

**CALIFORNIA CROP IMPROVEMENT ASSOCIATION
COMPREHENSIVE ANNUAL RESEARCH REPORT
July 1, 2025 to June 30, 2026**

**PROJECT TITLE: Field Testing for Alfalfa Varieties and Alfalfa Variety Development
(Continuing)**

PROJECT LEADERS AND PRINCIPAL INVESTIGATORS:

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LEVEL OF 2025-2026 FUNDING: \$31,421

OBJECTIVES AND EXPERIMENTS CONDUCTED BY LOCATION:

Objectives:

1. To test certified cultivars and experimental germplasm across a range of environments, including deficit irrigation, and to communicate these results to clientele.
2. To develop and release improved elite alfalfa cultivars with adaptation to and high yield potential in non-dormant and semi-dormant regions of California.

Experiments:

Objective 1. The CCIA-funded UC Alfalfa Variety Testing Program is among the most comprehensive alfalfa variety testing program in any state. Trials were conducted in three locations throughout California, with several thousand yield observations during this period. A complete report of these trials is found in the Agronomy Progress Report, which is included below.

Intermountain Region

2021 UC Tulelake Variety Trial. This 24-entry trial was planted 8/19/21. Four harvests were taken in 2025, the fourth and final year of harvest. The average yield for this trial was 8.5 t/A with a spread of 8.0-9.1 t/A among varieties. Multi-year yield averaged 8.3 t/A, with all years being very similar in production. A replacement yield trial was planted in the spring of 2025.

2025 UC Tulelake Variety Trial- This 42-entry trial was planted 5/30/25 to replace the 2021 planting. Two harvests were taken in 2025, the first year of harvest. The average yield for this trial was 4.1 t/A with a spread of 3.8-4.4 t/A among varieties. As this was the establishment year, higher yields are expected for 2026 season.



Sacramento Valley Region

2023 UC Davis Variety × Irrigation Treatment Trial (Fig. 1). 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 2025, averaging 11.9 t/A yield, and a range of 9.5-15.0 t/A among varieties. The deficit treatments averaged 7.5 t/A yield, ranging from 5.8-9.1 t/A. Five harvests were taken from the deficit treatments in 2025. Irrigation for both treatments began 4/16/25 with a total of 42.6” applied to full and 19.2” to deficit treatments.

At the end of October, 2025, the deficit plots appeared to be recovering better, overall, compared to the fully irrigated plots. However, stand assessments in spring 2026 suggest that the deficit plots are losing stand more rapidly; weed encroachment was also observed in the deficit plots.



The 2023 Davis trial in October 2025 regrowing after three months of water cut-off for the deficit treatment.

Low Desert Region

2023 El Centro Variety × Drought Trial (Fig. 2). 2023 El Centro Variety Drought Trial. Planted Nov 1, 2023 at the Desert Research and Extension Center. This trial includes 40 entries and will be grown under the full and deficit irrigation as in Davis. 24 entries are duplicated between Davis

and El Centro to assess variety performance under very different production environments. Eleven harvests were taken from both the full irrigation treatment and deficit in 2025. Full average yield was 12.1 t/A yield, and a range of 9.9-15.0 t/A among varieties. The deficit treatments averaged 9.6 t/A yield, ranging from 7.9-11.5 t/A. Irrigation for both treatments began 1/21/25 with a total of 56.3" applied to full and 35.6" to deficit treatments.

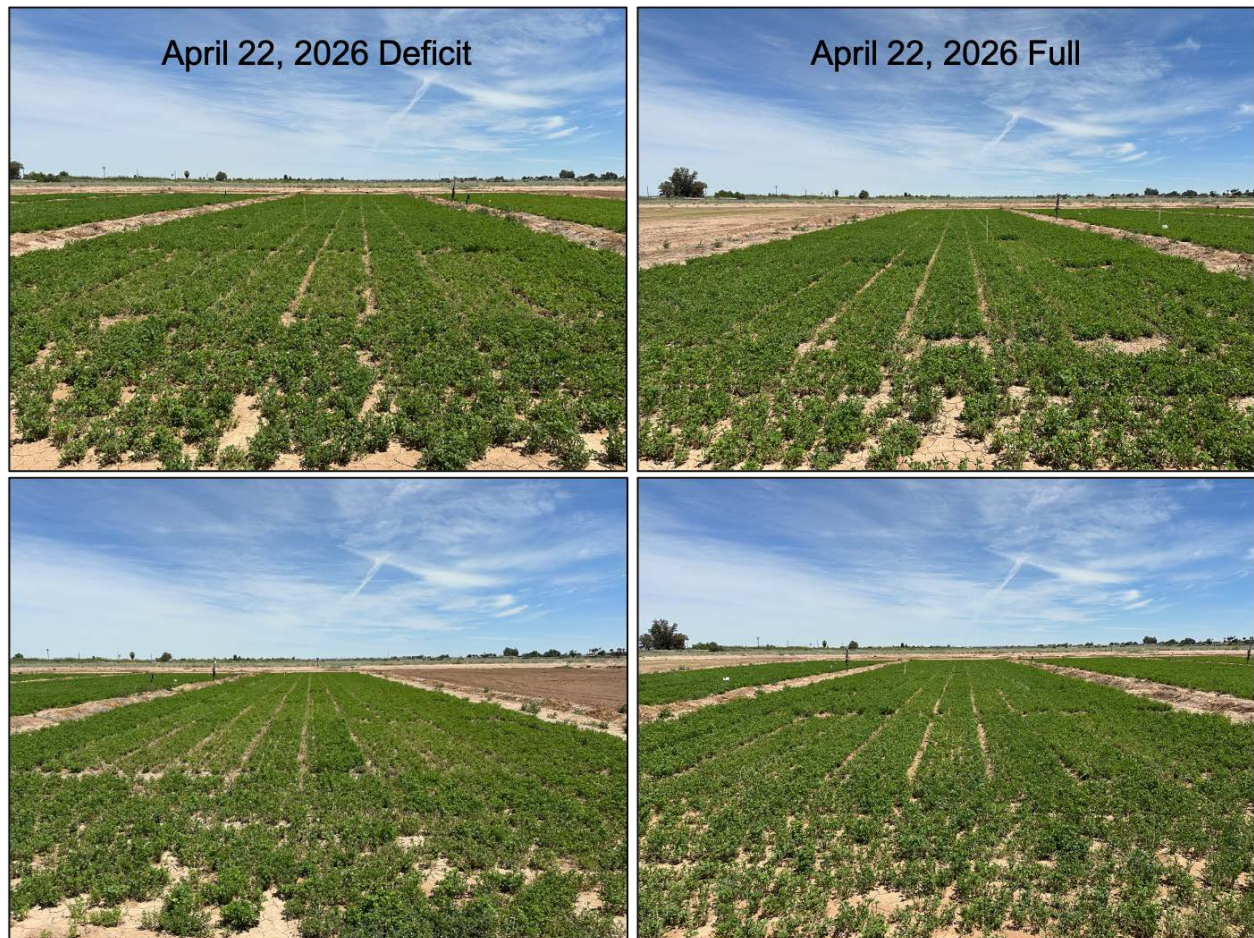


Figure 2. The 2023 El Centro this spring, showing that the deficit treatment has recovered very well from the second summer's lack of irrigation.

Objective 2.

Breeding nurseries. Breeding nurseries of spaced plants were established in Davis in October 2024 and in El Centro in February 2025. At each location, two nurseries were established, one that is fully irrigated and the other that is deficit irrigated for three months each year. About 15,000 plants are at each location, half in each irrigation treatment. These nurseries were scored for overall merit several times in 2025 and continue to be evaluated in 2026.

SUMMARY OF 2024-25 RESEARCH BY OBJECTIVE:

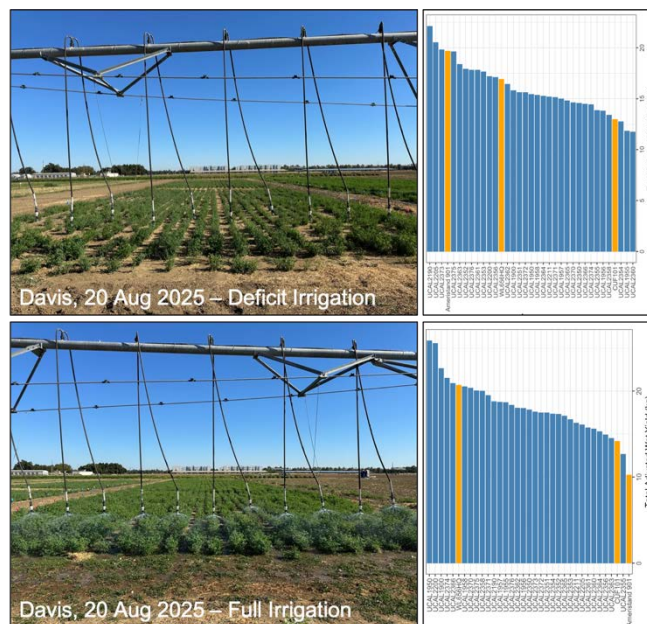
Objective 1. To test certified cultivars and experimental germplasm across a range of environments, including deficit irrigation, and to communicate these results to clientele.

The UC trials were successfully managed at the above sites throughout California in 2025-26. We planting a variety trial in Tulalake in late May with 42 entries. This trial is conventionally managed trial because only one entry was entered in a RoundupReady trial we had hoped to plant. This trial also included five UC Davis experimentals that have commercial potential. Data on yield were collected from each site, analyzed, summarized, and distributed via research publications, newsletters, field days, and online. Presentations were made at field days (Davis, Tulalake, El Centro). This report was distributed to cooperating scientists and farm advisors, colleagues in neighboring states, seed companies, and growers and PCAs through numerous Cooperative Extension Farm Advisor newsletters throughout California.

UC Davis Experimental Performance. Among the UC experimental cultivars in the Davis and El Centro trials are several that appear to be quite promising after the first year of data. In El Centro, UCAL2000, 2010, and 2020, and 2040 all performed well in at least one environment. We will see what happens this year but several experimentals appear to have clear commercial potential. The fall dormancy 10-12 experimentals from FGI are topping the yield trials – they have impressive regrowth after each harvest as well. Our program has mainly focused on FD9 germplasm, inherited from Dr. Teuber, but we will be making selections for enhanced fall growth from the current nurseries. Another germplasm, UCAL1950, which was selected from Arabian and Egyptian germplasm for two cycles, looks impressive in in February 2026 (above). Another cycle of selection should give this a bit more persistence and may have commercial potential.



Dissemination of results. We were able to make these results available rapidly to plant breeders in time for their Alfalfa Variety Review Board meetings via Fax and on the Web. Plant breeders and seed companies are able to come and tour the plots during the growing season. Many use this data in considering varieties for release through the Alfalfa Variety Review Board. As soon as a data set is completed for a trial location it is placed on our website (see address below) to aid seed companies in planning their plant breeding programs for the coming year. After a trial is terminated, we generally schedule a “dig” to allow breeders to make selections from cultivars that they have entered in a particular trial.



Objective 2. To develop and release improved elite alfalfa cultivars with adaptation to and high yield potential in alfalfa growing regions of California.

