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1993 ALFALFA CULTIVAR FORAGE PRODUCTION TRIAL RESULTS

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California alfalfa production figures have changed only slightly during the past year. Acreage dropped from 960,000 acres in 1992 about to 950,000 acres in 1993[1]. Yields remained the same for both years at 6.7 tons per acre resulting in a total production of 6,365,000 tons for 1993, down slightly from 6,432,000 tons in 1992.[1] However, new plantings in the fall of 1993 were up sharply and we should anticipate higher acreage next year.

CULTIVAR TRIAL MANAGEMENT

Alfalfa trials were conducted in 1993 in the major alfalfa growing regions of the intermountain region of northern California, the Sacramento Valley, the San Joaquin Valley and the Low desert. Three sites have been established in the intermountain region (Tulelake, Scott Valley and Butte Valley), one site in the Sacramento Valley (Davis), two sites in the San Joaquin Valley (Parlier and Five Points), and one site (Holtville) in the Low Desert (Fig. 1).

The California Alfalfa Cultivar Trial is open to any certified alfalfa cultivar which is sold or is likely to be sold in California. The word 'Cultivar' is used to mean "cultivated variety" to distinguish from naturally occurring varieties of plants (however in common usage they are often used interchangeably). Blends or brands are not currently included in the trial. Experimental cultivars are tested as space permits, but priority is given to those lines which will be sold in the state.

These trials are seeded as close as feasible to what is believed to be the optimum time for seeding alfalfa in California at a particular location (see Teuber, et al., 1987, 17th CA-AZ Alfalfa Symposium Proceedings, 1987, University of California). This date varies from northern California (late June-early August), the Sacramento Valley (first 3 weeks of Sept.), the San Joaquin Valley (second week of Sept. through 1st week of Oct.), to the Imperial Valley (1st 3 weeks of Oct.). Germination tests are conducted to determine viability, and seed is planted at about 25 lb/a live seed using a brillion-type experimental seeder especially designed to change cultivars between

[1] 1993 Forecast figures, California Agricultural Statistics Service.

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plots. This seeder provides a planting method which is quite similar to that used by growers. Plots are 5' wide and approximately 20 feet long (depending upon field size), and 4 replicates or more are established at each location.

After the establishment of each trial, plant stand counts are taken from a defined area of each plot and the area marked for counts to be taken at the end of the trial. This data is taken to estimate stand loss for each variety. Percent cover ratings are also taken twice each year. Cuttings (after the seeding year) are taken from approximately a 3' x 17' area using a flail-type harvester, and dry matter yield determined by oven-drying subsamples. Three to four cuts are taken in northern California while up to eleven cuttings are taken in the Imperial Valley. Data is assembled from each of the locations and cuttings and analyzed and summarized at UC Davis.

INTERPRETATION OF THE RESULTS

Experimental field plots are replicated within a site, across sites, and over years to sample the variation which naturally occurs within a region, within a field, from field to field, and from year to year (variation due to soil and weather) to fully sample the variation which exists in biological systems. It is important to obtain reliable data on a variety from as many sites, as many observations, and as many sources as possible. One can find examples of varieties in tables 1-13 which do well in single cuttings or single years, but perform poorly when more widely tested.

Statistics

The Least Significant Difference (LSD), which is reported at the bottom of each column of numbers, is one way of testing the true difference between any two variety means. The LSD value determines a "critical difference", beyond which a variety is judged to be truly different. Simply subtract or add the LSD value to a variety mean yield. Any other variety mean which falls within this range is considered similar, and values which fall outside of this range are considered different. For convenience, we have placed the letters, "A", "B", "C", etc. next to the yields (numbers with the same letter are considered similar). It is important to note that even though rankings are given within these letter groupings, for all practical purposes, we can't tell the difference between them.

This statistical test is made with a 95% confidence level. That is, we should consider numbers with the same letter to be equal with a less than 1 in 20 chance of being wrong ($\leq$5% probability). However, if the difference between the two cultivars is greater than the LSD (they share no letters), we determine that they are statistically different, with the same (95%) confidence level.

Another statistic, the Coefficient of Variation (C.V.), is an estimation of the overall level of uncontrolled variation in the experiment. High value for a C.V.

means that one should consider the data less reliable. Coefficients of Variation under 10-12% are usually considered acceptable.

Yield Grouping

It is clear from applying these statistics to the tables that although there may appear to be a "winner" in each trial, more realistically there are a "group of winners" in a trial. Conversely, there are groups of poorer yielding or average-yielding varieties. The statistical tests should be used to mentally group those sets of cultivars which may be considered "high yielding" for an area. It is important not just to use the numerical ranking of a variety yield, which may be misleading, since there are a number of other cultivars which are essentially similar to that one. This grouping of high yielding cultivars should then be coupled with disease ratings (Table 14) and dormancy qualities to aid the variety decision.

RESULTS

Intermountain Valley

A cultivar trial was planted at Tulelake in July of 1993. One harvest was taken in September 1993, but since first cutting yields do not always indicate future yield potential, those results are not included in this report. At Butte Valley, due to problems with irrigation uniformity early in the season, yields from the first cutting were discarded. Yields for the remaining two cuttings are presented for the Butte Valley trial that was planted in August, 1992. The seasonal yield reported in Table 1 is a total of cuttings two and three only. These are first year results and as a fair amount of shifting of rank is often seen between cuttings, one should view these results with caution.

Sacramento Valley

Second year results from the UC Davis trial are shown in Tables 2 and 3. Since there are substantial differences between semidormant and dormant cultivars, these were analyzed as separate trials. As a group, the nondormant cultivars again out-yielded the semidormant cultivars by an average of about one-half ton per acre at Davis. Among the nondormant and the semidormant cultivars little change in yield ranking is seen from 1992 to 1993 among the higher yielding cultivars (Tables 4 and 5). The average yield dropped by more than two dry tons per acre for both the semidormant and the nondormant cultivars from 1992 to 1993. The percent cover table (Table 6) shows a decrease in cover from 1992 to 1993 and a moderate amount of shifting in rank.

San Joaquin Valley

The UC Kearney Alfalfa Forage Trial results for 1993 are presented in Table 7, and the four-year averages are presented in Table 8. This trial averaged 9.5 dry tons

per acre for 1993. Averaged over the three and one-half year life span of the trial the average yield was 10.17 dry tons per acre. There was considerable shifting in performance over the life of this trial. For example, UC 332 which ranked 26th at the end of the first year ranked 3rd for yield for the lifetime of the trial. UC 340 which ranked 10th at the end of the first year, was the second lowest yielder over the lifetime of the trial due to poor stand persistence. However, this germplasm is very nondormant and performs much better in trials in the Imperial Valley. A summary of the percent cover ratings for the last three years of this trial is presented in Table 9.

The trial at West Side Field Station was planted in September, 1992. Eight cuttings were taken during the first full production year of this 42 entry trial (Table 10). The average yield for the trial was 11.7 dry tons per acre. No significant difference (LSD at 5% probability level) was seen among the cultivars yielding in the top approximately one-half of the trial. Stand counts taken on July 1, 1993 show a range of 44.0 to 64.9 plants per 1/10 square meter (Table 11). Percent cover was usually, but not always, correlated with stand counts.

Low Desert

Single-year results from 1993 are shown in Table 12, and a two-year summary provided in Table 13. At the end of the second full year of production this trial yielded an average of 7.5 dry tons per acre (Table 12) which was slightly more than one and one-half tons less than the previous year. UC 340 remained as the highest yielder for the second year. Little change in relative rank position is seen between the first and second year of the trial. This trial should remain in for one more full year and be replaced in the fall of 1994.

Acknowledgements

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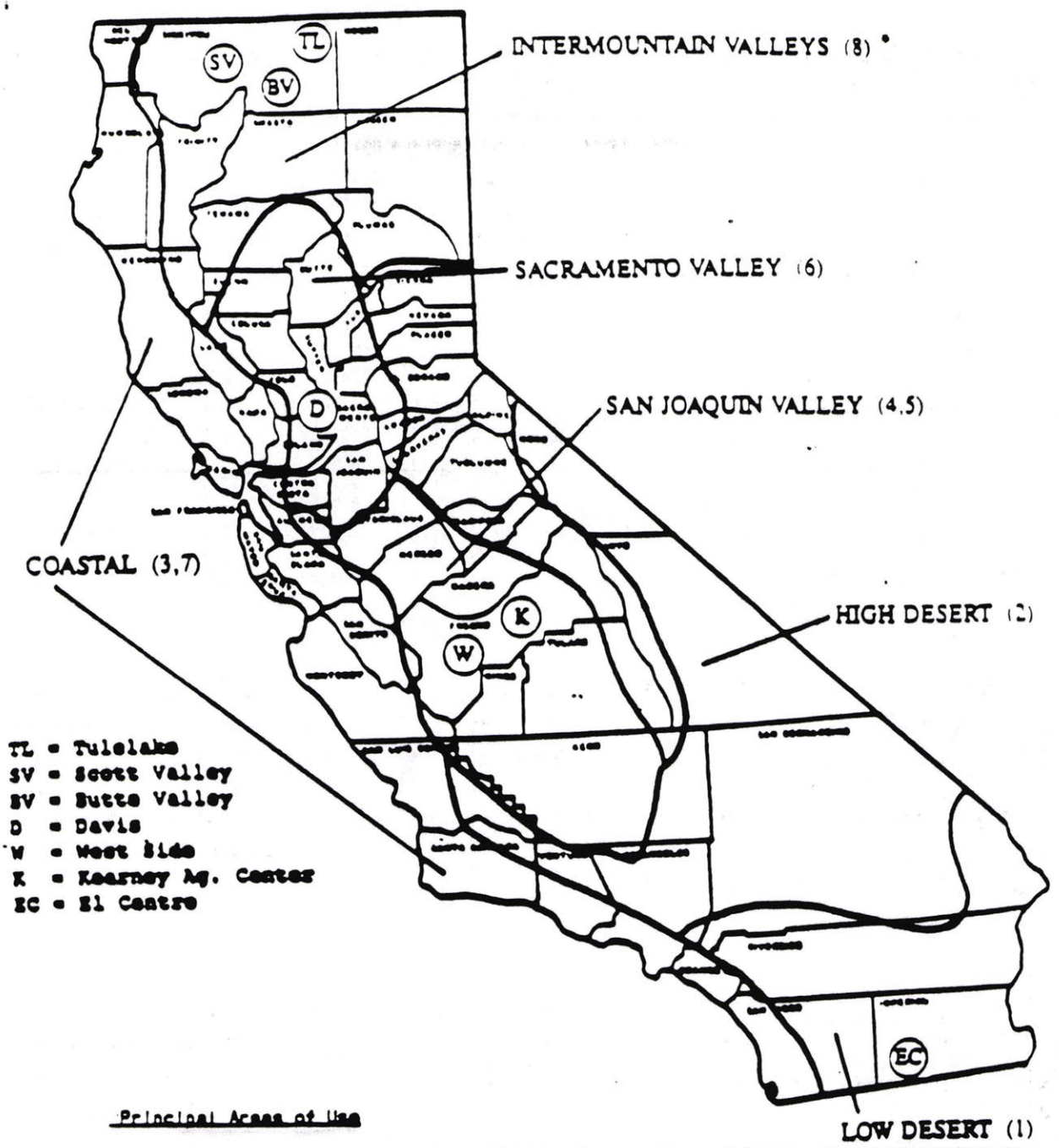


Figure 1. Major alfalfa production regions in California. Numbers in parentheses correspond to principal areas of use.

