



**AGRONOMY PROGRESS REPORT**

## 2024 CALIFORNIA ALFALFA VARIETY TRIAL RESULTS

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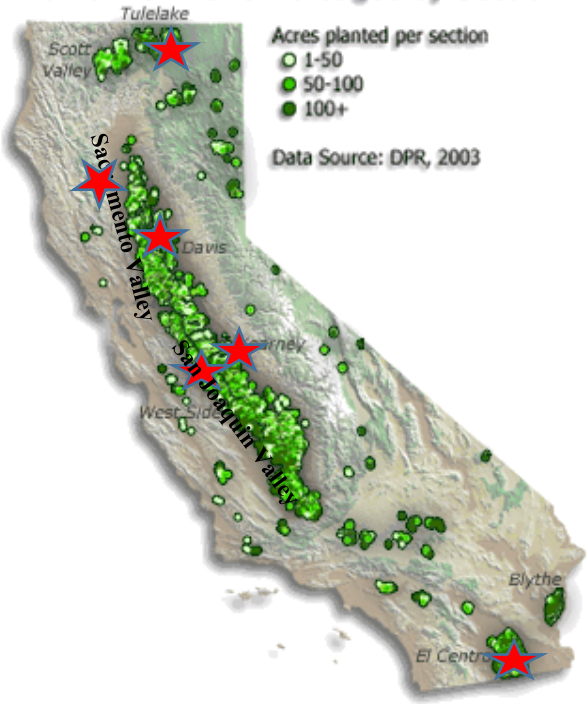
### SUMMARY

This publication details alfalfa yield trial data conducted in California for the year 2024. Yield trials were conducted in the Intermountain area (Tulelake), the San Joaquin Valley (Parlier) the Imperial Valley (El Centro) and the Sacramento Valley (Davis). A total of 161 varieties were tested, from 4 to 8 cuts/year, with a total of 3,260 yield observations. Trials were conducted on UC field research facilities around the state. The alfalfa variety trial data from the University of California is placed online well in advance of this published report, see (<https://alfalfa.ucdavis.edu> –click on variety).

### INTRODUCTION

Choosing superior varieties of alfalfa is a significant economic factor for alfalfa growers. A number of commercial varieties are currently available, enabling a wide range of options in the different fall dormancy (FD) groups. These UC trials provide unbiased data from a wide range of environments related to variety performance of alfalfa. In California, alfalfa is grown from the Oregon border to the Mexican border, and throughout the Central Valley, which consists of the Sacramento and San Joaquin Valleys (Figure 1). These sites represent 3-4 cut systems

**California Alfalfa Acreages by Section**



**Figure 1.** California alfalfa acreage. The Intermountain region is represented by Tulelake and Scott Valley, Sacramento Valley by Davis, San Joaquin Valley by Parlier and Five Points locations.

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(dormant varieties) in the **Intermountain Region**, 6-8 cut systems (semi-dormant, or non-dormant varieties) in the **Northern Central Valley (Sacramento Valley)**, 7-8 cut systems (semi-dormant to non-dormant varieties) in the **Southern Central Valley (San Joaquin Valley)** and 8-11 cut systems (non-dormant varieties) in the **Low Desert**. These data are frequently used by growers to choose varieties, and by breeders to help guide further selection. Both private and public varieties are tested, and experimental lines as space allows. This report provides single year and over-the-year summary from alfalfa trials harvested in California in 2024.

## VARIETY TESTING METHODS

**Yield Trials.** The California Alfalfa Cultivar Yield, Fall Dormancy, and Forage Quality Trials are open to any certified alfalfa cultivar, which is sold or is likely to be sold in California. Blends or brands (unless they are certified blends) are not included. Four alfalfa-variety yield trials were harvested in 2024 at Tulelake, Parlier, El Centro and Davis, CA. Specific planting dates for each trial are given on the results table for each trial. Seed was planted at approximately 25 lbs./acre live seed in 3' to 4' wide plots x 18 to 20 feet long, depending upon location and specific layout. Four to six replicates of each cultivar were planted at each location, depending upon the expected variation at that site. Experimental design was a randomized complete block design. Harvests for yield estimation were obtained from approximately a 3' x 18' area per plot using a flail-type or cutter-bar type forage harvester, and dry matter yield determined by oven-drying subsamples to a constant weight. A representative group of 5-6 varieties were taken at each harvest, and the average dry matter used for yield determination. Three to four harvests are taken in the Intermountain Region, while seven to eight cuttings taken in the Sacramento and San Joaquin valley and El Centro. Cutting schedules followed the most common practice in that region and are the same for all varieties within a trial. The data is obtained from each of the locations and analyzed and summarized at the UC Davis campus.

**Note on Statistical Inference:** We have elected to analyze and report significance of variety testing data (calculation of F-test and LSD Values) based upon a probability value of 10% vs. the traditional 5% level of uncertainty. In doing so, we are accepting a 90% confidence level vs. a 95% confidence level. This is due to the fact that growers routinely base decisions based upon degrees of confidence that are far lower than 95% confidence levels. A 10% probability level (the probability that the declared difference is based solely upon chance) is sufficiently conservative to prevent choosing varieties based upon false differences yet represents good mean separation. Such decisions are always a compromise between practical factors and statistical vigor.

## 2024 YIELD RESULTS

### *Intermountain Region*

**2021 UC Tulelake Variety Trial-** This 24 entry trial was planted 8/19/21. Four harvests were taken in 2024, the final year of harvest. The average yield for this trial was 8.1 t/A with a spread of 7.0-8.6 t/A among varieties (Table 1). Multi-year yield averaged 7.8 t/A, with all years being very similar in production (Table 2). A replacement yield trial planting is planned for spring 2025 in Tulelake.

## ***Sacramento Valley Region***

**2023 UC Davis Variety Drought Trial.** This trial was planted Sept.28, 2023 and includes 42 entries. The purpose of this trial is to address water limitations in the state and test the performance of commercial and experimental non-dormant varieties grown under full and deficit irrigation regimes. The trial is a split-plot arrangement with 5 reps. The main plot is irrigation strategy (Full irrigation- 100% of ET requirement, and deficit summer irrigation cut-off from July1-Sept30) with variety as subplots. Seven harvests were taken from the full irrigation treatment in 2024, averaging 9.8 t/A yield, and a range of 7.9-11.5 t/A among varieties (Table 3). The deficit treatments averaged 6.9 t/A yield, ranging from 5.7-7.5 t/A. Five harvests were taken from the deficit treatments in 2024 (Table 4). Irrigation for both treatments began 4/9/24 with a total of 24.3” applied to full and 7.9” to deficit treatments.

## ***Low Desert Region***

**2023 El Centro Variety Drought Trial.** Planted Nov 1, 2023, at the Desert Research and Extension Center. This trial includes 40 entries and is grown under the same full and deficit irrigation regime as in Davis. 24 entries are duplicated between Davis and El Centro to assess variety performance under very different production environments. Seven harvests were taken from the both the full irrigation treatment and deficit in 2024. Full average yield was 8.5 t/A yield, and a range of 7.5-8.6 t/A among varieties (Table 5). The deficit treatments averaged 7.2 t/A yield, ranging from 6.3-7.7 t/A (Table 6). Irrigation for both treatments began 4/9/24 with a total of 69.1” applied to full and 32.1” to deficit treatments.

## ***San Joaquin Valley Region***

**2021 UC Kearney Yield Trial-** Trial was planted Oct.19, 2021 and includes 26 entries. This was the final year of harvest. Eight harvests were taken during the 2024 season with the first cut on April 3. The average yield across varieties was 7.0 t/A, with a spread of 4.9-9.4 t/A between the lowest and highest yielding varieties (Table 7). The three-year average yield was 8.3 t/A, as seen in Table 8.

