

PROJECT TITLE: 2002 DRYLAND INTRASTATE ALFALFA YIELD TRIAL

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OBJECTIVE: Compare yield potential of new releases and experimental lines with older, established cultivars.

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 5 lbs/acre pure live seed, and seeding depth was 0.5 in. Mono-ammonium 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 6/23, 8/2, and 10/5/05. 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: The highest yields for 2005 included 'Plumas', 'HybriForce 400', 'HybriForce 420', 'XTRA-3', '6420', 'Rebel', 'Rugged', and 'WL319HQ'. Over the 3 years of the study, 'HybriForce 400' was most productive (13.14 t/a), and Ameristand 403T was least productive (8.70 t/a).

2005 Summary table is presented on the next page.

2005 Summary of the 2002 DRYLAND INTRASTATE ALFALFA YIELD TRIAL

<u>Cultivar</u>	<u>Harvest-1</u>	<u>Harvest-2</u>	<u>Harvest-3</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2003-05</u>	<u>%Mean</u>
	<i>t/a</i>	<i>t/a</i>	<i>t/a</i>	<i>t/a</i>	<i>t/a</i>	<i>t/a</i>	<i>t/a</i>	
HybriForce 400	1.79	1.64	0.85	4.28	5.34	3.52	13.14	118.6
HybriForce-420/Wet	1.73	1.62	0.70	4.05	4.91	3.07	12.04	108.6
6420	1.49	1.63	0.77	3.89	5.07	3.00	11.96	108.0
WL 319HQ	1.73	1.44	0.67	3.84	4.84	3.12	11.80	106.5
Ladak DL	1.32	1.53	0.62	3.47	4.89	3.08	11.43	103.2
Plumas	1.56	1.43	0.65	3.64	4.61	3.14	11.39	102.8
Rugged	1.67	1.49	0.60	3.76	4.52	3.07	11.35	102.4
Wrangler	1.32	1.34	0.55	3.21	4.79	3.25	11.25	101.5
Rebel	1.54	1.47	0.66	3.67	4.28	2.93	10.87	98.1
XTRA-3	1.45	1.48	0.55	3.48	4.29	2.85	10.62	95.8
Cooper	1.33	1.45	0.59	3.37	4.23	2.94	10.54	95.1
Shaw	1.36	1.34	0.53	3.23	4.25	3.03	10.51	94.8
Ladak 65	1.06	1.28	0.38	2.72	4.18	2.65	9.54	86.1
Ameristand 403T	0.97	1.41	0.54	2.93	3.39	2.38	8.70	78.5
mean	1.45	1.47	0.62	3.54	4.54	3.00	11.08	
LSD(0.05)	0.47	0.34	0.06	0.81	1.38	0.63	3.49	
Pr>F	0.642	0.653	0.174	0.603	0.00	0.00	0.660	
CV(%mean)	22.8	16.5	6.7	16.2	21.3	20.1	22.2	

Planting date: 5/8/02

Fertilizer: 22 lbs N/a + 104 lbs P₂O₅/a - 4/15/05