Table 1. Butte Valley Alfalfa Cultivar Trial, 1993 yield summary. Trial planted 8/18/92.[1]

Entry	FORAGE YIELD (RANK IN PARENTHESES) Cut 2 8/9	Cut 3 9/22	TOTAL[2] 1993		% of Vernal
DK 133	2.17(1)	1.24(3)	3.41(1)	A[3]	121.3
Crystal	2.15(2)	1.23(5)	3.38(2)	AB	120.3
AP 8950	2.10(5)	1.26(2)	3.36(3)	ABC	119.7
H 154	2.07(11)	1.24(4)	3.31(4)	ABCD	117.8
Archer	2.01(17)	1.29(1)	3.30(5)	ABCD	117.7
Brand 1	2.09(6)	1.18(7)	3.26(6)	ABCDE	116.1
DK 125	2.13(3)	1.12(13)	3.25(7)	ABCDE	115.6
Blazer XL	2.08(8)	1.15(9)	3.23(8)	ABCDE	115.0
9048	2.11(4)	1.10(16)	3.21(9)	ABCDEF	114.2
Centurion	2.07(12)	1.14(12)	3.20(10)	ABCDEF	113.9
Webfoot	2.11(4)	1.07(21)	3.18(11)	BCDEF	113.3
ABI 700	2.03(16)	1.15(8)	3.18(12)	BCDEF	113.1
Apollo Supreme	2.03(16)	1.14(10)	3.17(13)	BCDEF	112.9
Sparta	2.05(14)	1.11(15)	3.16(14)	CDEF	112.5
Class	2.08(7)	1.08(20)	3.16(15)	CDEF	112.5
Ultra	2.07(9)	1.09(18)	3.16(16)	CDEF	112.5
89-31F	2.04(15)	1.09(17)	3.13(17)	DEFG	111.5
Epic	2.05(13)	1.04(23)	3.11(18)	DEFG	110.8
WL 317	2.07(10)	1.03(24)	3.10(19)	DEFG	110.3
DK 122	2.01(17)	1.08(19)	3.10(20)	DEFG	110.2
Blazer	1.96(21)	1.12(14)	3.08(21)	EFGH	109.5
Champ	1.98(20)	1.09(18)	3.06(22)	EFGH	109.1
Cimarron VR	1.92(23)	1.14(11)	3.06(23)	EFGH	108.9
Brand 2	1.99(18)	1.06(22)	3.05(24)	EFGH	108.7
ABI 9151	1.87(26)	1.18(6)	3.05(25)	EFGH	108.7
322 HQ	1.93(22)	1.12(14)	3.05(26)	EFGH	108.6
5262	1.99(19)	1.02(25)	3.01(27)	FGHI	107.1
UC 1030	1.91(24)	1.00(26)	2.93(28)	GHI	104.2
Milkmaker II	1.90(25)	.97(27)	2.87(29)	HI	102.3
Vernal	1.87(27)	.94(28)	2.81(30)	I	100.0
GRAND MEAN	2.03	1.12	3.14		
% CV	4.46	7.42	4.79		
LSD (.05)	.127	.116	.212		7.5

[1] Trial seeded at 25 lbs/acre viable seed on Poman loamy sand on the Prather/Bennett Ranch, Siskiyou County, CA.

[2] Due to uneven yields caused by a nonuniform irrigation pattern the first cutting yields are not included in the yield summary.

[3] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 2. UC Davis Nondormant Alfalfa Cultivar Trial 1993 yields. Trial planted 9/16/91[1]

ENTRY	Cut 1 4/29	Cut 2 6/1	Cut 3 6/28	Cut 4 7/27	Cut 5 8/29	Cut 6 9/21	1993 TOTAL	% of Moapa 69
	FORAGE YIELD (RANK IN PARENTHESIS) Dry Tons/acre							%
IK 8804	2.75(10)	1.54(9)	1.73(3)	2.11(3)	1.65(1)	1.24(1)	10.97(1) A[2]	109.1
PGI 901	2.77(8)	1.72(2)	1.72(4)	1.94(7)	1.64(3)	1.16(5)	10.96(2) A	109.0
DK 189	2.84(4)	1.64(3)	1.71(6)	2.19(1)	1.46(13)	1.04(14)	10.89(3) AB	108.3
IK 8803	2.80(7)	1.54(10)	1.78(1)	2.01(5)	1.49(11)	1.22(2)	10.84(4) AB	107.9
Palo Verde	2.67(16)	1.49(13)	1.69(9)	2.16(2)	1.55(6)	1.11(7)	10.66(5) ABC	106.1
WL 88-137	2.76(9)	1.57(5)	1.76(2)	1.91(10)	1.44(14)	1.21(3)	10.65(6) ABC	106.0
CRX-Plus	2.68(15)	1.56(7)	1.69(8)	1.96(6)	1.54(8)	1.06(12)	10.59(7) ABC	105.3
5715	3.04(2)	1.50(12)	1.64(11)	1.83(13)	1.42(15)	1.04(15)	10.46(8) ABC	104.1
CUF 101	2.72(12)	1.58(4)	1.59(15)	1.85(11)	1.64(2)	1.09(9)	10.46(9) ABC	104.1
UC 304	2.70(13)	1.49(14)	1.70(7)	1.93(9)	1.47(12)	1.09(8)	10.37(10)ABCD	103.2
UC Cibola	2.46(20)	1.44(18)	1.72(5)	1.93(8)	1.58(5)	1.21(4)	10.34(11)ABCD	102.9
VS 9061	3.04(1)	1.57(6)	1.59(14)	1.76(15)	1.40(16)	0.94(16)	10.30(12)ABCDE	102.5
OK 49	2.96(3)	1.76(1)	1.62(13)	1.68(18)	1.35(17)	0.77(20)	10.14(13)ABCDE	100.9
Maricopa	2.47(19)	1.44(17)	1.58(16)	2.05(4)	1.54(7)	1.12(6)	10.14(14)ABCDE	100.9
WL 516	2.54(18)	1.55(8)	1.66(10)	1.72(17)	1.53(9)	1.08(11)	10.08(15)ABCDE	100.3
Moapa 69	2.60(17)	1.46(15)	1.53(18)	1.79(14)	1.59(4)	1.08(10)	10.05(16)ABCDE	100.0
5888	2.74(11)	1.31(20)	1.52(19)	1.84(12)	1.50(10)	1.06(13)	9.97(17) BCDE	99.2
IK 8919	2.82(6)	1.46(16)	1.62(12)	1.65(19)	1.32(18)	0.88(17)	9.75(18) CDE	97.0
Aurora	2.68(14)	1.38(19)	1.55(17)	1.74(16)	1.19(20)	0.82(19)	9.50(19) DE	94.5
ABI 700	2.84(5)	1.51(11)	1.47(20)	1.47(20)	1.21(19)	0.84(18)	9.34(20) E	92.9
GRAND MEAN	2.74	1.53	1.64	1.88	1.47	1.05	10.32	
% CV	12.49	12.25	6.09	13.48	1.44	11.81	6.57	
LSD (.05)	0.48	0.26	0 .14	0.35	0.24	0.18	0.96	9.2

Table 3. UC Davis Semidormant Alfalfa Cultivar Trial 1993 yields. Trial planted 9/16/91[1]

ENTRY	Cut 1 4/29	Cut 2 6/1	Cut 3 6/28	Cut 4 7/27	Cut 5 8/29	Cut 6 9/21	1993 TOTAL	% of Moapa 69
	FORAGE YIELD (RANK IN PARENTHESIS) Dry Tons/acre							%
WL 87-223	3.08(1)	1.49(12)	1.73(2)	1.96(1)	1.68(1)	1.20(1)	11.13(1) A[2]	110.8
WL 88-206	2.85(9)	1.68(3)	1.78(1)	1.93(2)	1.57(3)	1.19(2)	11.00(2) AB	109.4
ABI 9181	3.07(2)	1.52(7)	1.63(5)	1.79(9)	1.46(5)	1.00(7)	10.46(3) ABC	104.1
WL 457	2.80(12)	1.51(9)	1.68(3)	1.83(5)	1.37(8)	1.11(3)	10.30(4) ABCD	102.5
IK 8806	3.04(3)	1.45(14)	1.64(4)	1.84(4)	1.38(7)	0.93(11)	10.28(5) ABCD	102.3
AP 8891V	2.81(10)	1.64(4)	1.58(10)	1.82(6)	1.44(6)	0.97(10)	10.27(6) BCD	102.1
VS 957	2.81(11)	1.71(2)	1.61(7)	1.71(11)	1.34(9)	1.04(5)	10.22(7) BCD	101.7
DK 169	2.92(4)	1.72(1)	1.55(11)	1.71(10)	1.30(13)	0.90(12)	10.10(8) CDE	100.5
Moapa 69	2.60(14)	1.46(13)	1.53(13)	1.79(8)	1.59(2)	1.08(4)	10.05(9) CDE	100.0
ABI 9182	2.54(15)	1.60(5)	1.60(8)	1.81(7)	1.48(4)	1.02(6)	10.05(10) CDE	100.0
Lobo	2.86(8)	1.52(8)	1.62(6)	1.85(3)	1.28(14)	0.79(16)	9.93(11) CDE	98.8
VS 9051	2.90(6)	1.42(15)	1.60(9)	1.57(16)	1.17(16)	0.98(9)	9.64(12) CDE	95.9
NK 89787	2.89(7)	1.55(6)	1.51(14)	1.60(15)	1.25(15)	0.81(14)	9.61(13) CDE	95.6
Garst 630	2.91(5)	1.50(11)	1.48(16)	1.67(12)	1.33(10)	0.69(17)	9.57(14) DE	95.3
5683	2.64(13)	1.51(10)	1.54(12)	1.64(13)	1.32(12)	0.89(13)	9.54(15) DE	94.9
Isle Verde	2.48(16)	1.29(16)	1.50(15)	1.64(14)	1.33(11)	0.99(8)	9.25(16) E	92.0
NK 90789	2.36(17)	1.20(17)	1.27(17)	1.22(17)	1.14(17)	0.81(15)	7.98(17) F	79.4
GRAND MEAN	2.80	1.52	1.58	1.73	1.38	0.96	9.96	
% CV	9.34	10.35	7.89	10.13	8.26	6.91	6.10	
LSD (.05)	0.37	0.22	0.18	0.25	0.16	0.1	0.87	8.3

1. Both trials seeded at 30 lb/acre viable seed on Yolo clay loam soil at the Univ. of California Agronomy Farm, Davis, CA.
2. Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 4.UC Davis Semidormant Alfalfa Cultivar Trial, 1992-1993 yield summary. Trial planted 9/16/91[1].