## **INTERPRETING YIELD TRIAL RESULTS**

***We suggest the following procedure for selecting varieties:***

1. **Select a group of high-yielding varieties** for your region (generally the top ¼ to 1/3 of a trial which is closest to your area) from Tables 1-9 in the multiple-year summaries (or from our website). Since this report contains single-year summaries, we recommend that you see the over-the years summaries from the relevant locations which is on our website: <http://alfalfa.ucdavis.edu>
2. **Determine the Pest Resistance and Fall Dormancy needs** for your region. The FD scores are provided on these tables and in the Alfalfa Alliance Website. Please see

<https://www.alfalfa.org/varietyLeaflet.php> for a current (2022) listing of available alfalfa varieties marketed in the US along with pest resistance ratings.

3. **Consider the Fall Dormancy (FD) and pest resistance Ratings** of individual varieties – available at the National Alfalfa and Forage Alliance Website ([www.alfalfa.org](http://www.alfalfa.org) ).
4. **Choose a group of high yielding varieties** with the best Pest Resistance package for your region.
5. **Consider evidence for high quality** if available (such information is not always widely available, but generally more dormant varieties tend to be higher in quality). HarvXtra is a trait that confers higher quality and yields normally when combined with later cutting schedules.
6. **Consider biotech traits** such as glyphosate-resistance and the HarvXtra trait. RR should be compared as a comprehensive weed control strategy, not just a variety.
7. **Test a variety in strips on your farm** to see how it does under your soil conditions.
8. **Consider the price of seed, availability and service.**

### ACKNOWLEDGMENTS

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**Table 1. 2024 YIELDS, TULELAKE ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 8/19/21**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

		Cut 1	Cut 2	Cut 3	Cut 4	YEAR	% of
		13-Jun	9-Jul	13-Aug	24-Sep	TOTAL	VERNAL
	FD			Dry t/a			
<b>Released Varieties</b>							
Magna150RR	4	2.92 ( 2)	1.48 (13)	2.79 ( 2)	1.40 (12)	8.58 ( 1)	110.6
54VQ52	4	2.89 ( 5)	1.51 (12)	2.72 ( 7)	1.43 ( 9)	8.55 ( 3)	110.2
Bison Alfalfa	3.5	2.83 ( 7)	1.42 (18)	2.80 ( 1)	1.50 ( 2)	8.54 ( 4)	110.2
Nexgrow 6516R	4.5	2.77 ( 9)	1.63 ( 2)	2.65 ( 9)	1.49 ( 3)	8.54 ( 5)	110.1
AWS 418RL	4	2.91 ( 4)	1.62 ( 3)	2.47 (19)	1.48 ( 4)	8.48 ( 6)	109.4
AWS 390	3.9	2.68 (13)	1.42 (17)	2.73 ( 5)	1.58 ( 1)	8.40 ( 7)	108.4
AFX 439	4	2.69 (12)	1.62 ( 4)	2.62 (10)	1.37 (15)	8.31 ( 8)	107.2
Ameristand 518NT	5	2.69 (11)	1.59 ( 6)	2.56 (14)	1.44 ( 7)	8.29 ( 9)	106.9
HybriForce-4420/Wet	4	2.86 ( 6)	1.45 (14)	2.54 (15)	1.37 (16)	8.21 (10)	105.9
6453Q	4	2.78 ( 8)	1.33 (23)	2.67 ( 8)	1.42 (11)	8.19 (11)	105.6
LG5R300	5	2.52 (19)	1.60 ( 5)	2.59 (13)	1.45 ( 6)	8.15 (12)	105.1
WL341 HVXRR	4	2.91 ( 3)	1.55 ( 9)	2.32 (23)	1.36 (18)	8.14 (13)	104.9
6585Q	5	2.52 (18)	1.38 (21)	2.76 ( 3)	1.46 ( 5)	8.13 (14)	104.8
54Q29	4	2.74 (10)	1.41 (19)	2.60 (12)	1.38 (14)	8.12 (15)	104.7
WL377 HQ	5	2.57 (16)	1.44 (16)	2.74 ( 4)	1.34 (20)	8.10 (16)	104.4
Ameristand 428TQ	4	2.67 (14)	1.57 ( 8)	2.49 (17)	1.35 (19)	8.07 (17)	104.0
Vernal	2	2.60 (15)	1.37 (22)	2.62 (11)	1.16 (23)	7.76 (18)	100.0
LG4R300	4	2.31 (23)	1.57 ( 7)	2.48 (18)	1.39 (13)	7.74 (19)	99.8
Ameristand 446NT	4	2.52 (17)	1.45 (15)	2.31 (24)	1.43 ( 8)	7.72 (20)	99.5
WL3441 RR	4	2.33 (22)	1.54 (10)	2.41 (21)	1.42 (10)	7.71 (21)	99.4
Ameristand 416NT RR	4	2.35 (21)	1.39 (20)	2.47 (20)	1.36 (17)	7.56 (22)	97.5
WL375 HVXRR	4.6	2.03 (24)	1.66 ( 1)	2.54 (16)	1.32 (22)	7.55 (23)	97.3
AWS 455 salt	4	2.48 (20)	1.17 (24)	2.33 (22)	1.03 (24)	7.02 (24)	90.5
<b>Experimental Varieties</b>							
SW4615	5	2.99 ( 1)	1.54 (11)	2.73 ( 6)	1.33 (21)	8.58 ( 2)	110.6
MEAN		2.65	1.49	2.58	1.39	8.10	
CV		15.65	11.85	11.59	12.91	9.38	
LSD (0.1)		NS	0.21	NS	NS	NS	

Trial seeded at 25 lb/acre viable seed at Intermountain Research and Extension Center, Tulelake, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

**Table 2. 2022-2024 YIELDS, TULELAKE ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 8/19/21**

		2022	2023	2024			% of	
		Yield	Yield	Yield	Average		Vernal	
	FD	Dry t/a						
<b>Released Varieties</b>								
AWS 418RL	4	7.87 ( 7)	8.37 ( 1)	8.48 ( 6)	8.24 ( 1)	A	110.1	
54VQ52	4	7.90 ( 4)	8.05 ( 2)	8.55 ( 3)	8.16 ( 2)	A B	109.1	
HybriForce-4420/Wet	4	8.11 ( 3)	7.88 ( 9)	8.21 (10)	8.07 ( 4)	A B C	107.8	
Magna150RR	4	8.33 ( 1)	7.12 (24)	8.58 ( 1)	8.01 ( 5)	A B C	107.0	
54Q29	4	8.26 ( 2)	7.53 (20)	8.12 (15)	7.97 ( 6)	A B C D	106.5	
AFX 439	4	7.56 (12)	8.04 ( 3)	8.31 ( 8)	7.97 ( 7)	A B C D	106.5	
6453Q	4	7.70 ( 9)	7.98 ( 6)	8.19 (11)	7.95 ( 8)	A B C D E	106.3	
Nexgrow 6516R	4.5	7.46 (15)	7.84 (10)	8.54 ( 5)	7.95 ( 9)	A B C D E	106.2	
Ameristand 428TQ	4	7.66 (10)	7.98 ( 5)	8.07 (17)	7.90 (10)	A B C D E F	105.6	
Bison Alfalfa	3.5	7.64 (11)	7.49 (21)	8.54 ( 4)	7.89 (11)	A B C D E F G	105.4	
WL377 HQ	5	7.71 ( 8)	7.77 (12)	8.10 (16)	7.86 (12)	A B C D E F G	105.0	
6585Q	5	7.48 (14)	7.94 ( 8)	8.13 (14)	7.85 (13)	A B C D E F G	104.9	
Ameristand 518NT	5	7.16 (23)	7.94 ( 7)	8.29 ( 9)	7.80 (14)	B C D E F G	104.2	
WL341 HVXRR	4	7.42 (16)	7.75 (14)	8.14 (13)	7.77 (15)	B C D E F G	103.8	
LG5R300	5	7.41 (17)	7.71 (16)	8.15 (12)	7.76 (16)	B C D E F G	103.7	
AWS 390	3.9	7.35 (19)	7.45 (22)	8.40 ( 7)	7.74 (17)	C D E F G	103.4	
Ameristand 446NT	4	7.25 (22)	8.02 ( 4)	7.72 (20)	7.66 (18)	C D E F G	102.4	
LG4R300	4	7.25 (21)	7.64 (17)	7.74 (19)	7.55 (19)	D E F G	100.8	
Ameristand 416NT RR	4	7.32 (20)	7.75 (13)	7.56 (22)	7.54 (20)	E F G	100.8	
AWS 455 salt	4	7.87 ( 6)	7.74 (15)	7.02 (24)	7.54 (21)	E F G	100.8	
WL375 HVXRR	4.6	7.37 (18)	7.63 (18)	7.55 (23)	7.52 (22)	F G	100.4	
Vernal	2	7.55 (13)	7.14 (23)	7.76 (18)	7.48 (23)	F G	100.0	
WL3441 RR	4	7.08 (24)	7.62 (19)	7.71 (21)	7.47 (24)	G	99.8	
<b>Experimental Varieties</b>								
SW4615	5	7.87 ( 5)	7.77 (11)	8.58 ( 2)	8.07 ( 3)	A B C	107.9	
MEAN		7.61	7.76	8.10	7.82			
CV		5.11	4.21	9.38	4.49			
LSD (0.1)		0.47	0.40	NS	0.43			

