

Project Title: 2011 Interstate Alfalfa 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 2011, stands were well established with minimal weeds. Two harvests were taken, both at full bloom stage. Average yield at first harvest on July 6, 2011 was 2.46 t/ac (dry matter basis), which is slightly lower than the previous two year first harvest average of 2.68 t/ac. A second harvest was taken on August 10, 2011 and the average yield was 1.54 t/ac, also below the previous two year second harvest average of 2.37 t/ac.

The 2010 – 2011 cropping year exhibited cooler than the 60 year average (2°F lower) temperature and above average precipitation levels (3.26 inches). These climatic conditions combined with the alfalfa stand being in the third and final year most likely are accountable for the below average yields.

Since the start of this evaluation in 2008, none of the nine varieties tested have yielded statistically different from one another, and the same effect was observed in 2011.

Table 1. Stand and yield data from the irrigated Intrastate Alfalfa Variety Evaluation, 2011.

Cultivar	MT-ID#	Stand % plot	Harv-1 t/ac	Harv-2 t/ac	2011**	2010	2009	2008*	2008-11	2008-11
					Total t/ac	Total t/ac	Total t/ac	Total t/ac	Total t/ac	% Mean %
54V09	MT-414	91	2.57	1.66	4.23	6.70	5.95	2.76	17.78	101
DKA43-13	MT-413	90	2.09	1.37	3.45	5.79	5.40	2.26	15.45	88
FSG 229CR	MT-415	93	2.71	1.70	4.41	6.89	5.52	2.98	17.88	102
FSG 408DP	MT-417	94	2.68	1.63	4.31	6.78	5.35	2.89	17.45	99
FSG 429SN	MT-416	89	2.36	1.51	3.87	6.69	5.56	2.72	16.97	97
Ladak-65	MT-2	85	2.33	1.37	3.70	6.46	5.00	2.50	17.66	101
Melton	MT-338	91	2.32	1.62	3.94	6.12	5.68	2.70	18.43	105
Rebound 5.0	MT-398	94	2.52	1.64	4.16	6.27	5.39	2.58	16.88	96
Shaw	MT-328	94	2.54	1.41	3.95	6.60	6.02	2.99	19.55	111
mean		91	2.46	1.54	4.00	6.37	5.54	2.71	17.56	
LSD(0.05)		7.4	0.519	0.314	0.735	1.272	0.793	0.635	4.926	

*,** denotes one harvest, two harvests, respectively