	FORAGE YIELD (RANK IN PARENTHESIS)				
ENTRY	1992 TOTAL	1993 TOTAL	1992-1993 AVERAGE		% OF MOAPA 69
	---------Dry Tons/acre---------				----%----
WL 88-206	12.80(2)	11.00(2)	11.90(1)	A[3]	107.8
WL 87-223	12.55(4)	11.13(1)	11.84(2)	A	107.2
WL 457	13.14(1)	10.30(4)	11.72(3)	AB	106.2
ABI 9181	12.54(5)	10.46(3)	11.50(4)	ABC	104.2
IK 8806	12.62(3)	10.28(5)	11.45(5)	ABC	103.7
VS 957	12.47(7)	10.22(7)	11.34(6)	ABCD	102.7
ABI 9182	12.40(8)	10.05(10)	11.22(7)	ABCD	101.6
DK 169	12.34(9)	10.10(8)	11.22(8)	ABCD	101.6
Lobo	12.48(6)	9.93(11)	11.21(9)	ABCD	101.5
Moapa 69	12.03(12)	10.05(9)	11.04(10)	BCDE	100.0
VS 9051	12.32(10)	9.64(12)	10.98(11)	CDE	99.4
AP 8891V	11.51(15)	10.27(6)	10.89(12)	CDE	98.6
Isle Verde	12.08(11)	9.25(16)	10.66(13)	DE	96.6
Garst 630	11.70(13)	9.57(14)	10.63(14)	DE	96.3
5683	11.27(16)	9.54(15)	10.40(15)	EF	94.2
NK 89787	11.13(17)	9.61(13)	10.37(16)	EF	93.9
NK 90789	11.64(14)	7.98(17)	9.81(17)	F	88.8
GRAND MEAN	12.18	9.96	11.07		100.3
% CV	4.7	6.1	5.7		
LSD (.05)	0.81	0.86	0.63		5.7

Table 5. UC Davis Nondormant Alfalfa Cultivar Trial, 1992-1993 yield summary. Trial planted 9/16/91[1]

	FORAGE YIELD (RANK IN PARENTHESIS)				
ENTRY[2]	1992 TOTAL	1993 TOTAL	1992-1993 AVERAGE		% OF MOAPA 69
	---------Dry Tons/acre---------				----%----
UC 304	13.89(1)	10.37(9)	12.13(1)	A[3]	109.8
WL 88-137	13.49(2)	10.65(5)	12.07(2)	AB	109.3
IK 8804	13.08(5)	10.97(1)	12.02(3)	AB	108.9
IK 8803	12.97(8)	10.84(3)	11.91(4)	ABC	107.9
PGI 9015	12.83(9)	10.96(2)	11.89(5)	ABC	107.7
CRX-Plus	13.19(3)	10.59(6)	11.89(6)	ABC	107.6
UC Cibola	13.14(4)	10.34(10)	11.74(7)	ABC	106.3
5715	12.99(6)	10.46(7)	11.73(8)	ABC	106.2
Palo Verde	12.66(12)	10.66(4)	11.66(9)	ABCD	105.6
VS 9061	12.99(7)	10.30(11)	11.64(10)	ABCD	105.5
Maricopa	12.69(11)	10.14(13)	11.41(11)	BCD	103.3
5888	12.82(10)	9.97(16)	11.40(12)	BCD	103.2
CUF 101	12.13(15)	10.46(8)	11.30(13)	CD	102.3
WL 516	12.48(13)	10.08(14)	11.28(14)	CD	102.2
OK 49	12.31(14)	10.14(12)	11.23(15)	CD	101.7
Moapa 69	12.03(16)	10.05(15)	11.04(16)	DE	100.0
ABI 700	11.71(17)	9.34(17)	10.53(17)	E	95.3
GRAND MEAN	12.79	10.37	11.58		104.9
% CV	4.6	5.6	5.0		
LSD (.05)	0.84	0.83	0.58		5.2

1. Both trials seeded at 30 lb/acre viable seed on Yolo clay loam soil at the Univ. of California Agronomy Farm, Davis, CA.
2. Because of highly variable yields between replications, DK189, IK8919, and Aurora were not included in this over-the-year analysis table. These entries are included in the single year table.
3. Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD

Table 6. UC Davis Alfalfa Cultivar Trial, 1992-1993 Percent Cover summary. Trial planted 9/16/91[1]

Entry	% COVER[2] (RANK IN PARENTHESIS) 1992 11/6	1993 11/18	
CRX-Plus	77.5(4)	72.5(1)	A[3]
DK 189	80.0(2)	70.0(2)	AB
Maricopa	80.0(2)	70.0(2)	AB
PGI 9015	77.5(4)	70.0(2)	AB
WL 457	80.0(2)	70.0(2)	AB
Moapa 69	80.0(2)	70.0(2)	AB
WL 516	72.5(8)	67.5(3)	ABC
WL 88-137	80.0(2)	67.5(3)	ABC
5683	77.5(4)	67.5(3)	ABC
OK 49	70.0(9)	67.5(3)	ABC
IK 8804	77.5(4)	67.5(3)	ABC
VS 957	80.0(2)	67.5(3)	ABC
Isle Verde	72.5(8)	67.5(3)	ABC
Garst 630	75.0(6)	67.5(3)	ABC
Lobo	70.0(9)	65.0(4)	BCD
AP 8891V	75.0(6)	65.0(4)	BCD
IK 8806	67.5(11)	65.0(4)	BCD
VS 9051	72.5(8)	65.0(4)	BCD
VS 9061	75.0(6)	65.0(4)	BCD
WL 87-223	80.0(2)	65.0(4)	BCD
5715	80.0(2)	65.0(4)	BCD
Palo Verde	77.5(4)	65.0(4)	BCD
5888	75.0(6)	65.0(4)	BCD
ABI 9181	72.8(7)	63.1(5)	BCD
Aurora	79.5(3)	63.1(5)	BCD
IK 8919	76.2(5)	63.1(5)	BCD
DK 169	69.5(10)	63.1(5)	BCD
UC Cibola	66.2(12)	63.1(5)	BCD
WL 88-206	82.5(1)	62.5(6)	CD
NK 89787	67.5(11)	62.5(6)	CD
ABI 9182	72.5(8)	60.0(7)	D
UC 304	67.5(11)	60.0(7)	D
NK 90789	62.5(13)	60.0(7)	D
CUF 101	70.0(9)	60.0(7)	D
IK 8803	70.0(9)	60.0(7)	D
ABI 700	72.8(7)	59.8(8)	D
GRAND MEAN	74.5	65.2	
% CV	6.82	8.13	
LSD (.05)	7.13	7.44	

[1] Trial seeded at 30 lbs/acre viable seed on Yolo clay loam soil at the Univ. of Calif. Agronomy Farm, Davis, CA.

[2] Visual estimate of percent of ground covered by living alfalfa.

[3] Based on a subjective rating on a 1 to 10 scale. Entries followed by the same letter are not signigicantly different at the 5% probability according to Fishers (protected) LSD (1993 data).

Table 7. UC Kearney Alfalfa Cultivar Trial, 1993 yields. Trial planted 3/22/90[1].