Trial seeded at 25 lb/acre viable seed at Intermountain Research and Extension Center, Tulelake, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

**Table 3. 2024 YIELDS, UC DAVIS ALFALFA DEFICIT-CULTIVAR TRIAL. FULL IRRIGATION TREATMENT. TRIAL PLANTED 9/28/23**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

		Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	YEAR	% of
		22-Apr	21-May	18-Jun	16-Jul	13-Aug	17-Sep	21-Oct	TOTAL	CUF101
	FD									
					Dry t/a					
<b>Released Varieties</b>										
UC Impalo	9	2.08 (18)	1.33 (15)	1.81 (13)	1.60 (2)	1.87 (1)	1.65 (1)	1.11 (3)	11.45 (1)	125.0
SW9813S	9	2.24 (9)	1.24 (30)	1.78 (14)	1.44 (8)	1.60 (12)	1.57 (2)	1.26 (1)	11.13 (2)	121.5
NuMex 801	8	2.12 (14)	1.37 (9)	1.70 (20)	1.43 (9)	1.80 (2)	1.52 (4)	0.97 (6)	10.91 (4)	119.1
Alphatec 821	8	2.31 (2)	1.40 (4)	1.84 (11)	1.37 (15)	1.65 (9)	1.37 (15)	0.75 (22)	10.70 (6)	116.8
9R400	9	1.99 (22)	1.44 (1)	1.92 (2)	1.37 (13)	1.59 (15)	1.47 (6)	0.89 (9)	10.67 (7)	116.6
CW09084 - Lot 1042383	9	2.31 (2)	1.41 (3)	1.71 (19)	1.25 (24)	1.48 (24)	1.49 (5)	1.03 (4)	10.66 (8)	116.4
CW89126 Lot#1852310	9	1.73 (39)	1.33 (16)	1.77 (15)	1.53 (4)	1.58 (17)	1.43 (8)	1.00 (5)	10.38 (11)	113.3
NuMex 802	8	1.88 (32)	1.38 (7)	1.86 (7)	1.58 (3)	1.43 (27)	1.35 (16)	0.88 (11)	10.36 (12)	113.2
HVX620RR	6	1.78 (38)	1.38 (7)	1.69 (21)	1.40 (11)	1.67 (7)	1.39 (12)	0.83 (16)	10.14 (17)	110.8
Alphatec 921	9	2.08 (17)	1.39 (5)	1.65 (27)	1.11 (30)	1.37 (30)	1.43 (7)	0.85 (14)	9.88 (21)	107.9
WL3979 HVXRR	9	1.90 (31)	1.23 (32)	1.89 (3)	1.29 (20)	1.45 (26)	1.27 (23)	0.77 (20)	9.81 (23)	107.1
AmeriStand 835NTS RR	8	2.15 (12)	1.21 (35)	1.68 (22)	1.07 (33)	1.29 (35)	1.30 (21)	0.92 (8)	9.62 (26)	105.0
UCCibola	9	2.21 (11)	1.31 (20)	1.59 (31)	0.95 (38)	1.33 (33)	1.29 (22)	0.85 (13)	9.54 (27)	104.1
Z822	8	1.99 (21)	1.24 (28)	1.64 (28)	1.30 (19)	1.41 (29)	1.31 (20)	0.52 (39)	9.42 (29)	102.8
CUF101	9	1.81 (37)	1.31 (19)	1.61 (29)	1.09 (31)	1.36 (31)	1.21 (26)	0.76 (21)	9.16 (31)	100.0
Highline	9	2.22 (10)	1.22 (33)	1.55 (34)	1.13 (29)	1.27 (38)	1.04 (35)	0.62 (35)	9.04 (36)	98.8
WL 458HQ.RR	6	1.83 (36)	1.15 (37)	1.45 (37)	0.93 (39)	1.59 (14)	1.09 (32)	0.67 (29)	8.72 (37)	95.2
Chema 1 - Lot 0472364	9	1.91 (29)	1.28 (26)	1.42 (40)	1.06 (34)	1.20 (40)	1.00 (39)	0.57 (37)	8.42 (39)	92.0
Gunner	5	1.65 (41)	1.33 (16)	1.47 (35)	0.99 (36)	1.27 (37)	0.82 (41)	0.36 (41)	7.90 (40)	86.2
<b>Experimental Varieties</b>										
NM2113	7	2.24 (8)	1.44 (1)	1.87 (5)	1.52 (5)	1.76 (3)	1.33 (17)	0.81 (18)	10.97 (3)	119.8
FGI-20-RR8	8	2.12 (15)	1.31 (20)	1.99 (1)	1.50 (6)	1.76 (4)	1.39 (14)	0.81 (17)	10.88 (5)	118.8
FGI-20-RR7	7.5	2.05 (20)	1.28 (25)	1.84 (12)	1.64 (1)	1.59 (15)	1.31 (18)	0.89 (9)	10.60 (9)	115.8
UCAL2040	9	1.86 (34)	1.15 (37)	1.68 (23)	1.37 (13)	1.71 (6)	1.53 (3)	1.17 (2)	10.47 (10)	114.3
FGI-19-RR9	9	1.97 (23)	1.35 (11)	1.67 (25)	1.28 (21)	1.73 (5)	1.42 (9)	0.79 (19)	10.21 (13)	111.5
NM2120	7	1.96 (26)	1.35 (10)	1.87 (6)	1.36 (16)	1.56 (19)	1.39 (12)	0.72 (24)	10.20 (14)	111.4
UCAL2030	5	2.47 (1)	1.29 (24)	1.58 (32)	1.06 (35)	1.66 (8)	1.26 (24)	0.84 (15)	10.17 (15)	111.0
Z722	7	2.30 (4)	1.39 (6)	1.88 (4)	1.31 (17)	1.41 (28)	1.23 (25)	0.63 (34)	10.15 (16)	110.9
UC2705	9	1.95 (28)	1.13 (39)	1.72 (18)	1.31 (17)	1.60 (10)	1.40 (11)	0.96 (7)	10.08 (18)	110.0
NM2119	8	2.09 (16)	1.13 (40)	1.67 (24)	1.37 (12)	1.59 (13)	1.41 (10)	0.71 (25)	9.97 (19)	108.9
UCAL2150	9	2.12 (13)	1.34 (13)	1.85 (9)	1.27 (23)	1.55 (20)	1.18 (27)	0.64 (32)	9.96 (20)	108.7
Z823	8	2.07 (19)	1.30 (23)	1.85 (10)	1.48 (7)	1.58 (17)	1.03 (36)	0.56 (38)	9.87 (22)	107.7
NM2109	7.8	2.26 (7)	1.35 (11)	1.77 (16)	1.28 (21)	1.30 (34)	1.09 (31)	0.73 (23)	9.77 (24)	106.7
UCAL1950	9	1.97 (24)	1.22 (34)	1.73 (17)	0.95 (37)	1.60 (10)	1.31 (18)	0.85 (12)	9.63 (25)	105.2
UCAL1940	8	1.67 (40)	1.24 (28)	1.85 (8)	1.41 (10)	1.49 (23)	1.13 (28)	0.70 (26)	9.50 (28)	103.8
UCAL2000	9	1.85 (35)	1.25 (27)	1.61 (30)	1.22 (25)	1.53 (22)	1.09 (30)	0.70 (26)	9.26 (30)	101.1
UCAL2010	9	1.91 (30)	1.20 (36)	1.66 (26)	1.14 (28)	1.54 (21)	1.03 (36)	0.67 (29)	9.14 (32)	99.9
NM2106	7.6	1.96 (26)	1.33 (18)	1.58 (33)	1.19 (26)	1.35 (32)	1.05 (33)	0.68 (28)	9.13 (33)	99.7
Z922	9	2.29 (6)	1.31 (20)	1.46 (36)	1.15 (27)	1.29 (35)	0.99 (40)	0.60 (36)	9.07 (34)	99.1
UCAL2020	8	1.96 (25)	1.33 (14)	1.45 (38)	1.09 (32)	1.46 (25)	1.12 (29)	0.64 (31)	9.06 (35)	99.0
UCAL2155	4	2.29 (5)	1.24 (31)	1.43 (39)	0.87 (40)	1.21 (39)	1.03 (38)	0.50 (40)	8.56 (38)	93.5
UCAL1920	8	1.87 (33)	1.09 (41)	1.28 (41)	0.86 (41)	1.08 (41)	1.04 (34)	0.64 (32)	7.85 (41)	85.8
MEAN		2.03	1.29	1.69	1.26	1.50	1.26	0.78	9.81	
CV		15.36	11.47	16.27	30.23	24.45	29.79	42.82	15.74	
LSD (0.1)		0.37	0.18	0.33	NS	NS	NS	NS	NS	