Breeding nurseries. We planted new breeding nurseries in Davis in October 2024 and El Centro in February 2025. These are spaced planted trials including germplasm from our new elite breeding populations and pre-breeding, germplasm derived populations. These breeding nurseries represent the next cycle of selection for our main breeding populations. We expect populations derived from these nurseries to be selected in 2027 or 2028, depending on the survival rate. We harvested plots by hand several times in 2025 and yield data relative to check cultivars (in yellow) shown in the figure above. Though too early to make firm conclusions, experimentals that have higher yield under both deficit and full irrigation are present. Evaluation will continue in 2026.



Selection. In 2025-26, we developed nine unique alfalfa populations, including three populations selected from nondormant cultivars in a dryland sheep grazing trial in Rio Vista, a variety useful for horse hay from an on-farm nursery in Herlong, four germplasm improvement populations from Tulelake, and a semi-dormant elite population from Tulelake.

Seed production. We conducted cage seed increases of five experimental populations in Washington with Dr. Brian Irish and received the seed quantities shown, which are a bit lower than typical. The elite populations will be included in the 2026 trials described under proposed activities if we get funding. The other populations are particularly for rangeland/dryland environments and if we get funding, we will plant trials in fall 2026.

Population	Description	Seed (g)
UCAL2380	Elite FD9 from Westside Salinity Trial	995
UCAL2385	Elite FD7-8 from Westside Salinity Trial	639
UCAL2450	Drought resistant plants from Herlong, CA	897
UCAL2415	Davis grazing trial	588
UCAL2400	Rangeland selections from Paskenta, CA	476

Creeping rooted alfalfa

A trait we are very interested in is creeping rooted alfalfa. This is a project of Cree King, a PhD student in my lab. She has a population segregating for creeping roots – right; this genetic mapping experiment will hopefully help us identify the genetic control of the trait, enabling us to use genetic markers to select plants with a propensity for creeping roots as seedlings, instead of waiting up to two years in the field. A proposal is under review with USDA-NIFA-AFRI to fund this work.



PUBLICATION OF REPORTS

The primary outlet for these data is now online. Publication of these results is provided in UC Cooperative Extension Newsletters, plus the Agronomy Progress Reports and at the California Alfalfa Symposium. All of the tables we produce and publish in Agronomy Progress Report (attached to this report) are now accessible on the web: <https://alfalfa.ucdavis.edu/>

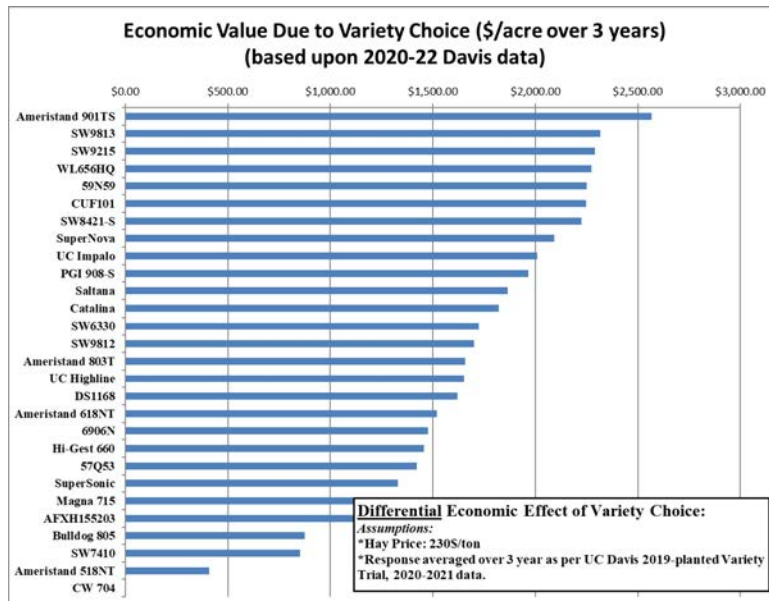
CONCISE GENERAL SUMMARY OF CURRENT YEAR'S RESULTS

Economics of variety choice

The value of these trials may be illustrated by the relative differences in economic return simply due to variety choice. In the below graph of a partial economic budget, with the economic value of yield differences due to variety, from the most recent 3-year trial at Davis. This indicates a potential yield economic difference, due only to the change in variety, or a maximum of about \$2,500/acre over three years at Davis. Even with a \$3/lb. increase in seed price, this is likely to be an excellent return on investment. Even a more modest change in yield potential (for example between a variety in the middle of the trial vs. the top yielding varieties) of about 0.5 tons/acre would still provide a potential economic benefit of nearly \$1200/acre over 3 years at a \$230/ton price. Of course, higher hay prices make those differences greater.

Extrapolating this type of variety data, estimating the average differences between the top and bottom of these trials at 30% (which is what our data suggests), the potential differences due to variety choice are on the order of over \$300 million/year in California.

Caveats: The caveats of this type of calculation include the lack of statistical significance between some variety comparisons, as well as the limitations of extrapolating small plot data from a single location to many different soil types and farms. Of course, many factors influence yield and economic return, but this calculation illustrates substantial benefit of utilizing data on the genetics of alfalfa and what choice of variety can mean to farmers. However, the economic return on field testing of varieties can be seen.



Website: <https://alfalfa.ucdavis.edu/variety-selection>

https://alfalfa.ucdavis.edu/+producing/variety/?loc=UC Davis

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Variety Selection

Click on a city below to view variety trial data:



Agronomy Progress Reports:

These publications detail alfalfa yield trial data for single harvest, single year, and multi-year summaries for each year. Usually, both conventional and Roundup-Ready (RR) lines are tested. Yield trials are conducted in five regions in California: the Intermountain area, the Sacramento Valley, the Westside Research Station, the San Joaquin Valley, and the Low Desert (see image above).

2022	2021	2020	2019	2018	2017	2016
2015	2014	2013	2012	2011	2010	2009
2008	2007	2006	2005	2004	2003	2002

UC Davis Variety Trials

UC Davis Cultivar Alfalfa Variety (planted 2019)

Final Summary:

2019 - 2022 UC Davis Cultivar multi-year summary

Multi-year and Single-year Data:

2019 - 2021 UC Davis Cultivar multi-year summary

2022 UC Davis Cultivar single-year data

2021 UC Davis Cultivar single-year data

2020 UC Davis Cultivar single-year data

UC Davis Cultivar Alfalfa Variety (planted 2014)

Final Summary:

2014 - 2017 UC Davis Cultivar multi-year summary

Multi-year and Single-year Data:

2017 UC Davis Cultivar single-year data

2016 UC Davis Cultivar single-year data

2015 UC Davis Cultivar single-year data

UC Davis Cultivar Alfalfa Variety (planted 2011)

Final Summary:

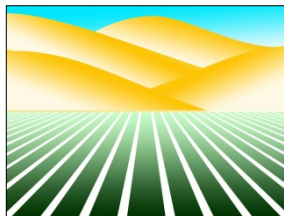
2011 - 2014 UC Davis Cultivar multi-year summary

Multi-year and Single-year Data:

2011 - 2013 UC Davis Cultivar multi-year summary

2014 UC Davis Cultivar single-year data

2013 UC Davis Cultivar single-year data



AGRONOMY PROGRESS REPORT

2025 CALIFORNIA ALFALFA VARIETY TRIAL RESULTS

Chris DeBen, Ali Montazar, Rob Wilson, Darrin Culp, Charles Janssen, E.C Brummer and Daniel H. Putnam¹

SUMMARY- This publication details alfalfa yield trial data conducted in California for the year 2025. Yield trials were conducted in the Intermountain area (Tulelake), the Imperial Valley (El Centro) and the Sacramento Valley (Davis). A total of 139 varieties were tested, from 4 to 11 cuts/year, with a total of 5,832 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 (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**

California Alfalfa Acreages by Section

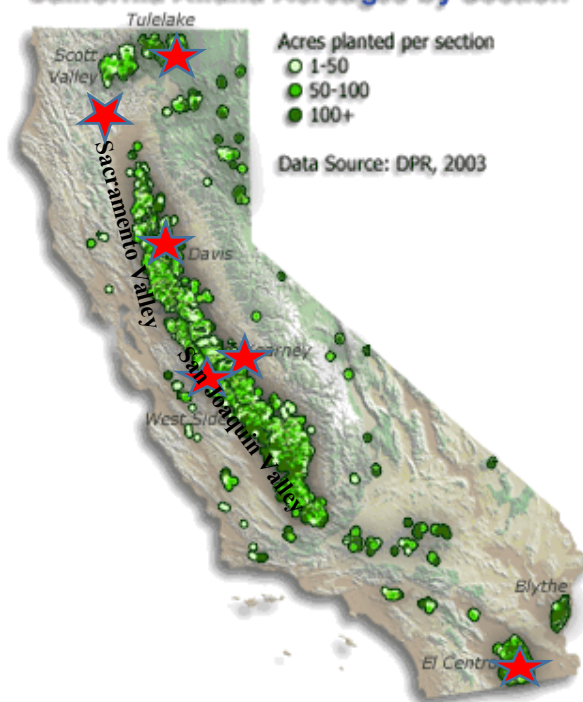


Figure 1. California alfalfa acreage. The Intermountain region is represented by Tulelake and Scott Valley, Sacramento Valley by Davis, San Joaquin Valley by Parlier and Five Points locations.

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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 2025.

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 2025 at Tulelake, 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 Valley, and up to 11 in 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.

2025 YIELD RESULTS

Intermountain Region

2021 UC Tulelake Variety Trial- This 24-entry trial was planted 8/19/21. Four harvests were taken in 2025, the fourth and final year of harvest. The average yield for this trial was 8.5 t/A with a spread of 8.0-9.1 t/A among varieties (Table 1). Multi-year yield averaged 8.3 t/A, with all years being very similar in production (Table 2).

2025 UC Tulelake Variety Trial- This 42-entry trial was planted 5/30/25 to replace the 2021 planting. Two harvests were taken in 2025, the first year of harvest. The average yield for this trial

was 4.1 t/A with a spread of 3.8-4.4 t/A among varieties (Table 3). As this was the establishment year, higher yields are expected for 2026 season.

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 2025, averaging 11.9 t/A yield, and a range of 9.5-15.0 t/A among varieties (Table 4). The deficit treatments averaged 7.5 t/A yield, ranging from 5.8-9.1 t/A. Five harvests were taken from the deficit treatments in 2025 (Table 5). Irrigation for both treatments began 4/16/25 with a total of 42.6” applied to full and 19.2” to deficit treatments. Cumulative yields in years 2024-25 for full irrigation and deficit irrigation treatment can be seen in tables 6 and 7, respectively.

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. Eleven harvests were taken from both the full irrigation treatment and deficit in 2025. Full average yield was 12.1 t/A yield, and a range of 9.9-15.0 t/A among varieties (Table 8). The deficit treatments averaged 9.6 t/A yield, ranging from 7.9-11.5 t/A (Table 9). Irrigation for both treatments began 1/21/25 with a total of 56.3” applied to full and 35.6” to deficit treatments. Cumulative yields in years 2024-25 can be seen in table 10 (full irrigation) and table 11 (deficit irrigation).