	FORAGE YIELD (RANK IN PARENTHESIS)										
	Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	Cut 8	1993		% of
ENTRY	4/1	5/6	6/2	6/30	7/28	8/25	9/22	10/25	TOTAL		Moapa 69
	Dry Tons/acre										-%-
WL 85-204	1.33(10)	1.74(1)	1.48(2)	2.00(1)	1.93(4)	1.44(2)	1.12(1)	.86(1)	11.91(1)	A	125.5
WL 87-223	1.31(11)	1.56(9)	1.41(6)	1.87(2)	1.99(1)	1.36(6)	1.01(8)	.76(5)	11.27(2)	AB	118.8
SW 14	1.34(8)	1.52(13)	1.32(12)	1.83(5)	1.97(2)	1.39(3)	1.05(3)	.82(3)	11.24(3)	AB	118.5
AP 8986	1.34(7)	1.66(3)	1.34(8)	1.84(4)	1.87(9)	1.47(1)	1.03(4)	.68(17)	11.23(4)	AB	118.3
IK 8804	1.46(3)	1.62(4)	1.49(1)	1.85(3)	1.85(14)	1.30(17)	.94(19)	.71(9)	11.22(5)	AB	118.2
UC 257	1.40(5)	1.71(2)	1.43(4)	1.80(8)	1.87(9)	1.29(20)	1.02(7)	.64(26)	11.16(6)	ABC	117.6
IK 8918	1.34(8)	1.59(7)	1.42(5)	1.81(7)	1.92(5)	1.35(7)	.96(15)	.64(28)	11.03(7)	ABCD	116.2
DK Exp. 101R	1.50(2)	1.62(5)	1.39(7)	1.68(20)	1.87(12)	1.29(19)	.91(27)	.61(34)	10.86(8)	ABCDE	114.4
Calgene 84D92	1.33(9)	1.61(6)	1.13(36)	1.74(13)	1.91(8)	1.37(5)	.95(16)	.77(4)	10.80(9)	ABCDEF	113.9
Esmeralda SP INTA	1.21(20)	1.51(14)	1.34(9)	1.80(9)	1.94(3)	1.34(9)	.98(10)	.69(13)	10.80(10)	ABCDEF	113.8
UC 332	1.12(29)	1.46(24)	1.30(16)	1.83(6)	1.77(27)	1.39(4)	1.09(2)	.85(2)	10.80(11)	ABCDEF	113.8
IK 8801	1.29(14)	1.55(10)	1.32(11)	1.75(12)	1.91(6)	1.31(16)	.94(17)	.68(18)	10.76(12)	ABCDEFG	113.4
IK 8803	1.20(21)	1.57(8)	1.46(3)	1.75(11)	1.83(17)	1.30(18)	.93(21)	.68(15)	10.73(13)	ABCDEFGH	113.1
DK Exp. 169	1.19(24)	1.47(22)	1.33(10)	1.64(27)	1.87(10)	1.07(55)	.85(37)	.57(43)	10.69(14)	ABCDEFGH	112.7
NK C88-502	1.20(22)	1.52(13)	1.19(28)	1.72(15)	1.79(24)	1.35(8)	1.02(6)	.76(6)	10.56(15)	ABCDEFGHI	111.3
AP 8871 V	1.29(15)	1.51(15)	1.32(12)	1.74(14)	1.84(16)	1.23(30)	.93(20)	.68(16)	10.53(16)	BCDEFGHIJ	111.0
Monarca SP INTA	1.22(19)	1.48(18)	1.30(15)	1.65(25)	1.84(15)	1.33(11)	.91(28)	.71(9)	10.45(17)	BCDEFGHIJ	110.
Arroyo	1.23(17)	1.46(24)	1.25(20)	1.66(23)	1.86(13)	1.32(13)	1.00(9)	.66(24)	10.44(18)	BCDEFGHIJ	110.0
NK C88-503	1.13(28)	1.43(25)	1.25(20)	1.71(17)	1.81(21)	1.29(21)	1.02(5)	.68(17)	10.32(19)	BCDEFGHIJ	108.8
GP NH1-2	1.30(13)	1.50(17)	1.20(26)	1.63(31)	1.80(23)	1.32(14)	.87(33)	.62(31)	10.24(20)	BCDEFGHIJK	107.9
UC 329	1.22(18)	1.37(30)	1.31(13)	1.72(16)	1.70(33)	1.24(29)	.93(20)	.73(7)	10.23(21)	BCDEFGHIJK	107.8
Victoria SP INTA	1.28(16)	1.43(25)	1.26(19)	1.63(29)	1.83(18)	1.26(23)	.92(23)	.61(35)	10.21(22)	BCDEFGHIJK	107.6
DK 189 (VS 754)	1.07(33)	1.48(20)	1.19(27)	1.68(19)	1.87(11)	1.26(26)	.91(25)	.69(14)	10.14(23)	BCDEFGHIJKL	106.9
Madera	1.18(25)	1.43(26)	1.21(23)	1.67(21)	1.80(22)	1.22(34)	.98(10)	.65(25)	10.14(24)	BCDEFGHIJKL	106.9
Colt	1.15(27)	1.36(31)	1.19(29)	1.66(24)	1.82(19)	1.33(12)	.96(13)	.67(19)	10.14(25)	BCDEFGHIJKL	106.8
NK C88-509	1.17(26)	1.54(11)	1.19(29)	1.63(30)	1.79(25)	1.26(22)	.88(32)	.66(21)	10.11(26)	BCDEFGHIJKL	106.6
Calgene 8739N	1.31(12)	1.51(16)	1.23(22)	1.63(28)	1.73(30)	1.25(28)	.84(41)	.49(48)	9.97(27)	BCDEFGHIJKLM	105.1
WL 457	1.06(34)	1.47(21)	1.27(17)	1.68(18)	1.82(20)	1.20(40)	.84(39)	.61(33)	9.95(28)	BCDEFGHIJKLM	104.8
Cimarron VR	1.61(1)	1.38(28)	1.21(24)	1.39(50)	1.74(29)	1.23(31)	.79(49)	.49(50)	9.84(29)	CDEFGHIJKLM	103.7
DS 8989	1.10(31)	1.32(33)	1.17(31)	1.57(38)	1.76(28)	1.22(35)	.96(14)	.70(12)	9.79(30)	DEFGHIJKLM	103.2
Lahontan	1.19(23)	1.47(23)	1.26(18)	1.61(33)	1.72(31)	1.21(37)	.87(35)	.46(54)	9.78(31)	DEFGHIJKLMN	103.0
Belmont	1.36(6)	1.34(32)	1.31(14)	1.55(42)	1.71(32)	1.20(39)	.79(51)	.49(51)	9.73(32)	DEFGHIJKLMN	102.5
Calgene 8522C	1.00(37)	1.37(29)	1.21(25)	1.67(22)	1.68(34)	1.26(24)	.86(36)	.67(20)	9.72(33)	DEFGHIJKLMN	102.4
5715(XAI 81)	1.02(36)	1.25(37)	1.07(40)	1.59(35)	1.91(7)	1.31(15)	.90(29)	.64(27)	9.70(34)	DEFGHIJKLMN	102.3
VS 857	1.11(30)	1.48(19)	1.17(31)	1.58(36)	1.66(39)	1.17(43)	.88(31)	.62(32)	9.67(35)	DEFGHIJKLMN	101.9
NK 89786	1.46(4)	1.54(12)	1.15(33)	1.41(49)	1.60(46)	1.13(47)	.79(48)	.58(42)	9.66(36)	EFGHIJKLMN	101.8
DS 8990	.92(44)	1.21(39)	1.04(44)	1.56(39)	1.81(21)	1.31(15)	.97(12)	.71(8)	9.53(37)	EFGHIJKLMNO	100.4
Moapa 69	.84(48)	1.17(42)	1.17(30)	1.65(26)	1.77(26)	1.29(20)	.93(22)	.66(23)	9.49(38)	FGHIJKLMNO	100.0
Pierce	1.05(35)	1.26(36)	1.06(41)	1.52(44)	1.62(44)	1.33(10)	.91(24)	.68(18)	9.43(39)	GHIJKLMNOP	99.3
WL 516	.97(40)	1.27(35)	1.12(37)	1.79(10)	1.62(42)	1.21(36)	.85(38)	.57(43)	9.42(40)	GHIJKLMNOP	99.3
UC 331	.99(38)	1.12(46)	1.15(34)	1.58(37)	1.71(32)	1.26(25)	.90(30)	.66(23)	9.37(41)	HIJKLMNOPQ	98.7
Aurora	1.07(33)	1.40(27)	1.16(32)	1.62(32)	1.61(45)	1.17(44)	.81(46)	.49(49)	9.32(42)	IJKLMNOPQ	98.2
Maricopa	1.07(32)	1.31(34)	1.15(35)	1.63(31)	1.64(41)	1.11(48)	.83(44)	.49(49)	9.23(43)	IJKLMNOPQ	97.2
Condor	.89(46)	1.16(43)	1.05(43)	1.59(34)	1.65(40)	1.25(27)	.94(18)	.66(21)	9.18(44)	JKLMNOPQR	96.7
CRX-600	.97(39)	1.21(40)	1.12(38)	1.55(41)	1.67(36)	1.19(41)	.87(33)	.59(40)	9.18(45)	JKLMNOPQR	96.7
UC Cibola	.88(47)	1.22(38)	1.01(46)	1.53(43)	1.53(50)	1.19(41)	.91(26)	.66(22)	8.92(46)	KLMNOPQRS	94.0
UC 327	.75(53)	1.05(52)	1.05(42)	1.55(40)	1.68(35)	1.20(38)	.91(25)	.70(10)	8.90(47)	KLMNOPQRS	93.8
UC 351	.94(43)	1.15(44)	1.25(21)	1.45(46)	1.50(53)	1.09(52)	.79(47)	.63(29)	8.80(48)	LMNOPQRS	92.7
WL 86-295	.94(42)	1.18(41)	1.08(39)	1.49(45)	1.52(51)	1.14(46)	.83(43)	.60(37)	8.79(49)	LMNOPQRS	92.6

(table continued)

Table 7 (continued):

ENTRY	Cut 1 4/1	Cut 2 5/6	Cut 3 6/2	Cut 4 6/30	Cut 5 7/28	Cut 6 8/25	Cut 7 9/22	Cut 8 10/25	1993 TOTAL		% of Moapa 69
	FORAGE YIELD (RANK IN PARENTHESIS) Dry Tons/acre										---%---
UC 337	.72(55)	1.07(49)	.88(54)	1.39(51)	1.67(37)	1.23(32)	.97(11)	.70(11)	8.62(50)	MNOPQRST	90.9
5888 (XAN 82)	.82(49)	1.15(44)	.93(49)	1.41(49)	1.47(54)	1.21(37)	.84(40)	.60(37)	8.42(51)	NOPQRST	88.7
UC 349	.67(57)	1.01(56)	.92(52)	1.42(47)	1.62(43)	1.18(42)	.84(41)	.60(37)	8.25(52)	OPQRST	87.0
UC 328	.79(52)	1.03(53)	.92(51)	1.37(53)	1.58(47)	1.09(51)	.79(48)	.60(38)	8.18(53)	OPQRST	86.2
UC 330	.81(50)	1.03(53)	.95(48)	1.39(52)	1.45(56)	1.09(50)	.83(42)	.63(30)	8.18(54)	OPQRST	86.2
NK C88-501	.80(51)	1.09(47)	1.04(45)	1.42(48)	1.66(38)	1.01(58)	.67(59)	.48(52)	8.16(55)	OPQRST	86.0
Nevada Syn XX	.96(41)	1.08(48)	.92(50)	1.27(57)	1.56(48)	1.16(45)	.74(53)	.41(55)	8.11(56)	PQRST	85.5
Sequel	.62(59)	.97(57)	.86(55)	1.35(54)	1.56(49)	1.22(33)	.87(34)	.59(39)	8.05(57)	QRST	84.8
Trifecta	.89(45)	1.13(45)	.89(53)	1.23(60)	1.44(57)	1.08(54)	.72(56)	.46(53)	7.85(58)	RSTU	82.7
UC 350	.71(56)	.93(58)	.95(47)	1.29(56)	1.50(52)	1.06(56)	.73(55)	.61(33)	7.79(59)	STU	82.0
UC 342	.72(54)	1.01(55)	.79(57)	1.25(59)	1.37(59)	1.08(53)	.79(50)	.61(36)	7.60(60)	STU	80.1
Nitro	.57(60)	1.06(50)	.83(56)	1.20(61)	1.46(55)	1.01(58)	.72(57)	.51(47)	7.36(61)	TU	77.6
UC 353	.56(61)	.85(60)	.77(58)	1.35(55)	1.32(60)	1.10(49)	.82(45)	.57(44)	7.33(62)	TU	77.2
Sarco 20	.64(58)	1.01(54)	.71(61)	1.16(62)	1.40(58)	1.06(57)	.75(52)	.59(41)	7.33(63)	TU	77.2
UC 340	.46(64)	.88(59)	.72(60)	1.25(58)	1.17(62)	.94(61)	.67(59)	.51(47)	6.60(64)	U	69.5
CUF 101	.47(63)	.82(61)	.77(59)	1.02(63)	1.27(61)	.97(59)	.73(54)	.54(46)	6.59(65)	U	69.5
UC 333	.50(62)	1.06(51)	.68(62)	.98(64)	1.17(63)	.96(60)	.68(58)	.56(45)	6.58(66)	U	69.3
GRAND MEAN	1.05	1.31	1.14	1.56	1.69	1.22	.88	.63	9.49		
% CV	16.42	13.68	13.49	11.34	11.89	13.72	15.39	17.54	10.34		
LSD (.05)	.239	.251	.214	.247	.280	.233	.189	.154	1.369		9.5