Trial seeded at 25 lb/acre viable seed on Yolo clay loam soil at the Univ. of California Agronomy Farm, Davis, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

Applied irrigation water beginning 4/9/24: Full irrigation 24.3", deficit irrigation 7.4"

**Table 4. 2024 YIELDS, UC DAVIS ALFALFA DEFICIT-CULTIVAR TRIAL. DEFICIT IRRIGATION TREATMENT. TRIAL PLANTED 9/28/23**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

	FD	Dry t/a					YEAR TOTAL		% of CUF101
		Cut 1 22-Apr	Cut 2 21-May	Cut 3 18-Jun	Cut 4 16-Jul	Cut 5 13-Aug			
<b>Released Varieties</b>									
NuMex 802	8	1.84 (27)	1.68 (18)	1.86 (11)	1.67 (2)	0.45 (1)	7.49 (5)	A B C D E	113.0
AmeriStand 835NTS RR	8	2.17 (4)	1.63 (23)	1.80 (12)	1.49 (6)	0.30 (10)	7.40 (6)	A B C D E F	111.7
Alphatec 921	9	1.95 (16)	1.65 (22)	1.79 (13)	1.35 (14)	0.27 (16)	7.01 (14)	B C D E F G H I J	105.8
NuMex 801	8	2.03 (13)	1.50 (34)	1.70 (21)	1.37 (12)	0.26 (19)	6.88 (16)	C D E F G H I J	103.8
SW9813S	9	2.01 (14)	1.68 (19)	1.74 (18)	1.22 (23)	0.17 (30)	6.82 (18)	C D E F G H I J K	102.8
Chema 1 - Lot 0472364	9	1.93 (18)	1.54 (31)	1.63 (28)	1.35 (14)	0.34 (7)	6.79 (19)	C D E F G H I J K	102.4
UCGibola	9	1.91 (20)	1.58 (28)	2.01 (1)	1.08 (35)	0.18 (29)	6.76 (20)	C D E F G H I J K	102.0
HVX620RR	6	2.00 (15)	1.58 (27)	1.70 (22)	1.26 (20)	0.16 (33)	6.70 (22)	C D E F G H I J K L	101.1
CW89126 Lot#1852310	9	1.86 (26)	1.66 (21)	1.62 (30)	1.23 (22)	0.29 (13)	6.67 (23)	C D E F G H I J K L	100.6
CUF101	9	2.14 (7)	1.54 (30)	1.76 (14)	1.07 (36)	0.12 (38)	6.63 (24)	D E F G H I J K L	100.0
CW09084 - Lot 1042383	9	2.04 (11)	1.43 (41)	1.60 (31)	1.18 (26)	0.38 (4)	6.62 (25)	D E F G H I J K L	100.0
WL3979 HVXRR	9	1.83 (28)	1.54 (29)	1.71 (19)	1.31 (17)	0.22 (24)	6.62 (26)	E F G H I J K L	99.9
UC Impalo	9	2.04 (12)	1.46 (39)	1.52 (37)	1.17 (27)	0.42 (2)	6.61 (27)	E F G H I J K L	99.8
Z822	8	1.88 (24)	1.51 (33)	1.65 (26)	1.26 (20)	0.22 (25)	6.52 (28)	F G H I J K L M	98.4
Alphatec 821	8	1.78 (30)	1.73 (10)	1.58 (33)	1.16 (29)	0.26 (20)	6.51 (29)	F G H I J K L M	98.2
Highline	9	1.89 (22)	1.83 (4)	1.55 (36)	1.01 (38)	0.13 (36)	6.41 (31)	H I J K L M	96.7
WL 458HQ.RR	6	1.77 (32)	1.74 (9)	1.70 (20)	0.99 (39)	0.13 (36)	6.33 (33)	H I J K L M	95.5
9R400	9	1.74 (34)	1.70 (14)	1.48 (39)	1.16 (28)	0.21 (26)	6.30 (34)	H I J K L M	95.0
Gunner	5	1.64 (39)	1.48 (35)	1.56 (35)	1.04 (37)	0.08 (41)	5.81 (40)	L M	87.6
<b>Experimental Varieties</b>									
Z922	9	2.14 (6)	1.90 (1)	1.89 (10)	1.76 (1)	0.28 (15)	7.96 (1)	A	120.2
NM2109	7.8	2.15 (5)	1.86 (2)	1.93 (3)	1.62 (3)	0.29 (13)	7.85 (2)	A B	118.4
NM2120	7	2.23 (1)	1.78 (7)	1.89 (6)	1.37 (12)	0.30 (10)	7.57 (3)	A B C	114.3
UCAL2020	8	2.20 (3)	1.78 (6)	1.75 (16)	1.45 (7)	0.37 (6)	7.55 (4)	A B C D	114.0
NM2106	7.6	1.80 (29)	1.70 (15)	1.92 (4)	1.62 (3)	0.33 (8)	7.37 (7)	A B C D E F	111.2
NM2113	7	2.12 (8)	1.69 (17)	1.89 (7)	1.40 (10)	0.25 (21)	7.35 (8)	A B C D E F G	111.0
Z823	8	2.06 (10)	1.73 (10)	1.89 (9)	1.38 (11)	0.14 (34)	7.20 (9)	A B C D E F G H	108.7
FGI-19-RR9	9	1.88 (25)	1.68 (19)	1.93 (2)	1.40 (9)	0.30 (10)	7.20 (10)	A B C D E F G H	108.6
NM2119	8	2.22 (2)	1.81 (5)	1.90 (5)	1.11 (34)	0.14 (35)	7.18 (11)	A B C D E F G H	108.4
Z722	7	1.93 (19)	1.70 (16)	1.89 (8)	1.43 (8)	0.17 (30)	7.11 (12)	A B C D E F G H I	107.4
FGI-20-RR7	7.5	2.10 (9)	1.85 (3)	1.74 (17)	1.21 (24)	0.21 (26)	7.10 (13)	A B C D E F G H I	107.2
UCAL1940	8	1.70 (37)	1.62 (25)	1.68 (23)	1.51 (5)	0.38 (5)	6.89 (15)	C D E F G H I J	103.9
FGI-20-RR8	8	1.88 (23)	1.76 (8)	1.66 (25)	1.27 (19)	0.27 (16)	6.84 (17)	C D E F G H I J K	103.3
UCAL2000	9	1.78 (31)	1.60 (26)	1.75 (15)	1.31 (18)	0.32 (9)	6.76 (21)	C D E F G H I J K	102.0
UCAL2030	5	1.94 (17)	1.72 (12)	1.51 (38)	1.15 (30)	0.12 (38)	6.43 (30)	G H I J K L M	97.1
UCAL2150	9	1.58 (41)	1.46 (38)	1.63 (29)	1.34 (16)	0.39 (3)	6.40 (32)	H I J K L M	96.6
UCAL2010	9	1.68 (38)	1.70 (13)	1.59 (32)	1.12 (33)	0.19 (28)	6.29 (35)	H I J K L M	94.9
UCAL2040	9	1.76 (33)	1.47 (37)	1.64 (27)	1.19 (25)	0.22 (23)	6.28 (36)	H I J K L M	94.8
UCAL1920	8	1.72 (36)	1.53 (32)	1.58 (34)	1.13 (32)	0.27 (16)	6.23 (37)	I J K L M	94.0
UCAL1950	9	1.59 (40)	1.45 (40)	1.68 (24)	1.14 (31)	0.23 (22)	6.09 (38)	J K L M	91.8
UCAL2155	4	1.91 (20)	1.62 (24)	1.40 (41)	0.89 (40)	0.12 (38)	5.95 (39)	K L M	89.7
UC2705	9	1.72 (35)	1.48 (36)	1.43 (40)	0.87 (41)	0.17 (32)	5.67 (41)	M	85.6
MEAN		1.92	1.64	1.71	1.27	0.25	6.78		
CV		14.65	10.63	17.65	30.38	59.29	11.52		
LSD (0.1)		0.33	0.21	NS	NS	0.17	0.93		