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 1-11. We recommend that you see the tables for over-the years summaries from the relevant locations, also posted 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 on the Alfalfa Alliance Website. Please see <https://www.alfalfa.org/varietyLeaflet.php> for a current (2026) 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).
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

The authors are grateful for the help of Darrin Culp and Rob Wilson and their crew at the Intermountain Research and Extension Center, Ali Montazar and Gilberto Magallon at the Desert Research and Extension Center, Luis Loza and Israel Herrera for help on the UC Davis plots.

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Table 1. 2025 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
		4-Jun	7-Jul	8-Aug	23-Sep	TOTAL			VERNAL
FD		Dry t/a							
Released Varieties									
AFX 439	4	3.23 (3)	2.07 (3)	2.03 (4)	1.76 (2)	9.09 (1)	A		108.7
LG4R300	4	3.01 (10)	2.03 (5)	2.07 (2)	1.69 (9)	8.80 (3)	A B C		105.3
AWS 455 salt	4	3.32 (1)	1.91 (20)	1.91 (11)	1.64 (11)	8.79 (4)	A B C D		105.1
AWS 418RL	4	3.08 (6)	1.98 (15)	2.02 (7)	1.70 (8)	8.78 (5)	A B C D E		105.0
HybriForce-4420/Wet	4	3.30 (2)	1.99 (13)	1.88 (18)	1.58 (17)	8.75 (6)	A B C D E		104.6
WL377 HQ	5	3.14 (4)	2.01 (9)	1.98 (9)	1.59 (16)	8.73 (7)	A B C D E		104.4
6453Q	4	2.98 (14)	1.97 (18)	2.02 (6)	1.75 (3)	8.72 (8)	A B C D E		104.3
WL375 HVXRR	4.6	2.89 (19)	2.04 (4)	2.01 (8)	1.72 (7)	8.66 (9)	B C D E F		103.6
AWS 390	3.9	3.10 (5)	1.91 (21)	1.90 (16)	1.74 (4)	8.64 (10)	B C D E F		103.4
LG5R300	5	2.81 (21)	1.97 (16)	2.03 (3)	1.74 (6)	8.56 (11)	C D E F G		102.4
Magna150RR	4	2.95 (16)	1.97 (17)	1.91 (14)	1.68 (10)	8.51 (12)	C D E F G H		101.8
Bison Alfalfa	3.5	3.02 (9)	1.94 (19)	1.87 (19)	1.63 (13)	8.46 (13)	C D E F G H I		101.3
WL3441 RR	4	2.85 (20)	2.02 (6)	1.96 (10)	1.62 (14)	8.45 (14)	C D E F G H I		101.1
Nexgrow 6516R	4.5	2.98 (15)	2.09 (1)	1.88 (17)	1.49 (21)	8.45 (15)	C D E F G H I		101.1
54Q29	4	2.98 (13)	1.98 (14)	1.83 (23)	1.63 (12)	8.43 (16)	C D E F G H I		100.9
6585Q	5	2.81 (23)	2.07 (2)	2.02 (5)	1.49 (22)	8.38 (17)	C D E F G H I		100.3
54VQ52	4	3.01 (11)	1.84 (23)	1.91 (12)	1.61 (15)	8.37 (18)	D E F G H I		100.2
Ameristand 428TQ	4	2.99 (12)	2.00 (11)	1.90 (15)	1.47 (23)	8.36 (19)	E F G H I		100.0
Vernal	2	3.07 (8)	1.71 (24)	1.85 (21)	1.74 (5)	8.36 (20)	E F G H I		100.0
Ameristand 416NT RF	4	2.81 (22)	2.01 (10)	1.91 (13)	1.50 (20)	8.23 (21)	F G H I		98.5
Ameristand 518NT	5	2.91 (18)	2.02 (8)	1.84 (22)	1.45 (24)	8.21 (22)	G H I		98.2
WL341 HVXRR	4	2.93 (17)	1.88 (22)	1.79 (24)	1.53 (19)	8.13 (23)	H I		97.2
Ameristand 446NT	4	2.67 (24)	1.99 (12)	1.86 (20)	1.55 (18)	8.07 (24)	I		96.6
Experimental Varieties									
SW4615	5	3.07 (7)	2.02 (7)	2.16 (1)	1.77 (1)	9.02 (2)	A B		107.9
MEAN		3.00	1.98	1.94	1.63	8.54			
CV		5.74	5.89	10.18	5.66	4.12			
LSD (0.1)		0.21	0.14	NS	0.11	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 2. 2022-2025 YIELDS, TULELAKE ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 8/19/21

		2022	2023	2024	2025			% of
		Yield	Yield	Yield	Yield	Average		Vernal
	FD			Dry t/a				
Released Varieties								
AWS 418RL	4	7.87 (7)	8.37 (1)	8.48 (6)	8.78 (5)	8.37 (1)	A	108.7
AFX 439	4	7.56 (12)	8.04 (3)	8.31 (8)	9.09 (1)	8.25 (3)	A B C	107.1
HybriForce-4420/Wet	4	8.11 (3)	7.88 (9)	8.21 (10)	8.75 (6)	8.24 (4)	A B C	107.0
54VQ52	4	7.90 (4)	8.05 (2)	8.55 (3)	8.37 (18)	8.22 (5)	A B C D	106.7
6453Q	4	7.70 (9)	7.98 (6)	8.19 (11)	8.72 (8)	8.15 (6)	A B C D E	105.8
Magna150RR	4	8.33 (1)	7.12 (24)	8.58 (1)	8.51 (12)	8.14 (7)	A B C D E	105.6
54Q29	4	8.26 (2)	7.53 (20)	8.12 (15)	8.43 (16)	8.09 (8)	A B C D E F	105.0
WL377 HQ	5	7.71 (8)	7.77 (12)	8.10 (16)	8.73 (7)	8.08 (9)	A B C D E F G	104.8
Nexgrow 6516R	4.5	7.46 (15)	7.84 (10)	8.54 (5)	8.45 (15)	8.07 (10)	A B C D E F G	104.8
Bison Alfalfa	3.5	7.64 (11)	7.49 (21)	8.54 (4)	8.46 (13)	8.03 (11)	A B C D E F G H	104.3
Ameristand 428TQ	4	7.66 (10)	7.98 (5)	8.07 (17)	8.36 (19)	8.02 (12)	A B C D E F G H	104.1
6585Q	5	7.48 (14)	7.94 (8)	8.13 (14)	8.38 (17)	7.98 (13)	B C D E F G H	103.6
AWS 390	3.9	7.35 (19)	7.45 (22)	8.40 (7)	8.64 (10)	7.96 (14)	B C D E F G H	103.4
LG5R300	5	7.41 (17)	7.71 (16)	8.15 (12)	8.56 (11)	7.96 (15)	B C D E F G H	103.3
Ameristand 518NT	5	7.16 (23)	7.94 (7)	8.29 (9)	8.21 (22)	7.90 (16)	C D E F G H	102.6
LG4R300	4	7.25 (21)	7.64 (17)	7.74 (19)	8.80 (3)	7.86 (17)	D E F G H	102.1
WL341 HVXRR	4	7.42 (16)	7.75 (14)	8.14 (13)	8.13 (23)	7.86 (18)	D E F G H	102.0
AWS 455 salt	4	7.87 (6)	7.74 (15)	7.02 (24)	8.79 (4)	7.85 (19)	E F G H	102.0
WL375 HVXRR	4.6	7.37 (18)	7.63 (18)	7.55 (23)	8.66 (9)	7.80 (20)	E F G H	101.3
Ameristand 446NT	4	7.25 (22)	8.02 (4)	7.72 (20)	8.07 (24)	7.77 (21)	F G H	100.8
Ameristand 416NT RR	4	7.32 (20)	7.75 (13)	7.56 (22)	8.23 (21)	7.72 (22)	G H	100.2
WL3441 RR	4	7.08 (24)	7.62 (19)	7.71 (21)	8.45 (14)	7.71 (23)	G H	100.2
Vernal	2	7.55 (13)	7.14 (23)	7.76 (18)	8.36 (20)	7.70 (24)	H	100.0
Experimental Varieties								
SW4615	5	7.87 (5)	7.77 (11)	8.58 (2)	9.02 (2)	8.31 (2)	A B	107.9
MEAN		7.61	7.76	8.10	8.54	8.00		
CV		5.11	4.21	9.38	4.12	3.73		
LSD (0.1)		0.47	0.40	NS	0.43	0.36		

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. 2025 YIELDS. TULELAKE ALFALFA CULTIVAR TRIAL. TRIAL PLANTED 5-30-25

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

		Cut 1 18-Aug	Cut 2 23-Sep	YEAR TOTAL	% of VERNAL
	FD		Dry t/a		
Released Varieties					
Experimental Varieties					
FSG 430ST	4	2.56 (2)	1.86 (15)	4.43 (1)	107.7
54VQ56	4	2.68 (1)	1.73 (34)	4.41 (2)	107.3
AFX 460 Hi Gest	4	2.56 (3)	1.77 (27)	4.33 (3)	105.4
Majestic	4	2.51 (4)	1.76 (29)	4.27 (4)	104.0
Hi Gest 360	3	2.45 (5)	1.83 (21)	4.27 (5)	104.0
UCAL2250	3	2.32 (12)	1.95 (3)	4.27 (6)	104.0
WL349HQ	4	2.30 (15)	1.97 (1)	4.26 (7)	103.7
WL3441HQ-RR	4.3	2.43 (7)	1.79 (25)	4.22 (8)	102.8
54VS73	4	2.44 (6)	1.78 (26)	4.22 (9)	102.7
CASIA R1C2	3	2.34 (10)	1.83 (18)	4.17 (10)	101.6
Ranger	3	2.26 (18)	1.88 (10)	4.14 (11)	100.8
WL377HQ	5	2.39 (8)	1.74 (32)	4.13 (12)	100.4
Vernal	2	2.28 (16)	1.83 (17)	4.11 (13)	100.0
UCAL2030	4	2.21 (26)	1.89 (9)	4.10 (14)	99.7
FSG 420BR	4	2.21 (28)	1.88 (11)	4.09 (15)	99.5
Ameristand 446NT	4.4	2.17 (33)	1.92 (4)	4.09 (16)	99.5
Pow erStand-RR	4	2.21 (23)	1.87 (14)	4.09 (17)	99.5
SW5615	5	2.25 (21)	1.83 (20)	4.08 (18)	99.3
MOMENTUM UC	4	2.21 (24)	1.86 (16)	4.07 (19)	99.0
Wi22BK intAlf.20	4	2.19 (31)	1.88 (12)	4.07 (20)	99.0
X-Force 5420-Wet	4	2.32 (14)	1.75 (31)	4.06 (21)	98.9
FSG 527	5	2.14 (36)	1.92 (5)	4.06 (22)	98.8
AFX194011	4	2.14 (35)	1.91 (7)	4.05 (23)	98.6
NexGrow 6453Q	4.4	2.25 (22)	1.80 (24)	4.04 (24)	98.4
OTTM R2C2	4	2.14 (37)	1.91 (8)	4.04 (25)	98.4
UCAL2155	3	2.12 (38)	1.91 (6)	4.03 (26)	98.2
OTTM R1C2	4	2.21 (25)	1.82 (23)	4.03 (27)	98.1
UCAL2280	4	2.37 (9)	1.65 (40)	4.02 (28)	97.8
Ameristand 518NT	5.2	2.34 (11)	1.68 (37)	4.02 (29)	97.8
MVS4220Q	4	2.12 (39)	1.88 (13)	4.00 (30)	97.3
AmeriStand 403T	4	2.27 (17)	1.73 (35)	4.00 (31)	97.2
SIBR R1C2	2	2.32 (13)	1.67 (39)	3.99 (32)	97.0
UCAL2281	4	2.03 (42)	1.95 (2)	3.99 (33)	97.0
AFX 470	4	2.25 (19)	1.73 (33)	3.98 (34)	97.0
FSG 450	4	2.15 (34)	1.83 (22)	3.98 (35)	96.8
SIBR R2C1	2	2.20 (29)	1.76 (28)	3.96 (36)	96.4
AFX 479	4	2.25 (20)	1.70 (36)	3.96 (37)	96.3
AFX164036	4	2.12 (40)	1.83 (19)	3.95 (38)	96.1
CASIA R2C1	3	2.20 (30)	1.67 (38)	3.87 (39)	94.1
AS-RRAL-1	4	2.21 (27)	1.65 (41)	3.86 (40)	94.0
EURO R1C2	4	2.09 (41)	1.76 (30)	3.85 (41)	93.7
EURO R2C1	4	2.19 (32)	1.63 (42)	3.81 (42)	92.8
MEAN		2.27	1.81	4.08	
CV		9.15	11.38	7.56	
LSD (0.1)		0.25	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 4. 2025 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