[1] Trial seeded at 35 lb/acre viable seed on Hanford fine sandy loam soil at the Univ. of California Kearney Agricultural Center, Parlier, CA.
[2] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 8. UC Kearney Alfalfa Cultivar Trial 1990-1993 yield summary. Trial planted 3/22/90[1]

ENTRY	FORAGE YIELD (RANK IN PARENTHESIS) 1990	1991	1992	1993	AVERAGE		% OF MOPAPA 69
	DryTons/acre						-%-
WL 85-204	6.34(13)	14.12(2)	12.85(2)	11.91(1)	11.30(1)	A[2]	108.7
IK 8918	6.69(2)	13.81(6)	12.64(10)	11.03(7)	11.04(2)	AB	106.2
UC 332	6.22(26)	14.32(1)	12.68(7)	10.80(11)	11.01(3)	ABC	105.9
WL 87-223	6.18(27)	13.64(10)	12.75(3)	11.27(2)	10.96(4)	ABCD	105.4
IK 8804	6.22(25)	13.44(20)	12.56(14)	11.22(5)	10.86(5)	ABCDE	104.5
SW 14	5.92(48)	13.63(11)	12.65(9)	11.24(3)	10.86(6)	ABCDE	104.5
AP 8986	5.61(60)	13.48(17)	13.02(1)	11.23(4)	10.83(7)	ABCDEF	104.2
NK C88-502	6.15(29)	13.93(4)	12.56(15)	10.56(15)	10.80(8)	ABCDEFG	103.9
UC 257	5.82(54)	13.58(14)	12.57(13)	11.16(6)	10.78(9)	ABCDEFG	103.7
Calgene84D92	6.10(35)	13.49(16)	12.72(4)	10.80(9)	10.78(10)	ABCDEFG	103.7
Arroyo	6.26(21)	13.85(5)	12.49(18)	10.44(18)	10.76(11)	ABCDEFG	103.5
Esmeralda SP	6.10(34)	13.47(18)	12.55(16)	10.80(10)	10.73(12)	ABCDEFGH	103.2
IK 8801	6.58(4)	13.07(39)	12.27(25)	10.76(12)	10.67(13)	ABCDEFGHI	102.6
DK Exp 101R	6.68(3)	12.88(47)	12.13(33)	10.86(8)	10.64(14)	ABCDEFGHI	102.3
DK Exp. 169	6.26(20)	13.14(33)	12.39(20)	10.69(14)	10.62(15)	ABCDEFGHI	102.2
DS 8990	6.49(9)	14.07(3)	12.24(27)	9.53(37)	10.58(16)	ABCDEFGHIJ	101.8
NK C88-503	5.89(51)	13.35(24)	12.72(5)	10.32(19)	10.57(17)	ABCDEFGHIJ	101.7
DK 189(VS 75	5.77(56)	13.61(12)	12.67(8)	10.14(23)	10.55(18)	ABCDEFGHIJK	101.5
5715(XAI 81)	6.84(1)	13.46(19)	12.18(31)	9.70(34)	10.55(19)	ABCDEFGHIJK	101.5
IK 8803	6.05(42)	12.86(50)	12.37(21)	10.73(13)	10.50(20)	ABCDEFGHIJKL	101.0
Colt	5.79(55)	13.66(9)	12.42(19)	10.14(25)	10.50(21)	ABCDEFGHIJKL	101.0
UC 329	5.93(47)	13.31(26)	12.51(17)	10.23(21)	10.49(22)	ABCDEFGHIJKLM	101.0
UC 331	6.24(23)	13.61(13)	12.71(6)	9.37(41)	10.48(23)	ABCDEFGHIJKLM	100.8
Monarca SP I	6.24(24)	13.12(35)	12.06(35)	10.45(17)	10.47(24)	ABCDEFGHIJKLM	100.7
Condor	6.33(14)	13.77(7)	12.58(11)	9.18(44)	10.47(25)	ABCDEFGHIJKLM	100.7
Madera	6.07(40)	13.37(22)	12.20(29)	10.14(24)	10.45(26)	ABCDEFGHIJKLMN	100.5
Moapa 69	6.29(16)	13.23(29)	12.58(12)	9.49(38)	10.40(27)	ABCDEFGHIJKLMNO	100.0
WL 457	6.06(41)	13.31(27)	12.26(26)	9.95(28)	10.40(28)	ABCDEFGHIJKLMNO	100.0
NK C88-509	6.11(32)	12.91(45)	12.32(23)	10.11(26)	10.36(29)	ABCDEFGHIJKLMNOP	99.7
GP NH1-2	6.28(17)	12.90(46)	11.99(36)	10.24(20)	10.35(30)	ABCDEFGHIJKLMNOP	99.6
Calgene8522C	6.54(7)	12.88(48)	12.16(32)	9.72(33)	10.32(31)	ABCDEFGHIJKLMNOPQ	99.3
AP 8871 V	5.77(57)	12.82(52)	11.85(42)	10.53(16)	10.24(32)	BCDEFGHIJKLMNOPQR	98.5
Pierce	5.99(45)	13.35(25)	12.20(30)	9.43(39)	10.24(33)	BCDEFGHIJKLMNOPQR	98.5
Aurora	6.17(28)	13.20(32)	12.21(28)	9.32(42)	10.23(34)	BCDEFGHIJKLMNOPQR	98.4
Maricopa	6.57(6)	13.09(37)	11.93(39)	9.23(43)	10.20(35)	BCDEFGHIJKLMNOPQR	98.1
WL 516	6.36(11)	13.01(40)	11.67(49)	9.42(40)	10.12(36)	BCDEFGHIJKLMNOPQRS	97.3
DS 8989	5.55(62)	12.97(42)	12.12(34)	9.79(30)	10.11(37)	BCDEFGHIJKLMNOPQRS	97.2
VictoriaSP I	5.99(44)	12.44(59)	11.78(45)	10.21(22)	10.11(38)	BCDEFGHIJKLMNOPQRS	97.2
VS 857	5.87(53)	12.97(43)	11.90(41)	9.67(35)	10.10(39)	BCDEFGHIJKLMNOPQRS	97.2
UC 327	6.13(30)	13.40(21)	11.91(40)	8.90(47)	10.09(40)	BCDEFGHIJKLMNOPQRST	97.0
UC 351	5.75(58)	13.11(36)	12.34(22)	8.80(48)	10.00(41)	CDEFGHIJKLMNOPQRSTU	96.2
UC Cibola	5.90(50)	12.85(51)	12.31(24)	8.92(46)	9.99(42)	DEFGHIJKLMNOPQRSTU	96.1
Sequel	6.50(8)	13.71(8)	11.65(50)	8.05(57)	9.98(43)	DEFGHIJKLMNOPQRSTU	96.0
UC 349	6.07(39)	13.51(15)	11.97(37)	8.25(52)	9.95(44)	EFGHIJKLMNOPQRSTU	95.7
UC 337	5.92(49)	13.28(28)	11.93(38)	8.62(50)	9.94(45)	EFGHIJKLMNOPQRSTU	95.6
CRX-600	6.28(18)	12.58(56)	11.69(47)	9.18(45)	9.93(46)	EFGHIJKLMNOPQRSTU	95.5
5888(XAN 82)	6.25(22)	13.37(23)	11.50(51)	8.42(51)	9.89(47)	EFGHIJKLMNOPQRSTU	95.1
UC 328	6.32(15)	13.22(30)	11.77(46)	8.18(53)	9.87(48)	EFGHIJKLMNOPQRSTU	95.0
Belmont	6.03(43)	12.39(61)	11.26(58)	9.73(32)	9.85(49)	FGHIJKLMNOPQRSTU	94.8
Cimarron Vr	6.11(33)	12.18(62)	11.11(60)	9.84(29)	9.81(50)	GHIJKLMNOPQRSTU	94.4
UC 330	5.95(46)	12.99(41)	11.81(43)	8.18(54)	9.73(51)	HIJKLMNOPQRSTU	93.5
WL 86-295	5.88(52)	12.48(58)	11.31(56)	8.79(49)	9.61(53)	JKLMNOPQRSTU	92.5
Calgene8739N	5.40(63)	11.76(65)	11.30(57)	9.97(27)	9.61(54)	JKLMNOPQRSTU	92.4
NK 89786	5.40(64)	11.85(63)	11.34(55)	9.66(36)	9.56(55)	KLMNOPQRSTU	92.0
Sarco 20	6.34(12)	12.88(49)	11.50(52)	7.33(63)	9.31(56)	LMNOPQRSTU	91.5
UC 350	6.08(38)	12.42(60)	11.68(44)	7.79(59)	9.49(57)	MNOPQRSTU	91.3
UC 342	6.10(37)	12.62(55)	11.48(53)	7.60(60)	9.45(58)	NOPQRSTU	90.9
Nitro	6.57(5)	12.95(44)	10.71(66)	7.36(61)	9.40(59)	OPQRSTU	90.4
Trifecta	5.74(59)	12.80(53)	11.17(59)	7.85(58)	9.39(60)	PQRSTU	90.3
UC 353	6.11(31)	13.07(38)	10.82(64)	7.33(62)	9.33(61)	QRSTU	89.8
Lahontan	5.16(66)	11.33(66)	11.01(62)	9.78(31)	9.32(62)	RSTU	89.7
CUF 101	6.10(36)	13.21(31)	11.11(61)	6.59(65)	9 .25(63)	RSTU	89.0
Nevada SynXX	5.19(65)	11.82(64)	11.37(54)	8.11(56)	9.12(64)	STU	87.8
UC 340	6.46(10)	12.55(57)	10.79(65)	6.60(64)	9.10(65)	TU	87.5
UC 333	5.58(61)	13.13(34)	10.92(63)	6.58(66)	9.05(66)	U	87.1
GRAND MEAN	6.09	13.11	12.00	9.49	10.17		97.9
% CV	9.1	5.3	6.0	10.3	11.1		
LSD (.05)	0.78	0.97	1.01	1.37	0.79		7.5

1. Trial seeded at 35 lb/acre viable seed on a Hanford fine sandy loam soil at the Univ. of California Kearney Agricultural Center, Parlier, CA.
2. Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 9. UC Kearney Alfalfa Cultivar Trial, 1991-1993 percent cover summary.
Trial planted 3/22/90[1]