Trial seeded at 25 lb/acre viable seed on Yolo clay loam soil at the Univ. of California Agronomy Farm, Davis, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

Applied irrigation water beginning 4/9/24: Full irrigation 24.3", deficit irrigation 7.4"



**Table 5. 2024 YIELDS, EI CENTRO ALFALFA DEFICIT-CULTIVAR TRIAL. FULL IRRIGATION TREATMENT. TRIAL PLANTED 11/1/23**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

	FD	Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	YEAR		% of CUF 101	
		4-Apr	15-May	13-Jun	17-Jul	17-Aug	16-Sep	21-Oct	TOTAL			
Released Varieties												
		Dry t/a										
Alphatec 821	8	1.19 ( 9)	2.15 ( 5)	1.65 (19)	1.46 (24)	0.65 (17)	0.70 (13)	0.82 (12)	8.61 ( 9)	C D E F	104.3	
Highline	9	1.09 (22)	2.06 (16)	1.71 (11)	1.49 (18)	0.66 (14)	0.71 (10)	0.85 ( 7)	8.58 (10)	C D E F	103.9	
Alphatec 921	9	1.15 (14)	2.10 (11)	1.49 (30)	1.60 ( 6)	0.64 (20)	0.71 (11)	0.82 (12)	8.52 (11)	C D E F	103.2	
WL656HQ	9	1.14 (17)	1.99 (23)	1.60 (25)	1.52 (12)	0.65 (18)	0.70 (12)	0.85 ( 9)	8.43 (14)	D E F G	102.1	
CW89126	9	1.07 (23)	2.18 ( 3)	1.74 ( 9)	1.47 (20)	0.60 (24)	0.61 (24)	0.73 (27)	8.41 (16)	D E F G	101.8	
UC Impalo	9	1.14 (16)	2.01 (21)	1.75 ( 8)	1.39 (29)	0.59 (27)	0.68 (17)	0.84 (10)	8.39 (18)	D E F G	101.6	
CW09084	9	1.17 (12)	2.11 (10)	1.66 (18)	1.51 (14)	0.62 (21)	0.57 (29)	0.72 (28)	8.36 (20)	D E F G	101.2	
Cherna 1	9	1.05 (24)	1.91 (29)	1.73 (10)	1.50 (16)	0.66 (12)	0.67 (18)	0.80 (18)	8.32 (21)	E F G	100.8	
UCCibola	9	0.94 (32)	2.10 (12)	1.56 (27)	1.55 ( 9)	0.61 (22)	0.62 (22)	0.91 ( 1)	8.28 (25)	F G	100.2	
CUF 101	9	1.29 ( 3)	2.09 (13)	1.88 ( 2)	1.46 (23)	0.66 (15)	0.36 (32)	0.52 (32)	8.26 (26)	F G	100.0	
Magna 995	9	1.04 (25)	2.08 (14)	1.60 (21)	1.42 (26)	0.59 (25)	0.65 (20)	0.73 (26)	8.11 (29)	F G	98.3	
SW9813S	9	1.13 (18)	2.02 (20)	1.67 (17)	1.40 (28)	0.56 (30)	0.57 (30)	0.60 (31)	7.96 (30)	G H	96.4	
Experimental Varieties												
C1120TF854	11	1.30 ( 2)	2.12 ( 8)	1.81 ( 5)	1.70 ( 3)	0.81 ( 3)	0.83 ( 1)	0.91 ( 1)	9.48 ( 1)	A	114.8	
UCAL2010	9	1.24 ( 5)	2.23 ( 2)	2.06 ( 1)	1.58 ( 8)	0.67 (11)	0.73 ( 8)	0.84 (11)	9.34 ( 2)	A B	113.2	
C1022TF592	10	1.23 ( 6)	1.98 (24)	1.80 ( 6)	1.71 ( 2)	0.84 ( 1)	0.81 ( 4)	0.85 ( 7)	9.22 ( 3)	A B	111.7	
UCAL2040	9	1.19 (10)	2.05 (18)	1.82 ( 4)	1.70 ( 4)	0.74 ( 7)	0.81 ( 3)	0.89 ( 5)	9.19 ( 4)	A B	111.3	
C1020ML851	10	1.13 (19)	2.06 (16)	1.60 (21)	1.75 ( 1)	0.78 ( 4)	0.82 ( 2)	0.88 ( 6)	9.01 ( 5)	A B C	109.1	
C1120TF855	11	1.21 ( 7)	2.15 ( 6)	1.77 ( 7)	1.68 ( 5)	0.69 ( 9)	0.60 (27)	0.91 ( 1)	9.00 ( 6)	A B C	109.0	
UCAL2020	8	1.25 ( 4)	2.36 ( 1)	1.68 (15)	1.55 ( 9)	0.59 (25)	0.68 (16)	0.76 (23)	8.87 ( 7)	B C D	107.4	
C1122TF599	11	1.01 (31)	1.87 (30)	1.86 ( 3)	1.58 ( 7)	0.84 ( 2)	0.78 ( 5)	0.90 ( 4)	8.84 ( 8)	B C D E	107.1	
UCAL2150	9	1.32 ( 1)	2.17 ( 4)	1.57 (26)	1.48 (19)	0.53 (31)	0.61 (25)	0.82 (15)	8.49 (12)	C D E F G	102.8	
UCAL1940	8	1.03 (27)	2.07 (15)	1.60 (24)	1.50 (17)	0.71 ( 8)	0.73 ( 7)	0.82 (14)	8.47 (13)	C D E F G	102.6	
UCAL2000	9	1.14 (15)	2.00 (22)	1.69 (13)	1.54 (11)	0.69 (10)	0.60 (26)	0.76 (24)	8.41 (15)	D E F G	101.9	
UCAL1911	8	1.02 (30)	1.95 (26)	1.68 (16)	1.45 (25)	0.76 ( 6)	0.75 ( 6)	0.79 (19)	8.40 (17)	D E F G	101.7	
Z823	8	1.19 ( 8)	2.05 (18)	1.52 (28)	1.47 (20)	0.66 (12)	0.70 (13)	0.78 (20)	8.38 (19)	D E F G	101.5	
UCAL1950	9	1.03 (26)	1.96 (25)	1.64 (20)	1.47 (20)	0.76 ( 5)	0.65 (19)	0.78 (21)	8.31 (22)	E F G	100.7	
C1020TF852	10	1.02 (29)	1.94 (27)	1.71 (11)	1.52 (13)	0.64 (19)	0.69 (15)	0.78 (21)	8.30 (23)	F G	100.5	
Z722	7	1.10 (21)	2.13 ( 7)	1.60 (21)	1.51 (15)	0.61 (22)	0.61 (23)	0.74 (25)	8.29 (24)	F G	100.4	
Z922	9	1.16 (13)	2.12 ( 9)	1.52 (28)	1.41 (27)	0.51 (32)	0.60 (27)	0.82 (15)	8.12 (27)	F G	98.4	
UC2705	8	1.03 (28)	1.87 (30)	1.69 (14)	1.36 (30)	0.66 (16)	0.72 ( 9)	0.80 (17)	8.12 (28)	F G	98.3	
UCAL1920	8	1.11 (20)	1.81 (32)	1.44 (31)	1.22 (32)	0.58 (28)	0.65 (21)	0.70 (29)	7.51 (31)	H	91.0	
Z822	8	1.17 (11)	1.93 (28)	1.30 (32)	1.32 (31)	0.57 (29)	0.55 (31)	0.62 (30)	7.47 (32)	H	90.4	
MEAN		1.13	2.05	1.67	1.51	0.66	0.67	0.79	8.48			
CV		10.97	6.80	13.75	8.38	10.30	16.48	15.19	5.27			
LSD (0.1)		0.15	0.17	0.28	0.15	0.08	0.13	0.14	0.54			

