41	0.38	0.910	3.360	103
MT 354	Millennia	0.72	0.83	0.35	0.341	0.913	3.157	97
MT 355	Mountaineer	0.82	0.85	0.41	0.30	0.948	3.328	102
MT 356	Rebound	0.71	0.80	0.38	0.37	0.967	3.227	99
MT 357	Reno	0.71	0.86	0.40	0.34	0.892	3.202	99
MT 358	Focus	0.72	0.88	0.41	0.35	0.979	3.339	103
MT 359	TMF Multiplier II	0.75	0.84	0.42	0.32	1.003	3.333	103
MT 360	NL 90732	0.73	0.84	0.42	0.31	0.982	3.282	101
MT 361	PS595-106	0.69	0.88	0.41	0.36	0.873	3.213	99
MT 362	A-395	0.73	0.89	0.42	0.40	0.924	3.364	104
MT 363	NL 91229	0.70	0.89	0.38	0.31	0.937	3.217	99
Mean		0.71	0.85	0.41	0.34	0.940	3.250	100
CV%		22.70	7.20	6.70	15.60	14.76		
LSD (0.05)		0.09	0.04	NS	0.04	0.196		

Seeded: April 21, 1998

Harvested: 7/27/98 6/29/99 6/23/00 6/18/01 6/28/02

Table F5 2002 Yield of the Montana 1997 intrastate alfalfa variety trial  
 Exp. 97IAYT01 Central Agricultural Research Center, Moccasin, Montana

ID	Variety	Dry Matter Yield						6 Year Total	Percent of 6Y mean
		1997	1998	1999	2000	2001	2002		
		t/a	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	0.660	5.034	97
MT 146	WRANGLER	1.43	1.235	0.89	0.468	0.402	0.663	5.088	98
MT 309	ONEIDA VR	1.73	1.127	0.94	0.470	0.390	0.670	5.327	102
MT 122	RILEY	1.31	1.27	0.88	0.453	0.326	0.677	4.916	94
MT 336	3L 102	1.35	1.158	0.90	0.510	0.364	0.670	4.952	95
MT 337	ACE	1.35	1.053	0.82	0.401	0.337	0.661	4.621	89
MT 338	CIMMARON 3i	1.47	1.105	0.89	0.472	0.367	0.654	4.958	95
MT 339	RHINO	1.75	1.247	0.93	0.470	0.424	0.659	5.483	105
MT 340	5301	1.58	1.255	0.88	0.493	0.356	0.672	5.236	101
MT 341	645	1.72	1.32	0.94	0.478	0.382	0.666	5.506	106
MT 342	DK 140	2.04	1.253	0.90	0.462	0.341	0.670	5.666	109
MT 343	DK 142	1.84	1.225	0.89	0.452	0.408	0.657	5.472	105
MT 344	DK 143	1.73	1.200	1.00	0.461	0.350	0.663	5.404	104
MT 345	5396	1.76	1.190	0.91	0.425	0.386	0.666	5.337	102
MEAN		1.610	1.201	0.900	0.461	0.372	0.665	5.208	100.006
CV (S/MEAN) %		24.090	6.369	6.369	5.635	15.610	1.754		
LSD (0.05 by t)		0.560	0.109	0.109	0.037	0.083	0.017		

Seeded: April 29, 1997

Fertilizer: 50lbs 18-46-0 w/seed

Harvested: 6/30/97 6/27/98 6/29/99 6/20/00 6/20/01 6/28/02