Entry	% COVER[2] (RANK IN PARENTHESIS) 1991	1992	1993	
Cimarron VR	77.5(1)	52.5(5)	57.5(1)	A[3]
Belmont	72.5(2)	40.0(10)	52.5(2)	AB
Calgene 8739N	72.5(2)	62.5(1)	47.5(3)	BC
GP NH1-2	60.0(6)	45.0(8)	45.0(4)	BCD
Lahontan	62.5(5)	57.5(3)	45.0(4)	BCD
Victoria SP INTA	60.0(6)	45.0(8)	45.0(4)	BCD
DK Exp. 101R	62.5(5)	55.0(4)	45.0(4)	BCD
Calgene 84D92	60.0(6)	57.5(3)	42.5(5)	CDE
AP 8871 V	62.5(5)	55.0(4)	42.5(5)	CDE
Monarca SP INTA	60.0(6)	57.5(3)	40.0(6)	CDEF
NK 89786	57.5(7)	60.0(2)	40.0(6)	CDEF
Aurora	65.0(4)	60.0(2)	40.0(6)	CDEF
Calgene 8522C	52.5(9)	57.5(3)	40.0(6)	CDEF
IK 8804	52.5(9)	57.5(3)	37.5(7)	DEFG
Esmeralda SP INTA	57.5(7)	42.5(9)	37.5(7)	DEFG
WL 87-223	55.0(8)	57.5(3)	37.5(7)	DEFG
NK C88-503	55.0(8)	55.0(4)	37.5(7)	DEFG
UC 257	52.5(9)	55.0(4)	37.5(7)	DEFG
Maricopa	55.0(8)	55.0(4)	37.5(7)	DEFG
VS 857	55.0(8)	55.0(4)	37.5(7)	DEFG
CRX-600	57.5(7)	42.5(9)	37.5(7)	DEFG
Colt	55.0(8)	40.0(10)	37.5(7)	DEFG
Nevada Syn XX	60.0(6)	57.5(3)	37.5(7)	DEFG
DK 189 (VS 754)	57.5(7)	52.5(5)	37.5(7)	DEFG
DS 8990	60.0(6)	60.0(2)	37.5(7)	DEFG
Madera	50.0(10)	55.0(4)	35.0(8)	EFGH
WL 85-204	57.5(7)	47.5(7)	35.0(8)	EFGH
WL 516	60.0(6)	57.5(3)	35.0(8)	EFGH
WL 457	55.0(8)	57.5(3)	35.0(8)	EFGH
IK 8801	55.0(8)	42.5(9)	35.0(8)	EFGH
AP 8986	50.0(10)	55.0(4)	35.0(8)	EFGH
NK C88-509	60.0(6)	50.0(6)	35.0(8)	EFGH
Pierce	50.0(10)	50.0(6)	35.0(8)	EFGH
IK 8918	55.0(8)	50.0(6)	35.0(8)	EFGH
Arroyo	55.0(8)	47.5(7)	32.5(9)	FGHI
5715 (XAI 81)	55.0(8)	47.5(7)	32.5(9)	FGHI
NK C88-501	60.0(6)	50.0(6)	32.5(9)	FGHI
UC 349	57.5(7)	57.5(3)	32.5(9)	FGHI
UC 337	55.0(8)	50.0(6)	32.5(9)	FGHI
UC 329	55.0(8)	50.0(6)	32.5(9)	FGHI
IK 8803	55.0(8)	62.5(1)	32.5(9)	FGHI
Trifecta	67.5(3)	52.5(5)	32.5(9)	FGHI
WL 86-295	50.0(10)	42.5(9)	30.0(10)	GHIJ
Nitro	57.5(7)	47.5(7)	30.0(10)	GHIJ
DK Exp. 169	50.0(10)	55.0(4)	30.0(10)	GHIJ
UC 332	47.5(11)	40.0(10)	30.0(10)	GHIJ
DS 8989	57.5(7)	55.0(4)	30.0(10)	GHIJ
Moapa 69	55.0(8)	47.5(7)	30.0(10)	GHIJ
NK C88-502	50.0(10)	47.5(7)	30.0(10)	GHIJ
SW 14	50.0(10)	47.5(7)	27.5(11)	HIJK
UC 351	45.0(12)	42.5(9)	27.5(11)	HIJK
UC Cibola	52.5(9)	57.5(3)	27.5(11)	HIJK
UC 350	52.5(9)	47.5(7)	27.5(11)	HIJK
Sequel	62.5(5)	47.5(7)	27.5(11)	HIJK
UC 353	55.0(8)	50.0(6)	25.0(12)	IJK
UC 342	47.5(11)	47.5(7)	25.0(12)	IJK
Condor	57.5(7)	50.0(6)	25.0(12)	IJK
UC 331	50.0(10)	50.0(6)	25.0(12)	IJK
5888 (XAN 82)	55.0(8)	55.0(4)	25.0(12)	IJK
CUF 101	45.0(12)	50.0(6)	22.5(13)	JK
UC 330	47.5(11)	40.0(10)	22.5(13)	JK
UC 327	52.5(9)	40.0(10)	22.5(13)	JK
UC 328	45.0(12)	55.0(4)	20.0(14)	K
UC 333	47.5(11)	40.0(10)	20.0(14)	K
Sarco 20	40.0(13)	42.5(9)	20.0(14)	K
UC 340	52.5(9)	47.5(7)	20.0(14)	K
GRAND MEAN	55.7	50.9	33.8	
% CV	11.90	20.82	17.83	
LSD (.05)	9.24	14.79	8.39	

[1] Trial seeded at 35 lbs/acre viable seed on Hanford fine sandy loam soil at the Univ. of Calif. Kearney Agricultural Center, Parlier, CA.

[2] Visual estimate of percent ground covered by living alfalfa. Based on a subjective rating on a 1 to 10 scale.

[3] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 10. UC West Side Alfalfa Cultivar Trial 1993 yields. Trial planted 9/21/92[1].

ENTRY	FORAGE YIELD (RANK IN PARENTHESIS) Cut 1 4/13	Cut 2 5/10	Cut 3 6/4	Cut 4 7/1	Cut 5 7/29	Cut 6 8/27	Cut 7 9/23	Cut 8 10/26	1993 TOTAL		% of Moapa 69
	Dry Tons/acre										%
5715	1.43(11)	1.55(3)	1.95(2)	2.13(1)	1.85(4)	1.46(8)	1.27(1)	1.07(1)	12.71(1)	A	104.2
WL 88-137	1.45(9)	1.56(2)	1.94(3)	2.08(3)	1.86(2)	1.47(6)	1.21(4)	1.02(6)	12.59(2)	AB	103.3
Pierce	1.40(20)	1.55(4)	1.89(10)	2.07(5)	1.83(6)	1.51(3)	1.16(10)	.95(16)	12.36(3)	ABC	101.3
ABI 9193	1.37(24)	1.45(17)	1.84(20)	2.08(3)	1.86(3)	1.56(1)	1.11(16)	1.05(3)	12.33(4)	ABC	101.1
Maricopa	1.30(34)	1.48(10)	1.96(1)	2.08(4)	1.81(8)	1.48(4)	1.20(5)	.99(8)	12.30(5)	ABC	100.8
CUF 101	1.34(30)	1.46(13)	1.81(27)	2.04(8)	1.81(7)	1.52(2)	1.25(2)	1.03(4)	12.25(6)	ABC	100.5
WL 516	1.42(14)	1.41(23)	1.88(12)	2.06(6)	1.85(5)	1.48(5)	1.18(7)	.96(14)	12.23(7)	ABC	100.2
Moapa 69	1.17(37)	1.36(31)	1.93(4)	2.13(2)	1.89(1)	1.52(2)	1.23(3)	.96(13)	12.20(8)	ABC	100.0
DS 292	1.51(6)	1.60(1)	1.90(8)	1.97(16)	1.70(27)	1.44(10)	1.12(15)	.82(34)	12.06(9)	ABCD	98.9
ABI 9195	1.43(12)	1.45(16)	1.87(15)	2.04(7)	1.73(23)	1.44(10)	1.09(20)	.98(9)	12.01(10)	ABCDE	98.5
PGI 2492	1.45(10)	1.49(9)	1.91(6)	1.96(19)	1.79(10)	1.41(16)	1.06(28)	.95(16)	12.00(11)	ABCDEF	98.4
C/W 2773	1.53(4)	1.45(15)	1.93(4)	1.96(17)	1.79(9)	1.41(15)	1.07(25)	.84(31)	11.99(12)	ABCDEF	98.3
WL 457	1.42(15)	1.41(22)	1.85(19)	2.03(9)	1.77(13)	1.40(20)	1.14(12)	.97(11)	11.98(13)	ABCDEF	98.3
WL 90-292	1.36(27)	1.39(26)	1.89(11)	1.86(28)	1.76(14)	1.47(7)	1.18(6)	1.06(2)	11.97(14)	ABCDEF	98.1
Madera	1.42(13)	1.38(29)	1.87(13)	1.94(22)	1.74(18)	1.43(12)	1.17(8)	1.01(7)	11.96(15)	ABCDEF	98.0
Condor	1.40(21)	1.50(8)	1.86(16)	2.03(10)	1.67(29)	1.42(13)	1.12(14)	.96(15)	11.94(16)	ABCDEF	97.9
5888	1.42(13)	1.46(11)	1.86(17)	1.98(14)	1.72(25)	1.41(14)	1.16(11)	.91(22)	11.93(17)	ABCDEF	97.8
FG 92-301	1.37(25)	1.45(17)	1.82(26)	1.96(18)	1.76(15)	1.43(11)	1.17(9)	.97(10)	11.92(18)	ABCDEFG	97.7
IK 8918	1.42(15)	1.52(5)	1.90(9)	1.97(15)	1.74(20)	1.36(26)	1.07(26)	.93(18)	11.89(19)	ABCDEFG	97.5
DS 281	1.53(3)	1.51(7)	1.92(5)	1.94(21)	1.73(22)	1.40(18)	1.01(31)	.83(32)	11.88(20)	ABCDEFG	97.4
Yolo	1.36(27)	1.37(30)	1.82(25)	2.01(11)	1.78(11)	1.52(2)	1.08(23)	.92(20)	11.86(21)	ABCDEFG	97.2
WL 91-296	1.34(29)	1.46(12)	1.82(24)	1.92(23)	1.76(16)	1.38(23)	1.08(24)	1.03(5)	11.79(22)	BCDEFG	96.6
FG 8J83	1.42(16)	1.44(19)	1.85(18)	1.90(25)	1.73(21)	1.41(17)	1.07(27)	.96(12)	11.78(23)	BCDEFG	96.6
84D92	1.29(35)	1.44(18)	1.90(7)	1.96(19)	1.77(12)	1.38(23)	1.07(27)	.90(24)	11.72(24)	CDEFGH	96.1
Falcon	1.39(23)	1.46(14)	1.86(16)	1.92(24)	1.74(19)	1.37(25)	1.08(22)	.87(28)	11.69(25)	CDEFGHI	95.8
PGI2382	1.30(33)	1.43(20)	1.84(21)	1.99(12)	1.71(26)	1.38(24)	1.10(18)	.94(17)	11.68(26)	CDEFGHI	95.7
Monarca SP INTA	1.39(22)	1.39(27)	1.73(36)	1.94(20)	1.66(30)	1.45(9)	1.12(13)	.92(21)	11.62(27)	CDEFGHIJ	95.2
91 KAS S	1.36(26)	1.43(21)	1.73(37)	1.92(24)	1.72(24)	1.40(19)	1.11(17)	.93(19)	11.60(28)	CDEFGHIJ	95.1
90 KAS STX5	1.34(28)	1.41(24)	1.78(31)	1.98(13)	1.70(28)	1.39(21)	1.08(21)	.88(26)	11.57(29)	CDEFGHIJ	94.9
13R Supreme	1.24(36)	1.38(28)	1.83(22)	2.01(11)	1.75(17)	1.39(22)	1.09(19)	.88(27)	11.56(30)	CDEFGHIJ	94.8
C/W 2995	1.40(19)	1.51(6)	1.83(23)	1.85(29)	1.65(32)	1.32(28)	1.05(29)	.91(23)	11.53(31)	CDEFGHIJ	94.5
C/W 2820	1.31(32)	1.31(35)	1.80(28)	1.94(21)	1.63(34)	1.39(22)	1.02(30)	.89(25)	11.29(32)	DEFGHIJK	92.5
C/W 2817	1.59(1)	1.39(27)	1.79(30)	1.84(31)	1.56(40)	1.30(30)	.94(32)	.87(29)	11.27(33)	DEFGHIJK	92.4
DK 189	1.40(21)	1.40(25)	1.87(14)	1.90(26)	1.65(33)	1.24(34)	.93(35)	.80(35)	11.19(34)	EFGHIJK	91.7
IK 8806	1.57(2)	1.36(32)	1.69(38)	1.83(33)	1.61(36)	1.33(27)	.93(34)	.82(33)	11.15(35)	FGHIJK	91.4
C/W 2818	1.33(31)	1.33(34)	1.78(32)	1.87(27)	1.66(31)	1.31(29)	.93(33)	.86(30)	11.06(36)	GHIJK	90.7
AP 8891V	1.40(18)	1.23(37)	1.80(29)	1.83(32)	1.65(32)	1.29(31)	.90(36)	.77(36)	10.87(37)	HIJK	89.2
LM-0X6	1.50(7)	1.29(36)	1.77(33)	1.81(36)	1.59(37)	1.27(33)	.85(38)	.76(38)	10.84(38)	IJK	88.9
89786	1.52(5)	1.35(33)	1.74(35)	1.85(30)	1.57(39)	1.21(35)	.87(37)	.69(40)	10.80(39)	JK	88.5
ABI 700	1.41(17)	1.22(38)	1.68(39)	1.82(34)	1.61(35)	1.28(32)	.82(39)	.76(37)	10.62(40)	K	87.0
FG 8J88	1.48(8)	1.21(39)	1.76(34)	1.81(35)	1.57(38)	1.18(36)	.82(40)	.71(39)	10.54(41)	K	86.4
90789	1.16(38)	1.01(40)	1.52(40)	1.60(37)	1.37(41)	1.07(37)	.72(41)	.68(41)	9.13(42)	L	74.8
GRAND MEAN	1.40	1.41	1.83	1.95	1.72	1.39	1.06	.90	11.66		
% CV	7.84	5.95	4.92	6.35	6.89	10.07	11.05	10.02	5.26		
LSD (.05)	.153	.117	.126	.173	.165	.196	.164	.127	.857		7.0