Trial seeded at 25 lb/acre viable seed at Desert Research and Extension Center, Holtville, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

Applied irrigation water beginning 4/9/24: Full irrigation 69.1", deficit irrigation 32.1"

**Table 6. 2024 YIELDS, EI CENTRO ALFALFA DEFICIT-CULTIVAR TRIAL. DEFICIT IRRIGATION TREATMENT. TRIAL PLANTED 11/1/23**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

		Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	YEAR		% of
		4-Apr	15-May	13-Jun	17-Jul	17-Aug	16-Sep	21-Oct	TOTAL		CUF 101
	FD	Dry t/a									
<b>Released Varieties</b>											
UC Impalo	9	1.27 (15)	2.15 (9)	1.75 (8)	1.45 (5)	0.45 (5)	0.36 (3)	0.31 (4)	7.73 (3)	A B C	107.7
Chema 1	9	1.26 (17)	2.07 (16)	1.73 (10)	1.35 (19)	0.45 (3)	0.32 (6)	0.33 (3)	7.52 (4)	A B C D	104.7
Highline	9	1.28 (14)	2.17 (6)	1.71 (11)	1.36 (15)	0.37 (17)	0.25 (17)	0.28 (7)	7.43 (8)	B C D E F	103.4
SW9813S	9	1.30 (6)	2.30 (1)	1.67 (17)	1.38 (12)	0.36 (18)	0.19 (28)	0.19 (18)	7.39 (9)	B C D E F	102.8
CW89126	9	1.38 (2)	2.21 (5)	1.74 (9)	1.34 (23)	0.31 (30)	0.22 (23)	0.16 (25)	7.35 (12)	C D E F	102.3
Alphatec 821	8	1.28 (9)	2.24 (3)	1.65 (19)	1.49 (2)	0.33 (24)	0.18 (30)	0.17 (22)	7.34 (13)	C D E F	102.2
UCCibola	9	1.30 (4)	2.16 (8)	1.56 (27)	1.35 (20)	0.34 (20)	0.30 (7)	0.18 (19)	7.20 (16)	C D E F G H	100.3
WL656HQ	9	1.25 (20)	2.04 (20)	1.60 (25)	1.34 (22)	0.43 (9)	0.26 (12)	0.28 (7)	7.20 (17)	C D E F G H	100.2
CUF 101	9	1.15 (27)	2.21 (4)	1.88 (2)	1.48 (3)	0.33 (23)	0.00 (32)	0.13 (30)	7.18 (18)	C D E F G H	100.0
CW09084	9	1.23 (24)	2.02 (22)	1.66 (18)	1.38 (12)	0.40 (13)	0.27 (10)	0.21 (15)	7.17 (19)	C D E F G H	99.8
Alphatec 921	9	1.29 (7)	1.98 (28)	1.49 (30)	1.33 (25)	0.40 (14)	0.37 (1)	0.18 (19)	7.05 (22)	D E F G H	98.1
Magna 995	9	1.29 (7)	1.98 (29)	1.60 (21)	1.29 (26)	0.31 (28)	0.22 (21)	0.15 (26)	6.85 (28)	F G H I	95.3
<b>Experimental Varieties</b>											
C1122TF599	11	1.28 (9)	2.06 (19)	1.86 (3)	1.50 (1)	0.57 (1)	0.37 (1)	0.40 (1)	8.04 (1)	A	111.9
UCAL2010	9	1.38 (1)	2.28 (2)	2.06 (1)	1.40 (9)	0.43 (8)	0.19 (29)	0.23 (9)	7.98 (2)	A B	111.1
C1120TF855	11	1.28 (9)	2.12 (13)	1.77 (7)	1.35 (21)	0.48 (2)	0.29 (9)	0.20 (16)	7.48 (5)	A B C D E	104.2
C1022TF592	10	1.12 (29)	2.04 (20)	1.80 (6)	1.43 (7)	0.43 (7)	0.34 (4)	0.30 (5)	7.46 (6)	A B C D E	103.9
C1120TF854	11	1.13 (28)	2.00 (23)	1.81 (5)	1.43 (6)	0.41 (12)	0.30 (7)	0.35 (2)	7.44 (7)	B C D E F	103.6
UCAL2000	9	1.30 (5)	2.07 (17)	1.69 (13)	1.36 (17)	0.45 (4)	0.20 (27)	0.30 (5)	7.38 (10)	C D E F	102.7
UCAL2040	9	1.26 (18)	2.14 (10)	1.82 (4)	1.38 (11)	0.35 (19)	0.25 (15)	0.17 (22)	7.37 (11)	C D E F	102.7
C1020ML851	10	1.26 (16)	2.06 (18)	1.60 (21)	1.42 (8)	0.38 (16)	0.33 (5)	0.22 (11)	7.28 (14)	C D E F G	101.3
UCAL2020	8	1.23 (23)	2.11 (14)	1.68 (15)	1.46 (4)	0.31 (29)	0.24 (18)	0.20 (16)	7.22 (15)	C D E F G H	100.6
Z722	7	1.28 (13)	2.17 (7)	1.60 (21)	1.36 (17)	0.33 (21)	0.21 (25)	0.18 (19)	7.14 (20)	C D E F G H	99.4
UCAL2150	9	1.28 (9)	2.13 (11)	1.57 (26)	1.40 (10)	0.28 (31)	0.23 (20)	0.15 (26)	7.05 (21)	D E F G H	98.1
Z922	9	1.32 (3)	2.13 (12)	1.52 (28)	1.33 (24)	0.32 (26)	0.27 (10)	0.15 (26)	7.04 (23)	D E F G H	98.1
C1020TF852	10	1.19 (25)	1.85 (32)	1.71 (11)	1.36 (16)	0.45 (5)	0.26 (12)	0.23 (9)	7.04 (24)	D E F G H	98.0
UC2705	8	1.25 (21)	1.99 (26)	1.69 (14)	1.28 (28)	0.33 (24)	0.22 (22)	0.17 (22)	6.93 (25)	D E F G H	96.5
UCAL1950	9	1.17 (26)	1.96 (30)	1.64 (20)	1.27 (29)	0.41 (10)	0.25 (14)	0.22 (11)	6.93 (26)	D E F G H	96.5
UCAL1911	8	1.11 (30)	2.00 (23)	1.68 (16)	1.25 (30)	0.41 (10)	0.25 (15)	0.21 (14)	6.91 (27)	E F G H	96.2
Z822	8	1.26 (19)	2.09 (15)	1.30 (32)	1.29 (26)	0.32 (26)	0.22 (23)	0.21 (13)	6.68 (29)	G H I	93.0
Z823	8	1.24 (22)	1.95 (31)	1.52 (28)	1.37 (14)	0.28 (31)	0.18 (31)	0.13 (31)	6.67 (30)	H I	92.8
UCAL1940	8	1.07 (31)	2.00 (23)	1.60 (24)	1.24 (31)	0.39 (15)	0.21 (25)	0.14 (29)	6.66 (31)	H I	92.7
UCAL1920	8	1.04 (32)	1.99 (26)	1.44 (31)	1.12 (32)	0.33 (21)	0.23 (19)	0.13 (31)	6.29 (32)	I	87.5
MEAN		1.24	2.08	1.67	1.36	0.38	0.25	0.22	7.20		
CV		10.86	7.33	13.75	10.31	18.34	37.33	41.75	6.92		
LSD (0.1)		0.16	0.18	0.28	NS	0.08	0.11	0.11	0.60		