Note: Single year data should not be used to evaluate dryland varieties or choose dryland cultivars										
		Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	YEAR	% of
		9-Apr	16-May	17-Jun	11-Jul	12-Aug	15-Sep	23-Oct	TOTAL	CUF101
	FD	Dry t/a								
Released Varieties										
CW09084 - Lot 1042383	9	1.99 (14)	2.06 (1)	2.42 (1)	2.09 (1)	2.40 (1)	2.29 (2)	1.77 (2)	15.04 (1)	125.0
SW9813S	9	2.02 (11)	1.93 (10)	2.24 (4)	1.81 (5)	2.15 (5)	2.42 (1)	1.80 (1)	14.37 (2)	119.5
NuMex 802	8	1.99 (16)	2.00 (6)	2.30 (2)	1.91 (2)	2.21 (3)	1.97 (6)	1.46 (15)	13.85 (3)	115.1
AmeriStand 835NTS RR	8	1.78 (37)	2.02 (4)	2.26 (3)	1.87 (3)	2.15 (4)	1.92 (7)	1.46 (14)	13.47 (4)	112.0
UC Impalo	9	1.92 (25)	1.87 (18)	2.22 (6)	1.82 (4)	1.90 (11)	1.65 (16)	1.42 (18)	12.79 (8)	106.4
9R400	9	2.01 (12)	1.82 (22)	1.93 (22)	1.68 (11)	2.03 (9)	1.55 (20)	1.53 (10)	12.55 (12)	104.4
HVX620RR	6	1.99 (15)	1.87 (19)	2.00 (15)	1.66 (13)	1.83 (13)	1.72 (15)	1.41 (19)	12.48 (13)	103.8
UCCibola	9	1.85 (31)	1.91 (13)	1.99 (17)	1.63 (15)	1.79 (15)	1.61 (17)	1.52 (11)	12.31 (14)	102.3
Z822	8	2.03 (9)	1.78 (29)	1.79 (31)	1.37 (30)	1.61 (26)	2.00 (5)	1.61 (6)	12.20 (15)	101.4
CUF101	9	1.91 (26)	1.74 (31)	1.98 (19)	1.56 (18)	1.65 (22)	1.82 (11)	1.37 (25)	12.03 (17)	100.0
NuMex 801	8	1.92 (24)	1.68 (35)	1.96 (20)	1.53 (21)	1.64 (24)	1.88 (8)	1.40 (20)	12.00 (19)	99.8
Alphatec 921	9	2.03 (10)	1.90 (15)	1.82 (27)	1.35 (32)	1.37 (36)	1.74 (13)	1.56 (8)	11.76 (20)	97.8
Alphatec 821	8	2.18 (2)	1.96 (8)	1.92 (23)	1.35 (31)	1.44 (32)	1.32 (30)	1.38 (23)	11.54 (25)	96.0
Highline	9	1.83 (35)	1.79 (28)	1.85 (26)	1.51 (25)	1.81 (14)	1.22 (36)	1.20 (32)	11.21 (29)	93.2
CW89126 Lot#1852310	9	1.72 (39)	1.80 (27)	1.82 (28)	1.39 (29)	1.52 (28)	1.72 (14)	1.21 (31)	11.17 (30)	92.9
WL3979 HVXRR	9	1.75 (38)	1.73 (32)	1.95 (21)	1.52 (24)	1.66 (21)	1.02 (40)	1.03 (39)	10.66 (36)	88.7
Cherna 1 - Lot 0472364	9	1.78 (36)	1.68 (34)	1.64 (39)	1.18 (38)	1.31 (39)	1.16 (38)	1.33 (28)	10.09 (38)	83.9
Gunner	5	1.86 (30)	1.67 (36)	1.52 (41)	1.04 (41)	1.34 (38)	1.29 (32)	1.35 (27)	10.08 (39)	83.9
WL 458HQ.RR	6	1.84 (33)	1.54 (40)	1.59 (40)	1.14 (40)	1.17 (40)	1.40 (24)	1.19 (34)	9.87 (40)	82.1
Experimental Varieties										
UC2705	9	1.98 (17)	1.80 (25)	1.98 (18)	1.73 (6)	2.06 (8)	2.19 (3)	1.70 (3)	13.44 (5)	111.8
Z722	7	1.93 (22)	1.94 (9)	2.20 (7)	1.72 (7)	2.21 (2)	1.82 (12)	1.62 (5)	13.44 (6)	111.7
FGI-20-RR8	8	1.92 (23)	1.92 (12)	2.23 (5)	1.70 (10)	1.98 (10)	1.86 (9)	1.45 (16)	13.06 (7)	108.6
UCAL2040	9	1.97 (21)	1.97 (7)	2.07 (11)	1.63 (16)	1.76 (17)	1.84 (10)	1.47 (12)	12.71 (9)	105.7
FGI-19-RR9	9	1.98 (19)	2.03 (3)	2.11 (9)	1.59 (17)	1.73 (20)	1.60 (18)	1.56 (7)	12.59 (10)	104.7
NM2106	7.6	2.11 (4)	1.89 (17)	2.17 (8)	1.67 (12)	2.11 (6)	1.32 (29)	1.30 (29)	12.57 (11)	104.6
FGI-20-RR7	7.5	1.89 (28)	1.67 (37)	1.88 (24)	1.53 (20)	1.75 (18)	2.01 (4)	1.46 (13)	12.19 (16)	101.4
UCAL1950	9	1.84 (32)	1.86 (20)	2.00 (16)	1.72 (8)	1.78 (16)	1.40 (23)	1.42 (17)	12.01 (18)	99.9
UCAL2000	9	1.83 (34)	1.82 (23)	2.05 (12)	1.63 (14)	2.06 (7)	1.17 (37)	1.19 (33)	11.76 (21)	97.8
UCAL2010	9	2.05 (6)	1.90 (16)	2.00 (14)	1.71 (9)	1.65 (23)	1.25 (35)	1.14 (36)	11.69 (22)	97.2
UCAL2150	9	2.01 (13)	1.80 (26)	1.86 (25)	1.49 (26)	1.61 (27)	1.51 (21)	1.38 (22)	11.67 (23)	97.0
Z922	9	2.07 (5)	2.03 (2)	2.04 (13)	1.52 (23)	1.62 (25)	1.27 (34)	1.04 (38)	11.58 (24)	96.3
UCAL1940	8	2.05 (7)	1.73 (33)	1.78 (33)	1.54 (19)	1.74 (19)	1.28 (33)	1.38 (24)	11.51 (26)	95.7
NM2119	8	1.98 (18)	1.93 (11)	1.79 (32)	1.39 (28)	1.42 (33)	1.45 (22)	1.53 (9)	11.48 (27)	95.5
UCAL2030	5	2.29 (1)	2.02 (5)	1.81 (30)	1.32 (33)	1.48 (30)	1.38 (28)	1.17 (35)	11.47 (28)	95.3
UCAL1920	8	1.60 (41)	1.76 (30)	2.11 (10)	1.52 (22)	1.90 (12)	1.29 (31)	0.98 (41)	11.16 (31)	92.8
NM2120	7	2.11 (3)	1.82 (21)	1.73 (36)	1.28 (36)	1.39 (34)	1.39 (27)	1.40 (21)	11.13 (32)	92.5
NM2113	7	1.88 (29)	1.65 (39)	1.68 (37)	1.42 (27)	1.49 (29)	1.39 (26)	1.37 (26)	10.88 (33)	90.5
NM2109	7.8	1.91 (27)	1.82 (24)	1.67 (38)	1.18 (39)	1.09 (41)	1.56 (19)	1.64 (4)	10.87 (34)	90.4
UCAL2020	8	2.03 (8)	1.90 (14)	1.81 (29)	1.31 (34)	1.45 (31)	1.14 (39)	1.08 (37)	10.72 (35)	89.2
Z823	8	1.98 (20)	1.66 (38)	1.77 (34)	1.21 (37)	1.35 (37)	1.40 (25)	1.29 (30)	10.65 (37)	88.6
UCAL2155	4	1.67 (40)	1.46 (41)	1.73 (35)	1.30 (35)	1.39 (35)	0.94 (41)	0.99 (40)	9.48 (41)	78.8
MEAN		1.94	1.83	1.94	1.52	1.71	1.57	1.38	11.89	
CV		12.29	16.49	27.36	36.84	44.20	40.91	24.55	22.87	
LSD (0.1)		NS	NS	NS	NS	NS	NS	0.40	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 4/16/25: Full irrigation 42.6", deficit irrigation 19.2"