[1] Trial seeded at 25 lb/acre viable seed on a Panoche clay loam soil at the Univ. of California West Side Field Station, Five Points, CA.

[2] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 11. **UC West Side Alfalfa Cultivar Trial 1993, percent cover and stand counts. Trial planted 9/21/92[1].**

Entry	Percent Cover (10/26/93)	Stand Counts (7/1/93)
	(--%--)	(plants/.1 m^2)
LM-0X6	100	64.9 A[2]
FG 8J88	100	63.6 AB
ABI 700	100	62.1 ABC
Yolo	90	61.3 ABCD
DS 281	95	60.4 ABCD
Condor	88	59.5 ABCDE
DS 292	95	59.5 ABCDE
C/W 2817	98	59.4 ABCDEF
C/W 2773	95	59.1 ABCDEF
84D92	95	59.0 ABCDEF
PGI2382	90	58.5 ABCDEFG
90 KAS STX5	93	57.8 ABCDEFGH
AP 8891V	100	57.8 ABCDEFGH
WL 457	95	57.6 ABCDEFGHI
C/W 2995	92	57.4 ABCDEFGHI
Maricopa	90	57.1 ABCDEFGHIJ
C/W 2818	95	56.9 ABCDEFGHIJ
DK 189	100	56.8 ABCDEFGHIJK
13R Supreme	93	56.3 ABCDEFGHIJK
FG 8J83	93	56.0 ABCDEFGHIJK
Falcon	98	54.4 ABCDEFGHIJKL
Moapa 69	90	54.3 ABCDEFGHIJKL
90789	98	54.0 ABCDEFGHIJKL
IK 8806	98	53.9 ABCDEFGHIJKL
C/W 2820	98	53.3 BCDEFGHIJKL
91 KAS S	95	52.4 CDEFGHIJKL
WL 88-137	92	52.0 CDEFGHIJKL
5715	90	51.7 CDEFGHIJKL
ABI 9193	92	51.6 CDEFGHIJKL
PGI 2492	92	51.3 CDEFGHIJKL
Madera	90	51.3 CDEFGHIJKL
89786	100	50.7 DEFGHIJKL
CUF 101	90	48.9 EFGHIJKL
FG 92-301	100	48.4 FGHIJKL
WL 516	95	47.6 GHIJKL
WL 90-292	88	46.9 HIJKL
ABI 9195	98	46.6 IJKL
WL 91-296	90	46.3 JKL
5888	90	46.3 JKL
IK 8918	92	45.8 KL
Pierce	95	44.3 L
Monarca SP INTA	90	44.0 L
Mean	94	54.2
CV %	5.2%	14.5
LSD (.05)	7	11.0

[1] Trial was seeded at 25 lbs/acre on Panoche clay loam soil at the West Side Field Station, Five Points, Fresno Co., CA.

[2] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD (for stand counts only).

Table 12. UC Imperial Alfalfa Cultivar Trial, 1993 yields. Trial planted 10/28/91[1].

ENTRY	Cut 1 2/4	Cut 2 3/19	Cut 3 4/21	Cut 4 5/20	Cut 5 6/17	Cut 6 7/14	Cut 7 8/12	Cut 8 9/13	Cut 9 10/20	1993 TOTAL		% of CUF 101
	FORAGE YIELD (RANK IN PARENTHESIS) Dry Tons/acre											%
UC 340	.84(1)	.97(1)	1.05(1)	1.40(1)	1.13(3)	1.21(2)	.76(9)	.61(2)	.60(1)	8.57(1)	A[2]	114.6
WL 86-292	.72(8)	.94(3)	1.00(8)	1.31(7)	1.13(2)	1.20(3)	.82(1)	.61(3)	.57(8)	8.30(2)	AB	111.0
UC 331	.75(4)	.94(2)	1.03(3)	1.32(5)	1.15(1)	1.17(7)	.79(3)	.54(16)	.57(7)	8.26(3)	ABC	110.4
PGI 8633C	.72(10)	.89(6)	1.04(2)	1.34(2)	1.08(8)	1.14(12)	.79(2)	.55(11)	.53(19)	8.07(4)	ABCD	108.0
WL 88-206	.77(3)	.78(23)	1.02(4)	1.22(23)	1.09(7)	1.12(15)	.76(8)	.73(1)	.54(14)	8.02(5)	ABCDE	107.3
VS 858	.73(7)	.88(8)	.99(10)	1.34(3)	1.13(4)	1.16(8)	.73(19)	.54(14)	.53(17)	8.02(6)	ABCDE	107.2
UC 356	.71(14)	.88(7)	1.01(7)	1.24(17)	1.05(14)	1.14(10)	.75(14)	.60(4)	.60(3)	7.98(7)	ABCDEF	106.7
WL 605	.73(6)	.84(14)	.99(11)	1.32(6)	1.08(9)	1.19(6)	.76(11)	.53(18)	.50(24)	7.94(8)	ABCDEF	106.2
UC Cibola	.70(16)	.84(13)	1.00(9)	1.30(9)	1.08(10)	1.11(19)	.75(12)	.57(6)	.57(9)	7.92(9)	ABCDEF	105.9
UC 329	.72(9)	.87(9)	.94(24)	1.23(21)	1.05(15)	1.12(17)	.78(4)	.60(5)	.60(4)	7.90(10)	ABCDEF	105.6
UC 330	.68(19)	.91(4)	1.01(6)	1.28(13)	1.07(12)	1.13(13)	.71(21)	.56(10)	.55(13)	7.90(11)	ABCDEF	105.6
UC 351	.72(11)	.89(5)	.98(13)	1.23(19)	1.05(13)	1.15(9)	.75(15)	.57(8)	.56(12)	7.88(12)	ABCDEF	105.4
WL 516	.71(15)	.85(12)	.99(12)	1.32(4)	1.04(17)	1.11(18)	.73(18)	.53(21)	.52(20)	7.81(13)	BCDEFG	104.4
UC 332	.64(23)	.79(21)	.97(14)	1.21(25)	1.09(6)	1.19(5)	.75(13)	.57(7)	.58(5)	7.80(14)	BCDEFG	104.3
UC 342	.71(13)	.87(10)	1.02(5)	1.31(8)	1.03(19)	1.08(25)	.73(16)	.52(22)	.52(22)	7.78(15)	BCDEFG	104.1
WL 90-292	.64(25)	.77(26)	.94(23)	1.22(22)	1.10(5)	1.23(1)	.77(6)	.55(13)	.56(10)	7.77(16)	BCDEFG	103.9
IK 8818	.77(2)	.81(18)	.97(15)	1.30(10)	1.00(24)	1.07(27)	.70(25)	.53(20)	.57(6)	7.71(17)	BCDEFG	103.1
NKC-86-331	.59(28)	.78(25)	.95(20)	1.28(12)	1.00(23)	1.12(16)	.76(7)	.54(17)	.60(2)	7.62(18)	BCDEFGH	101.9
UC 333	.75(5)	.82(16)	.92(26)	1.21(28)	.99(25)	1.02(32)	.76(10)	.56(9)	.56(11)	7.58(19)	CDEFGH	101.3
CUF 101	.68(18)	.82(17)	.96(18)	1.23(20)	.97(27)	1.06(29)	.69(27)	.55(12)	.53(18)	7.47(20)	DEFGH	100.0
UC 346	.61(26)	.73(31)	.86(32)	1.14(33)	1.07(11)	1.19(4)	.77(5)	.54(15)	.54(15)	7.45(21)	DEFGHI	99.7
ABI 9181	.65(22)	.86(11)	.97(16)	1.20(29)	1.04(16)	1.07(26)	.71(20)	.47(30)	.45(30)	7.42(22)	DEFGHI	99.2
GT13R Supr	.65(21)	.77(27)	.94(22)	1.21(27)	1.03(18)	1.14(11)	.73(17)	.48(27)	.45(29)	7.40(23)	DEFGHI	98.9
DS 91802	.58(29)	.83(15)	.93(25)	1.27(14)	1.02(20)	1.13(14)	.67(29)	.45(33)	.44(31)	7.33(24)	EFGHIJ	98.0
CUF101 fd.	.66(20)	.78(24)	.91(27)	1.21(26)	.96(29)	1.05(30)	.68(28)	.53(19)	.53(16)	7.32(25)	EFGHIJ	97.9
ABI 9182	.55(32)	.80(19)	.96(17)	1.26(15)	1.01(21)	1.09(23)	.69(26)	.49(26)	.45(28)	7.30(26)	EFGHIJ	97.7
Falcon	.64(24)	.80(20)	.95(19)	1.30(11)	.97(28)	1.03(31)	.62(33)	.47(29)	.52(21)	7.30(27)	EFGHIJ	97.7
5888	.71(12)	.76(28)	.87(31)	1.21(24)	.96(31)	1.08(24)	.66(30)	.50(25)	.50(23)	7.26(28)	FGHIJ	97.1
WL 86-295	.70(17)	.74(30)	.86(33)	1.18(30)	.98(26)	1.02(33)	.71(22)	.47(28)	.48(26)	7.11(29)	GHIJK	95.1
DS 91901	.51(34	.79(22)	.94(22)	1.24(18)	.96(30	1.11(20)	.64(32)	.46(31)	.45(27)	7.09(30)	GHIJK	94.8
Moapa 69	.57(30)	.70(33)	.83(35)	1.15(32)	1.01(22)	1.06(28)	.70(23)	.50(24)	.48(25)	6.99(31)	HIJKL	93.5
ABI 9194	.40(36)	.72(32)	.88(29)	1.25(16)	.94(32)	1.10(21)	.65(31)	.44(34)	.36(35)	6.75(32)	IJKLM	90.2
ABI 9197	.59(27)	.75(29)	.89(28)	1.15(31)	.87(34)	.92(35)	.62(34)	.46(32)	.40(34)	6.65(33)	JKLM	89.0
Hasawi	.56(31)	.59(36)	.70(36)	.97(36)	.90(33)	1.09(22)	.70(24)	.50(23)	.42(33)	6.43(34)	KLM	86.0
ABI 9192	.45(35)	.67(35)	.86(34)	1.13(34)	.84(36)	.98(34)	.60(35)	.41(36)	.43(32)	6.36(35)	LM	85.1
NK 90789	.54(33)	.68(34)	.87(30)	1.12(35)	.85(35)	.78(36)	.52(36)	.43(35)	.28(36)	6.08(36)	M	81.2
GRAND MEAN	.66	.81	.94	1.24	1.02	1.10	.71	.53	.51	7.51		
LSD (.05)	.076	.111	.107	.137	.145	.141	.105	.112	.097	.722		
% CV	10.19	12.02	9.90	9.74	12.50	11.28	12.87	18.61	16.81	8.43		