Trial seeded at 25 lb/acre viable seed at Desert Research and Extension Center, Holtville, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

Applied irrigation water beginning 4/9/24: Full irrigation 69.1", deficit irrigation 32.1"

**Table 7. 2024 YIELDS, UC KEARNEY ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 10/19/21**

Note: Single year data should not be used to evaluate alfalfa varieties or choose alfalfa cultivars

		Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	Cut 8	YEAR	% of	
		3-Apr	1-May	29-May	26-Jun	24-Jul	21-Aug	18-Sep	16-Oct	TOTAL	CUF101	
	FD											
						Dry t/a						
WL 668HQ.RR	9	1.19 (10)	1.63 (1)	0.91 (1)	1.77 (2)	1.29 (1)	1.11 (1)	0.94 (1)	0.59 (1)	9.42 (1)	A	146.9
NuMex 802	8	1.37 (1)	1.56 (4)	0.58 (5)	1.80 (1)	1.11 (3)	0.87 (3)	0.63 (8)	0.39 (7)	8.31 (2)	A B	129.6
Highline	9	1.33 (3)	1.45 (15)	0.44 (19)	1.53 (7)	1.14 (2)	0.90 (2)	0.92 (2)	0.54 (2)	8.23 (3)	A B C	128.4
NuMex 801	8	1.37 (2)	1.56 (4)	0.51 (11)	1.53 (7)	1.05 (4)	0.85 (7)	0.74 (3)	0.48 (3)	8.08 (4)	A B C D	126.0
Alphatec 921	9	1.27 (4)	1.57 (3)	0.52 (9)	1.56 (3)	1.03 (7)	0.87 (4)	0.71 (4)	0.41 (5)	7.94 (5)	B C D E	123.8
Magna 995	9	1.11 (15)	1.54 (6)	0.65 (3)	1.54 (5)	0.98 (8)	0.80 (8)	0.70 (6)	0.47 (4)	7.79 (6)	B C D E F	121.5
6829R	8	1.03 (21)	1.53 (7)	0.62 (4)	1.56 (3)	1.05 (4)	0.86 (6)	0.70 (5)	0.39 (10)	7.73 (7)	B C D E F G	120.5
AmeriStand 835NT RR	8	1.27 (4)	1.49 (11)	0.54 (6)	1.54 (5)	0.92 (9)	0.73 (12)	0.61 (9)	0.40 (6)	7.51 (8)	B C D E F G	117.1
NM1701PAR	7	1.19 (10)	1.38 (21)	0.45 (17)	1.50 (11)	0.89 (11)	0.71 (15)	0.64 (7)	0.39 (7)	7.14 (9)	B C D E F G	111.3
Alphatec 821	8	1.22 (7)	1.51 (9)	0.39 (23)	1.53 (7)	0.84 (17)	0.70 (16)	0.60 (10)	0.33 (15)	7.11 (10)	B C D E F G	110.9
NM170506PAR	7	1.16 (13)	1.52 (8)	0.69 (2)	1.34 (20)	0.75 (23)	0.65 (20)	0.57 (12)	0.34 (14)	7.02 (11)	B C D E F G H	109.5
RRALF 9R100	9	1.09 (17)	1.58 (2)	0.48 (14)	1.34 (21)	0.76 (21)	0.77 (9)	0.60 (11)	0.38 (11)	7.00 (12)	B C D E F G H	109.2
SW 9813s	9	1.08 (19)	1.39 (20)	0.53 (8)	1.42 (14)	1.03 (6)	0.87 (5)	0.30 (24)	0.36 (13)	6.97 (13)	B C D E F G H	108.7
AmeriStand 803T	8	1.22 (7)	1.41 (19)	0.45 (17)	1.44 (12)	0.88 (12)	0.73 (13)	0.56 (13)	0.28 (21)	6.96 (14)	B C D E F G H	108.5
NM1702PAR	7	1.24 (6)	1.43 (16)	0.46 (15)	1.41 (15)	0.79 (19)	0.76 (11)	0.52 (18)	0.32 (17)	6.93 (15)	B C D E F G H	108.1
NM1704PAR	7	1.14 (14)	1.43 (17)	0.41 (22)	1.40 (16)	0.88 (13)	0.76 (10)	0.54 (15)	0.33 (15)	6.88 (16)	B C D E F G H	107.3
Ameristand 901TS	9	1.20 (9)	1.49 (11)	0.51 (10)	1.38 (18)	0.76 (20)	0.60 (22)	0.54 (15)	0.39 (7)	6.87 (17)	B C D E F G H	107.1
SW 9812	9	1.10 (16)	1.50 (10)	0.42 (21)	1.44 (12)	0.86 (14)	0.67 (18)	0.52 (18)	0.29 (20)	6.81 (18)	C D E F G H I	106.1
WL 656HQ	9	1.17 (12)	1.42 (18)	0.44 (20)	1.32 (22)	0.81 (18)	0.68 (17)	0.53 (17)	0.38 (11)	6.75 (19)	D E F G H I	105.3
RRL913T455	8	0.89 (25)	1.31 (24)	0.54 (6)	1.35 (19)	0.92 (9)	0.66 (19)	0.56 (13)	0.32 (17)	6.55 (20)	E F G H I	102.2
Ameristand 715NT RR	7	1.09 (17)	1.37 (22)	0.49 (13)	1.51 (10)	0.84 (16)	0.60 (21)	0.37 (22)	0.27 (22)	6.54 (21)	E F G H I	102.0
CUF101	9	1.07 (20)	1.46 (13)	0.51 (11)	1.32 (22)	0.66 (24)	0.60 (22)	0.47 (20)	0.32 (17)	6.41 (22)	F G H I	100.0
6601N	6	1.01 (23)	1.46 (13)	0.29 (24)	1.31 (24)	0.86 (14)	0.72 (14)	0.47 (20)	0.18 (25)	6.32 (23)	G H I	98.5
HybriForce-4420/Wet	4	1.00 (24)	1.16 (26)	0.28 (25)	1.40 (16)	0.76 (22)	0.51 (24)	0.27 (25)	0.25 (24)	5.61 (24)	H I J	87.5
Magna 801FQ	8	1.03 (21)	1.24 (25)	0.46 (16)	1.09 (25)	0.50 (26)	0.44 (25)	0.36 (23)	0.26 (23)	5.39 (25)	I J	84.1
Ameristand 518 NT	5	0.86 (26)	1.32 (23)	0.23 (26)	1.05 (26)	0.52 (25)	0.36 (26)	0.27 (26)	0.18 (25)	4.78 (26)	J	74.5
MEAN		1.14	1.45	0.49	1.44	0.88	0.72	0.56	0.36	7.04		
CV		14.74	10.18	24.43	19.64	33.00	31.52	37.08	37.44	17.15		
LSD (0.1)		0.20	0.18	0.15	NS	0.35	0.27	0.25	0.16	1.46		