Table 5. 2025 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

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
		9-Apr	16-May	17-Jun	11-Jul	12-Aug	15-Sep	23-Oct	TOTAL	CUF101
	FD	Dry t/a								
Released Varieties										
UCCibola	9	1.69 (30)	2.01 (3)	2.41 (2)	1.77 (1)	0.95 (1)	0.15 (7)	0.11 (5)	9.09 (1)	125.3
NuMex 802	8	1.87 (9)	1.97 (5)	2.49 (1)	1.72 (2)	0.65 (6)	0.11 (16)	0.05 (20)	8.85 (2)	122.1
Chema 1 - Lot 0472364	9	1.79 (20)	1.74 (29)	2.22 (6)	1.61 (4)	0.72 (3)	0.23 (2)	0.18 (3)	8.48 (5)	117.0
SW9813S	9	1.94 (5)	1.92 (9)	2.21 (8)	1.45 (14)	0.50 (16)	0.08 (24)	0.05 (26)	8.15 (8)	112.3
9R400	9	1.67 (33)	1.93 (7)	2.26 (4)	1.55 (7)	0.45 (18)	0.09 (20)	0.05 (24)	7.99 (9)	110.2
CW09084 - Lot 1042383	9	1.83 (14)	1.59 (38)	2.21 (9)	1.51 (11)	0.54 (14)	0.20 (3)	0.07 (13)	7.94 (11)	109.6
NuMex 801	8	1.79 (21)	1.68 (35)	2.03 (23)	1.49 (12)	0.66 (5)	0.02 (41)	0.06 (16)	7.72 (13)	106.5
Alphatec 821	8	1.76 (23)	1.80 (21)	2.07 (19)	1.39 (15)	0.35 (29)	0.08 (23)	0.08 (10)	7.53 (17)	103.9
HVX620RR	6	1.81 (18)	1.86 (13)	2.13 (13)	1.22 (28)	0.32 (33)	0.14 (10)	0.07 (14)	7.53 (18)	103.8
UC Impalo	9	1.93 (7)	1.74 (27)	1.71 (38)	1.32 (20)	0.59 (9)	0.04 (36)	0.04 (30)	7.38 (21)	101.7
Alphatec 921	9	1.72 (28)	1.54 (39)	2.08 (18)	1.35 (17)	0.42 (21)	0.14 (9)	0.08 (9)	7.34 (23)	101.2
CW89126 Lot#1852310	9	1.54 (40)	1.75 (24)	1.98 (27)	1.36 (16)	0.60 (8)	0.07 (28)	0.04 (31)	7.34 (24)	101.2
AmeriStand 835NTS RR	8	1.73 (27)	1.69 (34)	1.96 (29)	1.24 (23)	0.41 (24)	0.11 (13)	0.18 (2)	7.32 (25)	101.0
CUF101	9	1.56 (39)	1.64 (37)	1.98 (26)	1.28 (21)	0.56 (11)	0.12 (11)	0.09 (6)	7.25 (30)	100.0
Highline	9	1.66 (34)	1.80 (18)	2.02 (24)	1.15 (35)	0.32 (32)	0.16 (6)	0.13 (4)	7.24 (31)	99.9
Z822	8	1.97 (3)	1.82 (17)	2.06 (20)	0.96 (38)	0.23 (38)	0.06 (30)	0.03 (36)	7.14 (33)	98.5
WL3979 HVXRR	9	1.59 (37)	1.66 (36)	1.77 (36)	1.21 (29)	0.42 (20)	0.04 (38)	0.03 (40)	6.73 (38)	92.8
Gunner	5	1.74 (25)	1.73 (31)	1.61 (40)	0.87 (40)	0.12 (40)	0.03 (39)	0.03 (39)	6.14 (40)	84.7
WL 458HQ.RR	6	1.81 (17)	1.73 (30)	1.49 (41)	0.60 (41)	0.11 (41)	0.03 (40)	0.05 (28)	5.82 (41)	80.3
Experimental Varieties										
NM2119	8	2.02 (2)	1.98 (4)	2.16 (12)	1.46 (13)	0.56 (13)	0.16 (5)	0.21 (1)	8.54 (3)	117.8
NM2106	7.6	1.86 (12)	2.08 (1)	2.11 (16)	1.56 (6)	0.69 (4)	0.12 (12)	0.09 (7)	8.51 (4)	117.4
UCAL2155	4	1.87 (11)	1.96 (6)	2.27 (3)	1.54 (8)	0.62 (7)	0.11 (14)	0.05 (29)	8.41 (6)	116.0
UCAL2040	9	1.68 (31)	1.87 (11)	2.24 (5)	1.72 (3)	0.56 (12)	0.09 (22)	0.03 (41)	8.17 (7)	112.6
NM2109	7.8	2.03 (1)	2.02 (2)	2.11 (15)	1.23 (25)	0.42 (22)	0.08 (25)	0.05 (23)	7.95 (10)	109.6
Z922	9	1.93 (6)	1.87 (12)	2.19 (10)	1.23 (24)	0.40 (25)	0.08 (26)	0.05 (25)	7.75 (12)	106.9
FGI-20-RR7	7.5	1.67 (32)	1.91 (10)	2.18 (11)	1.34 (18)	0.43 (19)	0.05 (34)	0.09 (8)	7.68 (14)	105.9
UCAL2150	9	1.65 (35)	1.54 (40)	2.21 (7)	1.52 (10)	0.52 (15)	0.07 (29)	0.06 (17)	7.55 (15)	104.1
Z823	8	1.80 (19)	1.92 (8)	2.09 (17)	1.25 (22)	0.36 (28)	0.07 (27)	0.04 (33)	7.54 (16)	104.0
UCAL2010	9	1.63 (36)	1.74 (26)	2.12 (14)	1.54 (9)	0.41 (23)	0.04 (37)	0.04 (32)	7.53 (19)	103.8
UCAL1950	9	1.28 (41)	1.51 (41)	2.04 (21)	1.58 (5)	0.87 (2)	0.10 (17)	0.06 (15)	7.44 (20)	102.7
UCAL2030	5	1.85 (13)	1.84 (14)	1.86 (32)	1.34 (19)	0.39 (26)	0.05 (35)	0.03 (37)	7.37 (22)	101.6
NM2113	7	1.95 (4)	1.83 (16)	1.81 (34)	0.98 (37)	0.45 (17)	0.23 (1)	0.03 (38)	7.28 (26)	100.4
UCAL2020	8	1.83 (15)	1.80 (19)	1.97 (28)	1.19 (32)	0.35 (30)	0.09 (19)	0.05 (21)	7.28 (27)	100.4
UCAL2000	9	1.77 (22)	1.80 (20)	2.04 (22)	1.23 (26)	0.29 (35)	0.09 (18)	0.05 (19)	7.27 (28)	100.3
NM2120	7	1.91 (8)	1.79 (22)	1.88 (31)	1.20 (30)	0.39 (27)	0.06 (32)	0.04 (34)	7.26 (29)	100.2
UCAL1940	8	1.59 (38)	1.72 (32)	2.00 (25)	1.22 (27)	0.56 (10)	0.06 (31)	0.05 (22)	7.21 (32)	99.4
Z722	7	1.87 (10)	1.75 (25)	1.90 (30)	1.10 (36)	0.34 (31)	0.09 (21)	0.05 (27)	7.09 (34)	97.8
UC2705	9	1.75 (24)	1.77 (23)	1.82 (33)	1.18 (34)	0.29 (34)	0.14 (8)	0.07 (12)	7.02 (35)	96.8
FGI-19-RR9	9	1.70 (29)	1.74 (28)	1.79 (35)	1.18 (33)	0.23 (37)	0.18 (4)	0.05 (18)	6.89 (36)	95.1
UCAL1920	8	1.73 (26)	1.84 (15)	1.73 (37)	1.19 (31)	0.28 (36)	0.05 (33)	0.03 (35)	6.86 (37)	94.6
FGI-20-RR8	8	1.82 (16)	1.72 (33)	1.65 (39)	0.93 (39)	0.21 (39)	0.11 (15)	0.08 (11)	6.52 (39)	89.9
MEAN		1.77	1.80	2.02	1.31	0.45	0.10	0.07	7.51	
CV		12.98	11.92	20.01	34.42	78.57	104.16	129.28	17.61	
LSD (0.1)		0.27	0.25	NS	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 4/16/25: Full irrigation 42.6", deficit irrigation 19.2"

Table 6. 2024-2025 YIELDS, UC DAVIS ALFALFA CULTIVAR TRIAL. FULL IRRIGATION TREATMENT. TRIAL PLANTED 9/28/23

		2024	2025	Average	% of
		Yield	Yield		CUF101
	FD		Dry t/a		
Released Varieties					
CW09084 - Lot 1042383	9	10.66 (8)	15.04 (1)	12.85 (1)	121.3
SW9813S	9	11.13 (2)	14.37 (2)	12.75 (2)	120.4
UC Impalo	9	11.45 (1)	12.79 (8)	12.12 (3)	114.4
NuMex 802	8	10.36 (12)	13.85 (3)	12.10 (4)	114.3
9R400	9	10.67 (7)	12.55 (12)	11.61 (8)	109.6
AmeriStand 835NTS RR	8	9.62 (26)	13.47 (4)	11.54 (10)	109.0
NuMex 801	8	10.91 (4)	12.00 (19)	11.45 (11)	108.1
HVX620RR	6	10.14 (17)	12.48 (13)	11.31 (14)	106.8
Alphatec 821	8	10.70 (6)	11.54 (25)	11.12 (15)	105.0
UCCibola	9	9.54 (27)	12.31 (14)	10.92 (17)	103.1
Alphatec 921	9	9.88 (21)	11.76 (20)	10.82 (20)	102.2
Z822	8	9.42 (29)	12.20 (15)	10.81 (23)	102.0
CW89126 Lot#1852310	9	10.38 (11)	11.17 (30)	10.77 (24)	101.7
CUF101	9	9.16 (31)	12.03 (17)	10.59 (27)	100.0
WL3979 HVXRR	9	9.81 (23)	10.66 (36)	10.23 (34)	96.6
Highline	9	9.04 (36)	11.21 (29)	10.12 (35)	95.6
WL 458HQ.RR	6	8.72 (37)	9.87 (40)	9.29 (38)	87.7
Chema 1 - Lot 0472364	9	8.42 (39)	10.09 (38)	9.25 (39)	87.4
Gunner	5	7.90 (40)	10.08 (39)	8.99 (41)	84.9
Experimental Varieties					
FGI-20-RR8	8	10.88 (5)	13.06 (7)	11.97 (5)	113.0
Z722	7	10.15 (16)	13.44 (6)	11.80 (6)	111.4
UC2705	9	10.08 (18)	13.44 (5)	11.76 (7)	111.0
UCAL2040	9	10.47 (10)	12.71 (9)	11.59 (9)	109.4
FGI-19-RR9	9	10.21 (13)	12.59 (10)	11.40 (12)	107.7
FGI-20-RR7	7.5	10.60 (9)	12.19 (16)	11.40 (13)	107.6
NM2113	7	10.97 (3)	10.88 (33)	10.93 (16)	103.1
NM2106	7.6	9.13 (33)	12.57 (11)	10.85 (18)	102.4
UCAL1950	9	9.63 (25)	12.01 (18)	10.82 (19)	102.2
UCAL2030	5	10.17 (15)	11.47 (28)	10.82 (21)	102.1
UCAL2150	9	9.96 (20)	11.67 (23)	10.81 (22)	102.1
NM2119	8	9.97 (19)	11.48 (27)	10.73 (25)	101.3
NM2120	7	10.20 (14)	11.13 (32)	10.66 (26)	100.7
UCAL2000	9	9.26 (30)	11.76 (21)	10.51 (28)	99.2
UCAL1940	8	9.50 (28)	11.51 (26)	10.50 (29)	99.2
UCAL2010	9	9.14 (32)	11.69 (22)	10.42 (30)	98.4
Z922	9	9.07 (34)	11.58 (24)	10.33 (31)	97.5
NM2109	7.8	9.77 (24)	10.87 (34)	10.32 (32)	97.4
Z823	8	9.87 (22)	10.65 (37)	10.26 (33)	96.9
UCAL2020	8	9.06 (35)	10.72 (35)	9.89 (36)	93.4
UCAL1920	8	7.85 (41)	11.16 (31)	9.51 (37)	89.7
UCAL2155	4	8.56 (38)	9.48 (41)	9.02 (40)	85.2
MEAN		9.81	11.89	10.85	
CV		15.74	22.87	17.25	
LSD (0.1)		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.

