

PROJECT TITLE: 2002 IRRIGATED INTRASTATE ALFALFA YIELD TRIAL

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OBJECTIVE: Compare yield potential of new releases and experimental lines with older, established cultivars in an irrigated/high rainfall environment.

METHODS: The experiment was established on 5/8/02. Fourteen cultivars were seeded in 5-ft by 20-ft plots consisting of 7 rows spaced 6-inches apart. Seeding rate was 8 lbs/acre pure live seed, and seeding depth was 0.5 in. Monoammonium phosphate fertilizer (11-52-0) was applied preplant at a rate of 400 lbs/acre and at 120 lbs/acre each spring following. The experimental design was a randomized complete block with 14 cultivars and four replications.

Crop year precipitation was 21.88 inches. Average monthly temperatures were 43.9, 51.8, 55.3, 62.6, and 62.8 degrees F from April to August, respectively.

Forage yield harvest dates were 6/24, 8/5, and 10/10/05. Plots were harvested with a sickle-bar research plot swather. Harvest area was 100 ft². After recording the fresh harvest weight, a subsample of approximately 500 g was taken, weighed, dried at 60°C in a forced air oven for 48 to 72 h, and reweighed to determine DM content.

Analysis of variance was calculated by the ANOVA procedure of XLSTAT Ver.7.5 (2004). Critical value for a significant F-test was tested at P=0.05. Treatment effects were compared by protected LSD when the F test for treatment was significant.

RESULTS: There were no significant differences in yield among eleven of the 14 varieties tested. Over the 3 years of the study, 'Cooper', 'Plumas', and 'HybriForce 420/Wet' were the most productive (>16.7 t/a), and 'Ladak DL' was least productive (15.0 t/a).

See the summary table on the next page.

2005 Summary of the 2002 IRRIGATED INTRASTATE ALFALFA YIELD TRIAL

<u>Cultivar</u>	<i>H-1</i>	<i>H-2</i>	<i>H-3</i>	2005	2004	2003	2003-05	<u>%Mean</u>
	<u>Yield</u>	<u>Yield</u>		<u>Total</u>	<u>Total</u>	<u>Total</u>	<u>Total</u>	
	-----tons DM/acre-----							
Cooper	1.69	1.77	0.87	4.33	6.75	5.82	16.89	105
Plumas	1.74	1.75	0.81	4.30	6.55	5.99	16.84	105
HybriForce-420/Wet	1.45	1.79	1.00	4.24	6.57	5.96	16.77	104
Ameristand 403T	1.67	1.73	0.81	4.21	6.31	5.61	16.13	100
XTRA-3	1.64	1.67	0.86	4.18	6.43	5.79	16.40	102
WL 319HQ	1.60	1.73	0.74	4.08	6.64	5.69	16.41	102
Rugged	1.60	1.69	0.78	4.07	6.37	5.58	16.01	100
Shaw	1.55	1.66	0.81	4.01	6.50	5.82	16.34	102
Rebel	1.52	1.61	0.85	3.97	6.31	5.73	16.01	100
Ladak 65	1.75	1.66	0.54	3.96	6.13	5.32	15.40	96
6420	1.48	1.62	0.85	3.96	6.37	5.91	16.24	101
Wrangler	1.48	1.53	0.74	3.76	6.09	5.28	15.13	94
Ladak DL	1.52	1.55	0.70	3.76	5.86	5.39	15.01	93
HybriForce 400	1.30	1.53	0.89	3.73	6.11	5.59	15.42	96
mean	1.57	1.66	0.80	4.04	6.36	5.68	16.07	
LSD(0.05)	NS	0.20	0.17	0.55	NS	NS	1.22	
Pr>F	0.209	0.016	0.000	0.047	0.228	0.375	0.000	
CV(%mean)	14.5	8.4	14.5	9.5	2.8	7.6	5.3	

Yield values in **bold** are not significantly different (P=0.05) from the highest yield in the same column.

Seeded 5/8/02

Fertilizer: 13 lbs N + 62 lbs P₂O₅ - 4/15/05

Herbicide: 2,4-D + Banvel - 5/10/05