Trial seeded at 25 lb/acre viable seed on Hanford fine sandy loam soil at the Univ. of Calif. Kearney Agricultural Center, Parlier, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

**Table 8. 2022-2024 YIELDS, UC KEARNEY ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 10/19/21**

		2022	2023	2024	Average	
		Yield	Yield	Yield		
	FD	Dry t/a				
WL 668HQ.RR	9	12.54 ( 1)	9.16 ( 1)	9.42 ( 1)	10.37 ( 1)	A
NuMex 802	8	12.25 ( 2)	8.62 ( 2)	8.31 ( 2)	9.73 ( 2)	A B
NuMex 801	8	11.49 ( 7)	8.45 ( 3)	8.08 ( 4)	9.34 ( 3)	A B C
Alphatec 921	9	11.63 ( 5)	8.24 ( 4)	7.94 ( 5)	9.27 ( 4)	A B C
6829R	8	11.49 ( 6)	8.17 ( 5)	7.73 ( 7)	9.13 ( 5)	A B C D
AmeriStand 835NT RR	8	11.81 ( 3)	7.45 ( 9)	7.51 ( 8)	8.92 ( 6)	B C D E
Magna 995	9	10.91 (10)	7.94 ( 6)	7.79 ( 6)	8.88 ( 7)	B C D E
Highline	9	10.71 (13)	7.18 (12)	8.23 ( 3)	8.71 ( 8)	B C D E
SW 9813s	9	11.67 ( 4)	7.18 (13)	6.97 (13)	8.61 ( 9)	B C D E
Alphatec 821	8	10.60 (17)	7.85 ( 7)	7.11 (10)	8.52 (10)	B C D E F
NM170506PAR	7	10.95 ( 9)	7.57 ( 8)	7.02 (11)	8.51 (11)	B C D E F
AmeriStand 803T	8	11.16 ( 8)	7.37 (11)	6.96 (14)	8.50 (12)	B C D E F
Ameristand 901TS	9	10.75 (11)	7.42 (10)	6.87 (17)	8.35 (13)	B C D E F
NM1702PAR	7	10.60 (16)	7.16 (14)	6.93 (15)	8.23 (14)	C D E F G
SW 9812	9	10.73 (12)	7.02 (17)	6.81 (18)	8.19 (15)	C D E F G
RRALF 9R100	9	10.63 (14)	6.88 (18)	7.00 (12)	8.17 (16)	C D E F G
WL 656HQ	9	10.51 (19)	7.12 (15)	6.75 (19)	8.13 (17)	C D E F G
NM1701PAR	7	10.61 (15)	6.62 (22)	7.14 ( 9)	8.12 (18)	C D E F G
NM1704PAR	7	10.59 (18)	6.69 (20)	6.88 (16)	8.05 (19)	C D E F G
RRL913T455	8	10.15 (21)	6.85 (19)	6.55 (20)	7.85 (20)	D E F G H
CUF101	9	10.31 (20)	6.34 (24)	6.41 (22)	7.69 (21)	E F G H
6601N	6	9.95 (22)	6.64 (21)	6.32 (23)	7.63 (22)	E F G H
Ameristand 715NT RR	7	9.59 (23)	6.40 (23)	6.54 (21)	7.51 (23)	E F G H
HybriForce-4420/Wet	4	8.81 (26)	7.11 (16)	5.61 (24)	7.18 (24)	F G H
Magna 801FQ	8	9.38 (24)	5.76 (25)	5.39 (25)	6.85 (25)	G H
Ameristand 518 NT	5	9.06 (25)	5.58 (26)	4.78 (26)	6.47 (26)	H
MEAN		10.73	7.26	7.04	8.34	
CV		13.40	18.80	17.15	14.04	
LSD (0.1)		1.74	1.65	1.46	1.41	

Trial seeded at 25 lb/acre viable seed at San Joaquin Valley Agricultural Sciences Center, Parlier, CA.

Entries followed by the same letter are not significantly different at the 10% probability level according to Fisher's (protected) LSD.

FD = Fall Dormancy reported by seed companies.

**SUGGESTED FALL DORMANCY RANGE AND MINIMUM ALFALFA CULTIVAR PEST RESISTANCE RATINGS FOR SIX CALIFORNIA CLIMATE ZONES.** Growers selecting varieties from different regions should emphasize the pests that are most important for their area.

Production Zone	Rating Factor										
	FD	SAA	PA	BAA	PRR	BW	FW	An	Stn	RKN	VW
Intermountain	2--4	S	R	MR	R	R	HR	R	R	R	R
Sacramento Valley	4--8	MR	HR	HR	HR	MR	HR	R	R	R	R
San Joaquin Valley	7--9	R	HR	HR	HR	MR	HR	R	HR	HR	R
Coastal	5--7	MR	HR	HR	HR	MR	HR	R	HR	HR	R
High Desert	4--7	R	R	R	R	MR	HR	MR	HR	HR	R
Low Desert	8--9	HR	HR	HR	HR	S	HR	HR	R	HR	S

NOTE: These pest resistance recommendations were originally developed by Dr. Vern Marble, Extension Agronomist, UC Davis, based upon decades of experience with alfalfa varieties in various locations in California. Zones correspond to the principle regions of alfalfa production in California.

**EXPLANATION OF PEST RESISTANCE.** Alfalfa varieties consist of a population of plants which have varying degrees of resistance to an insect or disease. Since alfalfa fields can sustain considerable loss of individual plants without reducing productivity, alfalfa varieties with 51% or over are considered to be highly resistant, since resistant plants will make up for losses from other plants.

Resistance Level	Abbreviation	Percent resistance <sup>1</sup>
Highly Resistant	HR	>51%
Resistant	R	31-50%
Moderately Resistant	MR	15-30%
Low Resistance	LOW	6-14%
Susceptible	S	<5%
Tolerant	T	(see definition)

<sup>1</sup> Percent of plants in a population resistant to a given pest

**Definitions**

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

**R - Resistant --** The ability of plants to withstand pest attack. Resistance is not absolute but varies by degree. Even highly resistant varieties will have some plants that are susceptible (see above percentages). NOTE: Very high insect populations or very severe disease conditions can overwhelm pest resistance in alfalfa.

**S - Susceptible --** Damage commonly occurs when in the presence of a specified pest. Inability of a variety to withstand adverse disease or insect conditions.

**T - Tolerant --** Ability of plants to sustain yields when confronted with a pest attack or environmental condition (e.g. salt or grazing). Tolerant varieties are affected by the condition, but still maintain yields at high levels relative to less tolerant varieties.