2024 applied irrigation water beginning 4/9/24: Full irrigation 24.3", deficit irrigation 7.4"

2025 applied irrigation water beginning 4/16/25: Full irrigation 42.6", deficit irrigation 19.2"

Table 7. 2024-2025 YIELDS, UC DAVIS ALFALFA CULTIVAR TRIAL. DEFICIT IRRIGATION TREATMENT. TRIAL PLANTED 9/28/23

		2024	2025			% of
		Yield	Yield	Average		CUF101
	FD		Dry t/a			
Released Varieties						
NuMex 802	8	7.49 (5)	8.85 (2)	8.17 (1)	A	117.8
UCCibola	9	6.76 (20)	9.09 (1)	7.92 (3)	A B C	114.2
Chema 1 - Lot 0472364	9	6.79 (19)	8.48 (5)	7.63 (7)	A B C D E F	110.0
SW9813S	9	6.82 (18)	8.15 (8)	7.48 (8)	A B C D E F G	107.8
AmeriStand 835NTS RR	8	7.40 (6)	7.32 (25)	7.36 (13)	A B C D E F G H	106.1
NuMex 801	8	6.88 (16)	7.72 (13)	7.30 (15)	A B C D E F G H	105.2
CW09084 - Lot 1042383	9	6.62 (25)	7.94 (11)	7.28 (16)	A B C D E F G H	105.0
Alphatec 921	9	7.01 (14)	7.34 (23)	7.17 (19)	B C D E F G H I	103.4
9R400	9	6.30 (34)	7.99 (9)	7.15 (20)	B C D E F G H I	103.0
HVX620RR	6	6.70 (22)	7.53 (18)	7.11 (21)	B C D E F G H I	102.5
Alphatec 821	8	6.51 (29)	7.53 (17)	7.02 (25)	C D E F G H I	101.2
CW89126 Lot#1852310	9	6.67 (23)	7.34 (24)	7.00 (27)	D E F G H I	100.9
UC Impalo	9	6.61 (27)	7.38 (21)	7.00 (28)	D E F G H I	100.8
CUF101	9	6.63 (24)	7.25 (30)	6.94 (30)	F G H I J	100.0
Z822	8	6.52 (28)	7.14 (33)	6.83 (33)	F G H I J K	98.4
Highline	9	6.41 (31)	7.24 (31)	6.82 (34)	F G H I J K	98.3
WL3979 HVXRR	9	6.62 (26)	6.73 (38)	6.67 (37)	G H I J K	96.2
WL 458HQ.RR	6	6.33 (33)	5.82 (41)	6.08 (40)	J K	87.6
Gunner	5	5.81 (40)	6.14 (40)	5.97 (41)	K	86.1
Experimental Varieties						
NM2106	7.6	7.37 (7)	8.51 (4)	7.94 (2)	A B	114.4
NM2109	7.8	7.85 (2)	7.95 (10)	7.90 (4)	A B C D	113.8
NM2119	8	7.18 (11)	8.54 (3)	7.86 (5)	A B C D E	113.3
Z922	9	7.96 (1)	7.75 (12)	7.86 (6)	A B C D E	113.2
NM2120	7	7.57 (3)	7.26 (29)	7.42 (9)	A B C D E F G H	106.9
UCAL2020	8	7.55 (4)	7.28 (27)	7.42 (10)	A B C D E F G H	106.9
FGI-20-RR7	7.5	7.10 (13)	7.68 (14)	7.39 (11)	A B C D E F G H	106.5
Z823	8	7.20 (9)	7.54 (16)	7.37 (12)	A B C D E F G H	106.2
NM2113	7	7.35 (8)	7.28 (26)	7.32 (14)	A B C D E F G H	105.4
UCAL2040	9	6.28 (36)	8.17 (7)	7.22 (17)	B C D E F G H I	104.1
UCAL2155	4	5.95 (39)	8.41 (6)	7.18 (18)	B C D E F G H I	103.4
Z722	7	7.11 (12)	7.09 (34)	7.10 (22)	B C D E F G H I	102.4
UCAL1940	8	6.89 (15)	7.21 (32)	7.05 (23)	B C D E F G H I	101.6
FGI-19-RR9	9	7.20 (10)	6.89 (36)	7.04 (24)	B C D E F G H I	101.5
UCAL2000	9	6.76 (21)	7.27 (28)	7.01 (26)	D E F G H I	101.1
UCAL2150	9	6.40 (32)	7.55 (15)	6.98 (29)	E F G H I J	100.6
UCAL2010	9	6.29 (35)	7.53 (19)	6.91 (31)	F G H I J	99.5
UCAL2030	5	6.43 (30)	7.37 (22)	6.90 (32)	F G H I J	99.4
UCAL1950	9	6.09 (38)	7.44 (20)	6.77 (35)	F G H I J K	97.5
FGI-20-RR8	8	6.84 (17)	6.52 (39)	6.68 (36)	G H I J K	96.3
UCAL1920	8	6.23 (37)	6.86 (37)	6.54 (38)	H I J K	94.3
UC2705	9	5.67 (41)	7.02 (35)	6.34 (39)	I J K	91.4
MEAN		6.78	7.51	7.15		
CV		11.52	17.61	10.64		
LSD (0.1)		0.93	NS	0.91		

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.

2024 applied irrigation water beginning 4/9/24: Full irrigation 24.3", deficit irrigation 7.4"

2025 applied irrigation water beginning 4/16/25: Full irrigation 42.6", deficit irrigation 19.2"

Table 8. 2025 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

		Cut 1	Cut 2	Cut 3	Cut 4	Cut 5	Cut 6	Cut 7	Cut 8	Cut 9	Cut 10	Cut 11	YEAR		% of
	FD	21-Jan	24-Feb	31-Mar	30-Apr	28-May	23-Jun	21-Jul	18-Aug	16-Sep	15-Oct	8-Dec	TOTAL		CUF 101
Dry t/a															
Released Varieties															
WL656HQ	9	0.87 (9)	1.06 (16)	1.53 (5)	1.82 (14)	2.02 (12)	1.45 (9)	1.37 (11)	0.89 (11)	0.43 (22)	0.34 (9)	0.82 (11)	12.60 (8)	D E F	121.1
Chema 1	9	0.89 (6)	1.05 (17)	1.31 (28)	1.62 (29)	1.85 (29)	1.46 (8)	1.36 (12)	0.98 (6)	0.59 (5)	0.42 (6)	0.89 (5)	12.43 (10)	D E F	119.5
Highline	9	0.88 (8)	1.15 (8)	1.62 (1)	1.83 (11)	1.97 (18)	1.39 (13)	1.38 (8)	0.77 (22)	0.34 (29)	0.20 (29)	0.74 (21)	12.27 (12)	D E F G	118.0
Alphatec 921	9	0.67 (25)	1.09 (9)	1.47 (11)	1.83 (13)	2.05 (7)	1.22 (26)	1.28 (20)	0.92 (7)	0.54 (8)	0.36 (8)	0.82 (10)	12.26 (13)	D E F G H	117.8
Alphatec 821	8	0.67 (24)	1.02 (20)	1.47 (14)	1.90 (2)	1.98 (16)	1.31 (20)	1.38 (9)	0.88 (12)	0.44 (21)	0.28 (17)	0.80 (14)	12.14 (15)	D E F G H I	116.7
Magna 995	9	0.73 (18)	1.07 (14)	1.41 (20)	1.88 (4)	2.10 (4)	1.36 (15)	1.32 (17)	0.77 (21)	0.45 (19)	0.25 (21)	0.74 (22)	12.09 (16)	D E F G H I J	116.2
CW89126	9	0.75 (15)	1.06 (15)	1.37 (25)	1.84 (10)	1.95 (20)	1.46 (7)	1.33 (15)	0.77 (20)	0.45 (18)	0.30 (13)	0.78 (15)	12.07 (17)	D E F G H I J	116.1
UC Impalo	9	0.89 (7)	1.04 (18)	1.45 (16)	1.72 (23)	1.91 (24)	1.31 (21)	1.32 (16)	0.80 (19)	0.48 (14)	0.24 (24)	0.74 (19)	11.90 (20)	E F G H I J	114.4
UCObola	9	0.62 (28)	0.98 (23)	1.38 (24)	1.66 (27)	1.77 (30)	1.36 (16)	1.22 (26)	0.75 (25)	0.48 (13)	0.29 (14)	0.81 (12)	11.31 (23)	G H I J K	108.8
CW09084	9	0.68 (23)	0.98 (24)	1.38 (23)	1.72 (22)	1.92 (22)	1.34 (18)	1.26 (21)	0.74 (27)	0.42 (25)	0.18 (30)	0.68 (26)	11.30 (24)	G H I J K	108.7
SW9813S	9	0.71 (20)	0.96 (26)	1.20 (31)	1.67 (26)	1.99 (15)	1.21 (27)	1.20 (27)	0.76 (24)	0.50 (12)	0.20 (28)	0.66 (28)	11.05 (27)	J K	106.3
CUF 101	9	0.57 (30)	0.93 (28)	1.22 (30)	1.48 (32)	1.63 (32)	1.27 (23)	1.13 (30)	0.68 (31)	0.47 (15)	0.27 (19)	0.74 (20)	10.40 (31)	K L	100.0
Experimental Varieties															
C1022TF592	10	1.13 (3)	1.19 (3)	1.56 (2)	1.84 (9)	2.21 (1)	1.78 (2)	1.76 (1)	1.12 (3)	0.74 (2)	0.63 (1)	1.03 (1)	15.00 (1)	A	144.3
C1120TF854	11	1.28 (1)	1.41 (1)	1.45 (15)	1.83 (12)	2.05 (8)	1.87 (1)	1.69 (2)	1.14 (1)	0.71 (3)	0.52 (3)	0.96 (2)	14.92 (2)	A	143.5
C1122TF599	11	1.19 (2)	1.26 (2)	1.52 (7)	1.85 (8)	2.02 (10)	1.75 (4)	1.64 (3)	1.13 (2)	0.86 (1)	0.55 (2)	0.94 (4)	14.71 (3)	A B	141.4
C1020ML851	10	0.76 (14)	1.16 (6)	1.51 (8)	1.85 (6)	2.15 (3)	1.76 (3)	1.46 (4)	1.08 (4)	0.66 (4)	0.44 (4)	0.95 (3)	13.78 (4)	B C	132.5
C1120TF855	11	0.97 (4)	1.17 (4)	1.44 (17)	1.77 (18)	2.02 (13)	1.56 (5)	1.46 (5)	0.92 (8)	0.52 (11)	0.41 (7)	0.86 (6)	13.09 (5)	C D	125.8
UCAL1940	8	0.86 (10)	1.16 (5)	1.50 (9)	1.92 (1)	2.07 (6)	1.42 (11)	1.41 (6)	0.99 (5)	0.31 (30)	0.30 (12)	0.77 (18)	12.72 (6)	D E	122.3
UCAL1911	8	0.79 (12)	1.09 (12)	1.47 (12)	1.80 (15)	2.16 (2)	1.37 (14)	1.32 (18)	0.88 (15)	0.53 (9)	0.43 (5)	0.86 (8)	12.69 (7)	D E F	122.0
UCAL2040	9	0.97 (5)	1.15 (7)	1.54 (4)	1.79 (16)	2.02 (11)	1.42 (10)	1.23 (25)	0.88 (14)	0.44 (20)	0.33 (10)	0.80 (13)	12.57 (9)	D E F	120.9
C1020TF852	10	0.73 (17)	1.08 (13)	1.47 (13)	1.70 (24)	2.03 (9)	1.56 (6)	1.34 (13)	0.87 (16)	0.46 (16)	0.28 (16)	0.77 (17)	12.30 (11)	D E F G	118.2
UCAL2000	9	0.85 (11)	1.09 (11)	1.48 (10)	1.76 (19)	1.85 (28)	1.30 (22)	1.33 (14)	0.91 (9)	0.52 (10)	0.32 (11)	0.77 (16)	12.20 (14)	D E F G H	117.3
UCAL2010	9	0.66 (26)	0.92 (31)	1.41 (21)	1.75 (20)	1.92 (23)	1.41 (12)	1.37 (10)	0.90 (10)	0.56 (6)	0.29 (15)	0.86 (7)	12.05 (18)	D E F G H I J	115.8
UCAL1950	9	0.77 (13)	1.01 (22)	1.37 (26)	1.78 (17)	1.91 (25)	1.25 (24)	1.41 (7)	0.88 (13)	0.56 (7)	0.27 (20)	0.74 (23)	11.93 (19)	E F G H I J	114.7
UCAL2150	9	0.69 (22)	1.02 (19)	1.56 (3)	1.75 (21)	1.98 (17)	1.19 (29)	1.29 (19)	0.81 (18)	0.45 (17)	0.28 (18)	0.84 (9)	11.85 (21)	E F G H I J	113.9
UCAL2020	8	0.73 (19)	1.02 (21)	1.39 (22)	1.88 (3)	2.10 (5)	1.35 (17)	1.25 (23)	0.76 (23)	0.26 (32)	0.22 (26)	0.67 (27)	11.64 (22)	F G H I J	111.9
UC2705	8	0.74 (16)	0.97 (25)	1.28 (29)	1.55 (31)	1.96 (19)	1.33 (19)	1.24 (24)	0.81 (17)	0.42 (24)	0.25 (22)	0.64 (30)	11.20 (25)	H I J K	107.7
Z823	8	0.63 (27)	1.09 (10)	1.42 (19)	1.70 (25)	1.94 (21)	1.10 (30)	1.19 (28)	0.75 (26)	0.35 (27)	0.25 (23)	0.73 (24)	11.14 (26)	I J K	107.1
Z922	9	0.56 (31)	0.83 (32)	1.43 (18)	1.85 (7)	1.90 (26)	1.19 (28)	1.25 (22)	0.68 (30)	0.41 (26)	0.23 (25)	0.70 (25)	11.05 (28)	J K	106.3
Z722	7	0.62 (29)	0.92 (30)	1.53 (6)	1.88 (5)	2.00 (14)	1.23 (25)	1.09 (32)	0.67 (32)	0.34 (28)	0.15 (31)	0.62 (31)	11.04 (29)	J K	106.2
UCAL1920	8	0.70 (21)	0.95 (27)	1.33 (27)	1.65 (28)	1.71 (31)	1.03 (31)	1.10 (31)	0.70 (28)	0.42 (23)	0.22 (27)	0.65 (29)	10.45 (30)	K L	100.5
Z822	8	0.54 (32)	0.92 (29)	1.15 (32)	1.59 (30)	1.89 (27)	0.98 (32)	1.18 (29)	0.69 (29)	0.29 (31)	0.13 (32)	0.57 (32)	9.94 (32)	L	95.6
MEAN		0.78	1.06	1.43	1.77	1.97	1.37	1.33	0.85	0.48	0.31	0.78	12.13		
CV		14.23	13.46	12.11	11.04	10.45	9.86	8.94	15.11	26.76	32.96	15.76	7.28		
LSD (0.1)		0.13	0.17	0.21	NS	0.25	0.16	0.14	0.15	0.15	0.12	0.15	1.06		

