

Project Title: 2010 Intrastate Alfalfa Variety Evaluation – Dryland

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Objective: To evaluate the yield performance of alfalfa varieties in a northwestern Montana dryland environment

Results:

Nine alfalfa cultivars were planted at a rate of 5 lb/ac on May 9, 2008 in a randomized complete block design with four replications. The site was not irrigated and was further characterized as a ‘dryland’ site due to its sandy loam soil texture. Prior to planting, fertilizer at a rate of 44 lb N/ac, 104 lb P/ac, 120 lb K/ac and 20 lb S/ac was broadcast and incorporated.

In the spring of 2010, stands were well established. All harvests were taken at the full bloom stage of the alfalfa crop. Yields at first harvest (June 29, 2010) were below average at 2.85 t/ac (DM basis). The growing season was wetter than normal, with precipitation from April through July totaling 12.2 inches compared to the 30-year average of 9.2 inches. Growth was slowed due to slightly cooler-than-average (2-4° F lower) temperatures, but DM yield at the second cutting (August 17, 2010) was adequate at 2.07 t/ac. The third and final cutting on November 8, 2010 yielded below average at 0.76 t/ac. Overall 2010 yield averaged 5.69 t/ac, less than the 5.81 t/ac yield seen in 2009.

Since the start of this evaluation in 2008, none of the nine varieties tested have yielded differently from one another, and the same effect was observed in 2010.

Table 1. Stand and yield data from the dryland Intrastate Alfalfa Variety Evaluation, 2010.

Cultivar	MT-ID#	Stand % plot	Harv-1 t/ac	Harv-2 t/ac	Harv-3 t/ac	2010	2009	Total 09-10 t/ac
						Total t/ac	Total t/ac	
Rebound 5.0	MT-398	81	2.96	2.24	1.05	6.23	5.99	12.22
DKA43-13	MT-413	95	3.15	2.32	0.95	6.42	5.98	12.40
54V09	MT-414	70	2.63	1.87	0.69	5.19	5.61	10.81
FSG 229CR	MT-415	93	3.34	2.09	0.77	6.20	6.20	12.40
FSG 429SN	MT-416	80	2.66	2.00	0.72	5.38	5.72	11.10
FSG 408DP	MT-417	79	2.75	1.94	0.72	5.41	5.92	11.32
Ladak-65	MT-2	84	2.53	1.88	0.44	4.88	5.16	10.04
Melton	MT-338	84	2.95	2.28	0.76	5.99	6.18	12.17
Shaw	MT-328	75	2.66	2.07	0.76	5.49	5.54	11.03
mean		82	2.85	2.07	0.76	5.69	5.81	11.50
P<F		ns	ns	ns	ns	ns	ns	ns
LSD(0.05)		11.2	0.390	0.244	0.161	0.754	0.690	1.259
CV		19	19.40	16.60	29.70	18.7	16.80	15.49

Future plans: The final year of this evaluation will be in 2011.