

CENTRAL OREGON ALFALFA VARIETY EVALUATION STUDY
1983 PROGRESS REPORT

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INTRODUCTION

Alfalfa variety trials are conducted on a continuing basis at two locations in Central Oregon. The Powell Butte trial was planted June 20, 1980, and included 36 varieties. Plot size was 5 feet x 20 feet; harvest area was 3 feet x 14 feet. The plots were replicated four times. Seeding rate was 15 lbs/A of uncoated seed and all seed was inoculated with Nitragin inoculant.

The Madras trial was planted June 3, 1982, and included 22 varieties. Seeding rate was 18 lbs/A of uncoated seed; no inoculant was used. Plot size, harvest area, and replications were identical to the Powell Butte trial. The trial area was treated with 2 lbs/A of 2,4-DB when the alfalfa had 3 to 4 trifoliate leaves.

RESULTS

MADRAS. Three cuttings were taken in the first full year of production (Table 1). Yields were significantly different (5%) and ranged from 9.06 to 7.15 tons/acre in 1983. The newer, improved varieties yielded better than the check varieties Vernal and Saranac. An experimental variety, W-37, was included in the trial for yield comparisons. Although W-37 is an excellent yielding variety, it will never be released for public use because of excessively thick stems, relatively few leaves, and low protein content. Pioneer 581 does not appear to be adapted to Central Oregon. It does not have the dormancy necessary to survive the Central Oregon winters.

Regrowth was measured five weeks after the second cutting. W-37 was the fastest growing variety. Vernal was the slowest. The majority of the varieties produced 50 to 54 centimeters of growth five weeks after cutting.

POWELL BUTTE. Yield results are shown in Table 2. 1983 was the third full year of production for the Powell Butte trial. Powell Butte is nearly 800 feet higher in elevation, has a two to three week shorter growing season, and has more severe winters than Madras. Thus, the less winter hardy varieties generally yielded less than the hardier, more dormant varieties. DeKalb 131 and W-37, for example, yielded well in earlier years, but appear to be subject to thinning stands and winterkill, so yields are declining.

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Table 1. Madras Alfalfa Variety Trial

VARIETY	1982	1983	TOTAL	%	REGROWTH ³
	YIELD ¹	YIELD ²	YIELD	VERNAL	cm
	-----tons/acre-----				
W-37	2.66	9.06	11.72	117	60.7
TRUMPETOR	2.48	8.77	11.25	112	52.3
BLAZER	2.64	8.55	11.19	111	52.7
VERNEMA	2.71	8.43	11.14	111	53.9
APOLLO II	2.61	8.45	11.05	110	52.3
PACER	2.24	8.82	11.05	110	56.1
DEKALB 120	2.72	8.31	11.03	110	52.3
GREENWAY 360	2.65	8.38	11.03	110	53.4
PIONEER 532	2.35	8.58	10.93	109	54.0
WL 220	2.59	8.32	10.90	109	51.4
DEKALB 130	2.34	8.55	10.89	108	54.3
PIONEER 545	2.62	8.23	10.85	108	51.9
ARMOR	2.58	8.26	10.84	108	54.2
RS 209	2.64	8.11	10.76	107	54.4
VALOR	2.27	8.45	10.71	107	53.2
WL 312	2.57	8.12	10.69	106	52.3
WL 314	2.53	8.10	10.62	106	53.8
CASCADE	2.59	7.83	10.42	104	53.6
SARANAC	2.22	7.99	10.20	102	52.4
W-45	2.63	7.45	10.09	100	55.2
VERNAL	2.30	7.74	10.04	100	47.5
PIONEER 581	2.44	7.15	9.59	96	54.6
AVERAGE	2.51	8.25	10.78	107	53.5
LSD 0.05	NS	.76	.88	---	4.4

1 - 2 Cuttings, establishment year.

2 - Total of 3 cuttings.

3 - Height taken 5 weeks after second cutting.

Table 2. Powell Butte Alfalfa Variety Trial

VARIETY	1980 YIELD *	1981 YIELD **	1982 YIELD **	1983 YIELD **	TOTAL YIELD	% VERNAL
-----tons/acre-----						
W-37	1.25	8.41	6.39	5.80	21.87	107
Pioneer 532	1.23	7.83	6.00	6.47	21.55	106
DeKalb 120	1.38	8.15	6.25	5.73	21.53	105
Armor	1.48	7.95	5.99	5.86	21.29	104
W-35	1.09	7.90	6.11	6.13	21.24	104
Weevlchek	1.27	7.76	5.78	6.37	21.19	104
Anchor	1.30	7.71	6.02	6.03	21.08	103
Action	1.20	7.62	6.09	6.12	21.04	103
DeKalb 130	1.40	8.04	5.55	6.00	21.00	103
Gladiator	1.34	7.73	5.93	5.98	20.99	103
Spectrum	1.46	7.47	5.66	6.30	20.91	102
RS209	1.41	7.57	5.82	6.07	20.89	102
DeKalb 131	1.27	8.31	5.47	5.71	20.77	102
Iriquois	1.41	7.58	5.65	6.01	20.70	101
Vernema	1.27	7.73	5.83	5.85	20.69	101
Classic	1.21	7.50	5.80	6.15	20.66	101
Haymaker	1.43	7.00	6.03	6.01	20.48	100
Pioneer 545	1.22	7.03	6.00	6.19	20.45	100
Apollo	1.51	7.44	5.61	5.85	20.42	100
Vernal	1.24	7.25	5.86	6.05	20.41	100
MS 243	1.13	7.45	6.22	5.96	20.40	100
Vancor	1.36	7.33	5.61	6.07	20.38	100
Valor	1.16	7.77	5.76	5.66	20.36	100
Hiphy	1.35	6.99	5.82	6.14	20.31	100
Agate	1.23	7.71	5.57	5.73	20.25	99
Super 721	1.18	7.34	5.65	6.04	20.23	99
Cascade	1.67	7.08	5.57	5.87	20.20	99
WL 309	1.04	7.66	5.47	5.99	20.17	99
WL 220	1.20	7.08	5.93	5.94	20.15	99
Titan	1.29	6.96	5.74	6.00	20.00	98
Saranac	1.28	7.20	5.71	5.80	19.99	98
Pioneer 524	1.02	7.44	5.97	5.51	19.96	98
Baker	1.36	7.80	5.21	5.52	19.89	97
Ranger	1.03	7.54	5.61	5.44	19.38	95
WL 310	1.33	6.59	5.53	5.76	19.23	94
Pacer	1.12	6.16	5.42	5.41	18.13	89
Average	1.28	7.50	5.79	5.92	20.50	100
LSD 5%	NS	0.91	0.57	0.72	1.39	---

* Establishment year yield (1 cutting).

** Totals of 3 cuttings.