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.

2025 applied irrigation w ater beginning 1/21/25: Full irrigation 56.3", deficit irrigation 35.6"

Table 9. 2025 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	Cut 8	Cut 9	Cut 10	Cut 11	YEAR		% of
	FD	21-Jan	24-Feb	31-Mar	30-Apr	28-May	23-Jun	21-Jul	18-Aug	16-Sep	15-Oct	8-Dec	TOTAL		CUF 101
		Dry t/a													
Released Varieties															
Chema 1	9	0.80 (8)	1.01 (4)	1.24 (20)	1.83 (14)	1.94 (3)	1.32 (6)	0.88 (7)	0.46 (1)	0.12 (13)	0.07 (16)	0.97 (12)	10.64 (4)	A B C	118.6
WL656HQ	9	0.74 (12)	0.92 (12)	1.33 (6)	1.77 (19)	1.88 (6)	1.25 (7)	0.84 (9)	0.08 (29)	0.11 (15)	0.07 (14)	0.99 (7)	9.98 (7)	C D E F	111.3
SW9813S	9	0.73 (13)	1.00 (5)	1.21 (24)	1.86 (11)	1.96 (2)	1.06 (20)	0.77 (19)	0.21 (3)	0.14 (7)	0.09 (5)	0.69 (32)	9.71 (11)	C D E F G	108.3
Alphatec 821	8	0.56 (29)	0.98 (7)	1.30 (12)	1.88 (9)	1.78 (14)	1.01 (25)	0.96 (4)	0.12 (16)	0.10 (21)	0.07 (15)	0.91 (20)	9.66 (12)	C D E F G	107.7
Highline	9	0.68 (17)	0.90 (19)	1.27 (15)	1.79 (18)	1.87 (8)	1.15 (15)	0.82 (14)	0.10 (23)	0.08 (27)	0.06 (21)	0.90 (22)	9.62 (14)	D E F G H	107.2
CW89126	9	0.79 (10)	0.91 (13)	1.27 (14)	1.82 (15)	1.80 (11)	1.15 (14)	0.75 (21)	0.11 (20)	0.07 (29)	0.08 (7)	0.84 (25)	9.60 (15)	D E F G H	107.0
UC Impalo	9	0.81 (7)	0.91 (14)	1.25 (19)	1.75 (22)	1.67 (25)	1.15 (13)	0.77 (20)	0.13 (9)	0.11 (18)	0.07 (11)	0.96 (13)	9.60 (16)	D E F G H	107.0
Alphatec 921	9	0.65 (20)	0.90 (17)	1.30 (10)	1.83 (13)	1.63 (27)	1.00 (27)	0.81 (15)	0.12 (11)	0.12 (11)	0.07 (10)	0.94 (18)	9.38 (22)	D E F G H I	104.6
UCQbola	9	0.60 (25)	0.88 (20)	1.26 (17)	1.67 (27)	1.68 (23)	1.06 (18)	0.73 (25)	0.13 (7)	0.23 (2)	0.09 (3)	0.87 (23)	9.22 (23)	E F G H I	102.7
CUF 101	9	0.47 (31)	0.73 (31)	1.09 (31)	1.53 (32)	1.73 (18)	0.84 (31)	0.91 (6)	0.25 (2)	0.27 (1)	0.13 (1)	1.03 (3)	8.97 (26)	F G H I J	100.0
Magna 995	9	0.59 (27)	0.81 (29)	1.11 (30)	1.64 (30)	1.65 (26)	1.06 (19)	0.71 (29)	0.10 (22)	0.06 (32)	0.06 (18)	0.77 (30)	8.55 (30)	I J K	95.4
CW09084	9	0.57 (28)	0.72 (32)	1.08 (32)	1.64 (29)	1.37 (32)	0.93 (29)	0.60 (31)	0.05 (32)	0.11 (14)	0.05 (31)	0.78 (29)	7.90 (32)	K	88.1
Experimental Varieties															
C1022TF592	10	1.00 (3)	1.04 (2)	1.38 (2)	2.04 (1)	1.98 (1)	1.55 (2)	1.10 (2)	0.09 (24)	0.14 (6)	0.08 (6)	1.07 (1)	11.47 (1)	A	127.9
C1122TF599	11	1.03 (2)	1.10 (1)	1.40 (1)	1.88 (7)	1.92 (4)	1.64 (1)	1.13 (1)	0.14 (6)	0.14 (5)	0.06 (17)	1.02 (4)	11.46 (2)	A	127.8
C1120TF854	11	1.08 (1)	1.03 (3)	1.34 (5)	1.91 (5)	1.89 (5)	1.53 (3)	1.08 (3)	0.13 (8)	0.10 (20)	0.07 (8)	0.96 (14)	11.13 (3)	A B	124.1
C1120TF855	11	0.84 (4)	0.98 (8)	1.31 (9)	1.95 (3)	1.79 (13)	1.36 (4)	0.83 (10)	0.09 (27)	0.10 (22)	0.06 (27)	1.00 (5)	10.30 (5)	B C D	114.9
UCAL2000	9	0.83 (5)	0.95 (9)	1.35 (4)	1.81 (16)	1.87 (9)	1.21 (9)	0.93 (5)	0.10 (21)	0.10 (19)	0.06 (22)	0.97 (11)	10.19 (6)	B C D E	113.6
UCAL1920	8	0.77 (11)	0.99 (6)	1.20 (26)	1.85 (12)	1.88 (7)	1.02 (22)	0.83 (11)	0.15 (4)	0.14 (8)	0.10 (2)	1.04 (2)	9.96 (8)	C D E F	111.1
C1020ML851	10	0.72 (14)	0.93 (10)	1.27 (16)	1.93 (4)	1.68 (24)	1.35 (5)	0.79 (18)	0.08 (28)	0.11 (16)	0.07 (13)	0.95 (16)	9.88 (9)	C D E F	110.2
C1020TF852	10	0.80 (9)	0.88 (21)	1.25 (18)	1.75 (23)	1.82 (10)	1.20 (11)	0.85 (8)	0.11 (19)	0.18 (3)	0.06 (25)	0.90 (21)	9.77 (10)	C D E F	108.9
UC2705	8	0.67 (19)	0.93 (11)	1.30 (11)	1.76 (21)	1.73 (20)	1.19 (12)	0.83 (13)	0.12 (10)	0.09 (23)	0.06 (20)	0.96 (15)	9.63 (13)	C D E F G	107.4
UCAL2040	9	0.69 (15)	0.87 (22)	1.23 (22)	1.77 (20)	1.74 (17)	1.21 (10)	0.80 (17)	0.09 (25)	0.14 (9)	0.06 (23)	0.98 (8)	9.57 (17)	D E F G H I	106.7
Z722	7	0.53 (30)	0.90 (16)	1.27 (13)	1.98 (2)	1.73 (19)	1.11 (17)	0.74 (22)	0.12 (13)	0.11 (17)	0.07 (12)	1.00 (6)	9.57 (18)	D E F G H I	106.6
Z823	8	0.61 (24)	0.91 (15)	1.36 (3)	1.86 (10)	1.72 (21)	1.01 (26)	0.81 (16)	0.15 (5)	0.17 (4)	0.07 (9)	0.82 (27)	9.49 (19)	D E F G H I	105.7
UCAL2150	9	0.69 (16)	0.87 (23)	1.32 (7)	1.88 (8)	1.74 (16)	1.05 (21)	0.71 (28)	0.12 (14)	0.08 (28)	0.06 (26)	0.98 (9)	9.47 (20)	D E F G H I	105.6
UCAL2010	9	0.59 (26)	0.84 (27)	1.18 (27)	1.80 (17)	1.80 (12)	1.22 (8)	0.83 (12)	0.12 (17)	0.07 (31)	0.06 (30)	0.93 (19)	9.44 (21)	D E F G H I	105.2
UCAL1911	8	0.64 (21)	0.86 (25)	1.20 (25)	1.72 (25)	1.76 (15)	1.13 (16)	0.72 (26)	0.07 (30)	0.08 (25)	0.06 (19)	0.97 (10)	9.21 (24)	E F G H I	102.7
UCAL1940	8	0.81 (6)	0.90 (18)	1.22 (23)	1.65 (28)	1.70 (22)	1.02 (23)	0.72 (27)	0.06 (31)	0.08 (26)	0.06 (29)	0.95 (17)	9.16 (25)	F G H I	102.1
UCAL2020	8	0.61 (23)	0.86 (24)	1.24 (21)	1.75 (24)	1.61 (28)	0.96 (28)	0.74 (23)	0.12 (12)	0.12 (12)	0.09 (4)	0.87 (24)	8.97 (27)	F G H I J	100.0
Z822	8	0.63 (22)	0.82 (28)	1.31 (8)	1.88 (6)	1.60 (29)	0.75 (32)	0.62 (30)	0.12 (15)	0.13 (10)	0.06 (24)	0.80 (28)	8.72 (28)	G H I J K	97.2
UCAL1950	9	0.67 (18)	0.84 (26)	1.15 (28)	1.58 (31)	1.58 (30)	1.01 (24)	0.73 (24)	0.09 (26)	0.07 (30)	0.06 (28)	0.82 (26)	8.60 (29)	H I J K	95.9
Z922	9	0.43 (32)	0.75 (30)	1.11 (29)	1.68 (26)	1.55 (31)	0.86 (30)	0.59 (32)	0.11 (18)	0.08 (24)	0.05 (32)	0.77 (31)	7.99 (31)	J K	89.1
MEAN		0.71	0.90	1.25	1.79	1.75	1.14	0.81	0.13	0.12	0.07	0.92	9.59		
CV		12.69	12.86	11.19	9.88	12.73	14.63	21.27	96.91	65.77	54.98	16.90	8.86		
LSD (0.1)		0.11	0.14	NS	0.21	0.27	0.20	0.21	NS	NS	NS	0.19	1.02		