[1] Trial seeded at 27 lb/acre viable seed on Imperial clay loam soil at the UC Desert Research Extension Center, Holtville, CA, Imperial County.

[2] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 13. UC Imperial Alfalfa Cultivar Trial, 1992-1993 yield summary. Trial planted 10/28/91[1].

ENTRY	FORAGE YIELD (RANK IN PARENTHESIS) 1992 TOTAL	1993 TOTAL	1992-1993 AVERAGE		% OF CUF 101
	---------Dry Tons/acre---------				----%----
UC 340	10.08(2)	8.57(1)	9.32(1)	A[2]	111.8
WL 86-292	10.10(1)	8.30(2)	9.20(2)	AB	110.3
UC 331	9.62(4)	8.26(3)	8.94(3)	ABC	107.2
PGI 8633C	9.69(3)	8.07(4)	8.88(4)	ABCD	106.5
VS 858	9.55(6)	8.02(5)	8.79(5)	ABCDE	105.3
WL 88-206	9.49(8)	8.02(6)	8.76(6)	ABCDE	105.0
UC Cibola	9.58(5)	7.92(9)	8.75(7)	ABCDE	104.9
WL 605	9.48(9)	7.94(8)	8.71(8)	ABCDE	104.4
UC 356	9.44(11)	7.98(7)	8.71(9)	ABCDE	104.4
UC 342	9.53(7)	7.78(15)	8.66(10)	BCDEF	103.8
UC 330	9.40(13)	7.90(11)	8.65(11)	BCDEFG	103.7
WL 516	9.44(10)	7.81(13)	8.62(12)	BCDEFG	103.4
UC 351	9.28(15)	7.88(12)	8.58(13)	BCDEFG	102.9
UC 332	9.25(18)	7.80(14)	8.53(14)	BCDEFGH	102.2
UC 329	9.15(22)	7.90(10)	8.52(15)	BCDEFGH	102.2
IK 8818	9.33(14)	7.71(17)	8.52(16)	BCDEFGH	102.2
WL 90-292	9.26(17)	7.77(16)	8.52(17)	BCDEFGH	102.1
UC 333	9.28(16)	7.58(19)	8.43(18)	CDEFGH	101.1
NK-C-86-331	9.20(20)	7.62(18)	8.41(19)	CDEFGH	100.8
CUF 101	9.21(19)	7.47(20)	8.34(20)	CDEFGH	100.0
WL 86-295	9.41(12)	7.11(29)	8.26(21)	CDEFGHI	99.0
GT 13 R Supr	9.11(23)	7.40(23)	8.25(22)	CDEFGHI	98.9
CUF 101 foun	9.16(21)	7.32(25)	8.24(23)	DEFGHI	98.8
UC 346	8.99(27)	7.45(21)	8.22(24)	DEFGHI	98.5
DS 91802	9.10(24)	7.33(24)	8.22(25)	DEFGHI	98.5
5888	9.07(25)	7.26(28)	8.17(26)	EFGHI	97.9
Falcon	8.97(28)	7.30(27)	8.13(27)	EFGHI	97.5
Moapa 69	9.00(26)	6.99(31)	8.00(28)	FGHI	95.9
ABI 9181	8.53(33)	7.42(22)	7.97(29)	FGHI	95.6
ABI 9182	8.62(32)	7.30(26)	7.96(30)	GHI	95.5
DS 91901	8.63(31)	7.09(30)	7.86(31)	HI	94.3
ABI 9197	8.65(30)	6.65(33)	7.65(32)	IJ	91.8
Hasawi	8.86(29)	6.43(34)	7.64(33)	IJ	91.6
NK 90789	8.23(34)	6.08(36)	7.15(34)	J	85.8
ABI 9192	7.93(35)	6.36(35)	7.15(35)	J	85.7
ABI 9194	7.38(36)	6.75(32)	7.06(36)	J	84.7
GRAND MEAN	9.14	7.52	8.33		99.8
% CV	5.1	8.4	8.3		
LSD (.05)	0.53	0.72	0.56		6.7

[1] Trial planted at 27 lb/acre viable seed on Imperial clay loam soil at the UC Desert Research and Extension Center, Holtville, CA.

[2] Entries followed by the same letter are not significantly different at the 5% probability level according to Fishers (protected) LSD.

Table 14. Suggested minimum alfalfa cultivar pest resistance and fall dormancy ratings for 10 important alfalfa pests found in the six California climate zones. V. L. Marble, 1991.

Zone	FD	SAA	PA	BAA	PRR	BW	FW	SAn	StN	RKN	VW
Intermountain (8) *	2-4	S	R	MR	R	R	HR	R	R	R	R
Sacramento Valley (6)	5-8	MR	HR	HR	HR	MR	HR	R	R	R	R
San Joaquin Valley (4,5)	7-9	R	HR	HR	HR	MR	HR	R	HR	HR	R
Coastal (3,7)	5-7	MR	HR	HR	HR	MR	HR	R	HR	HR	R
High desert (2)	4-7	R	R	R	R	MR	HR	MR	HR	HR	R
Low desert (1)	8-9	HR	HR	HR	HR	S	HR	HR	R	HR	S

* Numbers in parentheses correspond with "Principal Areas of Use" in Table 5.

FD = fall dormancy rating (based on 1 to 9 scale used by the Certified Alfalfa Seed Council); SAA = spotted alfalfa aphid; PA = pea aphid; BAA = blue alfalfa aphid; PRR = Phytophthora root rot; BW = bacterial wilt; FW = fusarium wilt; SAn = southern anthracnose; StN = stem nematode; RKN = root-knot nematode; VW = verticillium wilt.

HR = high resistance with more than 51% resistant plants; R = resistance with 31-50%; MR = moderate resistance with 15-30%; LR = low resistance with 6-14%; S = susceptible with less than 5%.

Resistance Symbols[1]	Resistant Plants
HR = High resistance	> 51%
R = Resistance	31 - 50%
MR = Moderate resistance	15 - 30%
LR = Low resistance	6 - 14%
S = Susceptible	< 5%
T = Tolerance (see definition below)	
-- = No data available	

Pests and Diseases

SAA = Spotted alfalfa aphid
PA = Pea aphid
BAA = Blue alfalfa aphid
PRR = Phytophthora
Rz = Rhizoctonia stem and root canker
BW = Bacterial wilt
FW = Fusarium wilt
S An = Southern anthracnose
CLS = Common leaf spot
DM = Downy mildew
SN = Stem nematode
RKN = Root-knot nematode species
VW = Verticillium wilt

Definitions

I = Immune. Not subject to attack for a specified pest. Immunity is absolute, and seldom occurs in alfalfa.

R = Resistance. Ability of plants to restrict the activities of a specified pest.

T = Tolerance. Ability of plants to endure a specified pest or an adverse environmental condition, performing and producing in spite of the disorder. Not synonymous with low resistance. Used where the resistance mechanism is concerned with the plants ability to repair, recover, or withstand infestation.

S = Susceptible. Inability of plants to restrict the activities of a specified pest, or to withstand an adverse environmental condition.