

Project Title: 2010 Intrastate Alfalfa Variety Evaluation – Irrigated

Project Leader: Heather Mason

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Objective: To evaluate the yield performance of alfalfa varieties in a high-rainfall northwestern Montana 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 chosen for its clay loam soil with a high water holding capacity, but was not irrigated. 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 2.81 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 close to average at 2.84 t/ac. The third and final cutting on November 5, 2010 yielded below average at 0.70 t/ac. Overall 2010 yield averaged 6.37 t/ac, higher than the 5.54 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 irrigated 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 t/ac	Total 09-10 t/ac
						Total t/ac		
Rebound 5.0	MT-398	94	2.70	3.00	0.63	6.27	5.39	11.82
DKA43-13	MT-413	90	2.69	2.47	0.63	5.79	5.40	11.15
54V09	MT-414	91	2.82	2.95	0.72	6.70	5.95	12.57
FSG 229CR	MT-415	93	2.83	3.05	0.82	6.89	5.51	12.43
FSG 429SN	MT-416	89	2.86	3.00	0.73	6.69	5.55	12.25
FSG 408DP	MT-417	94	2.71	2.89	0.76	6.78	5.35	12.19
Ladak-65	MT-2	85	3.10	2.71	0.66	6.46	5.00	11.46
Melton	MT-338	91	2.71	2.80	0.62	6.12	5.68	11.79
Shaw	MT-328	94	2.87	2.98	0.76	6.60	6.02	12.62
mean		91	2.81	2.84	0.70	6.37	5.54	11.87
P<F		ns	ns	ns	ns	ns	ns	ns
LSD(0.05)		7.4	0.683	0.512	0.238	1.273	1.637	1.598

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