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.

2025 applied irrigation water beginning 1/21/25: Full irrigation 56.3", deficit irrigation 35.6"

Table 10. 2024-2025 YIELDS, EL CENTRO ALFALFA CULTIVAR TRIAL. FULL IRRIGATION TREATMENT. TRIAL PLANTED 11/1/23

		2024	2025			% of
		Yield	Yield	Average		CUF 101
	FD		Dry t/a			
Released Varieties						
WL656HQ	9	8.43 (14)	12.60 (8)	10.51 (10)	D E F	112.7
Highline	9	8.58 (10)	12.27 (12)	10.43 (11)	D E F G	111.8
Alphatec 921	9	8.52 (11)	12.26 (13)	10.39 (12)	E F G H	111.4
Alphatec 821	8	8.61 (9)	12.14 (15)	10.38 (13)	E F G H	111.2
Chema 1	9	8.32 (21)	12.43 (10)	10.38 (14)	E F G H	111.2
CW89126	9	8.41 (16)	12.07 (17)	10.24 (18)	F G H I J	109.8
UC Impalo	9	8.39 (18)	11.90 (20)	10.15 (20)	F G H I J K	108.8
Magna 995	9	8.11 (29)	12.09 (16)	10.10 (22)	F G H I J K L	108.3
CW09084	9	8.36 (20)	11.30 (24)	9.83 (23)	G H I J K L M	105.4
UCCibola	9	8.28 (25)	11.31 (23)	9.79 (24)	G H I J K L M	105.0
SW9813S	9	7.96 (30)	11.05 (27)	9.51 (29)	L M N	101.9
CUF 101	9	8.26 (26)	10.40 (31)	9.33 (30)	M N O	100.0
Experimental Varieties						
C1120TF854	11	9.48 (1)	14.92 (2)	12.20 (1)	A	130.8
C1022TF592	10	9.22 (3)	15.00 (1)	12.11 (2)	A	129.9
C1122TF599	11	8.84 (8)	14.71 (3)	11.77 (3)	A B	126.2
C1020ML851	10	9.01 (5)	13.78 (4)	11.40 (4)	B C	122.2
C1120TF855	11	9.00 (6)	13.09 (5)	11.04 (5)	C D	118.4
UCAL2040	9	9.19 (4)	12.57 (9)	10.88 (6)	C D E	116.7
UCAL2010	9	9.34 (2)	12.05 (18)	10.69 (7)	D E F	114.6
UCAL1940	8	8.47 (13)	12.72 (6)	10.60 (8)	D E F	113.6
UCAL1911	8	8.40 (17)	12.69 (7)	10.55 (9)	D E F	113.0
UCAL2000	9	8.41 (15)	12.20 (14)	10.30 (15)	E F G H	110.5
C1020TF852	10	8.30 (23)	12.30 (11)	10.30 (16)	E F G H I	110.4
UCAL2020	8	8.87 (7)	11.64 (22)	10.25 (17)	E F G H I J	109.9
UCAL2150	9	8.49 (12)	11.85 (21)	10.17 (19)	F G H I J K	109.0
UCAL1950	9	8.31 (22)	11.93 (19)	10.12 (21)	F G H I J K L	108.5
Z823	8	8.38 (19)	11.14 (26)	9.76 (25)	H I J K L M	104.6
Z722	7	8.29 (24)	11.04 (29)	9.67 (26)	I J K L M	103.6
UC2705	8	8.12 (28)	11.20 (25)	9.66 (27)	J K L M	103.5
Z922	9	8.12 (27)	11.05 (28)	9.59 (28)	K L M N	102.8
UCAL1920	8	7.51 (31)	10.45 (30)	8.98 (31)	N O	96.3
Z822	8	7.47 (32)	9.94 (32)	8.70 (32)	O	93.3
MEAN		8.48	12.13	10.31		
CV		5.27	7.28	5.13		
LSD (0.1)		0.54	1.06	0.63		

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.
2024 applied irrigation water beginning 4/9/24: Full irrigation 69.1", deficit irrigation 32.1"
2025 applied irrigation water beginning 1/21/25: Full irrigation 56.3", deficit irrigation 35.6"

Table 11. 2024-2025 YIELDS, EL CENTRO ALFALFA CULTIVAR TRIAL. DEFICIT IRRIGATION TREATMENT. TRIAL PLANTED 11/1/23

		2024	2025		% of
		Yield	Yield	Average	CUF 101
	FD		Dry t/a		
Released Varieties					
Chema 1	9	7.52 (4)	10.64 (4)	9.08 (4)	B C D 112.4
UC Impalo	9	7.73 (3)	9.60 (16)	8.67 (8)	C D E F G 107.3
WL656HQ	9	7.20 (17)	9.98 (7)	8.59 (9)	D E F G 106.3
SW9813S	9	7.39 (9)	9.71 (11)	8.55 (11)	D E F G H 105.9
Highline	9	7.43 (8)	9.62 (14)	8.52 (12)	D E F G H 105.5
Alphatec 821	8	7.34 (13)	9.66 (12)	8.50 (13)	D E F G H 105.2
CW89126	9	7.35 (12)	9.60 (15)	8.48 (14)	D E F G H 105.0
Alphatec 921	9	7.05 (22)	9.38 (22)	8.21 (20)	F G H I J K 101.7
UCCibola	9	7.20 (16)	9.22 (23)	8.21 (21)	F G H I J K 101.7
CUF 101	9	7.18 (18)	8.97 (26)	8.08 (24)	G H I J K L 100.0
Magna 995	9	6.85 (28)	8.55 (30)	7.70 (30)	K L 95.3
CW09084	9	7.17 (19)	7.90 (32)	7.53 (31)	L 93.3
Experimental Varieties					
C1122TF599	11	8.04 (1)	11.46 (2)	9.75 (1)	A 120.7
C1022TF592	10	7.46 (6)	11.47 (1)	9.47 (2)	A B 117.2
C1120TF854	11	7.44 (7)	11.13 (3)	9.29 (3)	A B C 115.0
C1120TF855	11	7.48 (5)	10.30 (5)	8.89 (5)	B C D E 110.1
UCAL2000	9	7.38 (10)	10.19 (6)	8.79 (6)	C D E F 108.8
UCAL2010	9	7.98 (2)	9.44 (21)	8.71 (7)	C D E F G 107.9
C1020ML851	10	7.28 (14)	9.88 (9)	8.58 (10)	D E F G 106.2
UCAL2040	9	7.37 (11)	9.57 (17)	8.47 (15)	D E F G H 104.9
C1020TF852	10	7.04 (24)	9.77 (10)	8.41 (16)	E F G H I 104.1
Z722	7	7.14 (20)	9.57 (18)	8.35 (17)	E F G H I J 103.4
UC2705	8	6.93 (25)	9.63 (13)	8.28 (18)	E F G H I J K 102.5
UCAL2150	9	7.05 (21)	9.47 (20)	8.26 (19)	E F G H I J K 102.3
UCAL1920	8	6.29 (32)	9.96 (8)	8.13 (22)	G H I J K L 100.6
UCAL2020	8	7.22 (15)	8.97 (27)	8.10 (23)	G H I J K L 100.3
Z823	8	6.67 (30)	9.49 (19)	8.08 (25)	G H I J K L 100.0
UCAL1911	8	6.91 (27)	9.21 (24)	8.06 (26)	G H I J K L 99.8
UCAL1940	8	6.66 (31)	9.16 (25)	7.91 (27)	H I J K L 97.9
UCAL1950	9	6.93 (26)	8.60 (29)	7.77 (28)	I J K L 96.1
Z822	8	6.68 (29)	8.72 (28)	7.70 (29)	J K L 95.4
Z922	9	7.04 (23)	7.99 (31)	7.52 (32)	L 93.1
MEAN		7.20	9.59	8.39	
CV		6.92	8.86	6.47	
LSD (0.1)		0.60	1.02	0.65	

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.

2024 applied irrigation water beginning 4/9/24: Full irrigation 69.1", deficit irrigation 32.1"

2025 applied irrigation water beginning 1/21/25: Full irrigation 56.3", deficit irrigation 35.6"

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.

	Rating Factor										
	Fall Dormancy	Spotted Alfalfa Aphid	Pea Aphid	Blue Alfalfa Aphid	Phytophthora Root Rot	Bacterial Wilt	Fusarium Wilt	Southern Anthracnose	Stem Nematode	Root Knot Nematode	Verticillium Wilt
Production Zone	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 ¹
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)

¹ 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.