UC Cooperative Extension
University of California
Agriculture & Natural Resources

Sacramento Valley Prune Newsletter
April 2026

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What's Inside

Upcoming UC Extension Events

	Event	Date	Location	Contact
1	**Nickels Field Day**	May 19	Arbuckle	Franz Niederholzer
2	**TTTF: Management practice economics**	May 21	Yuba City	Domena Agyeman
3	**TTTF: Almond variety and rootstock trials**	Jun 18	Orland	Luke Milliron
4	**Prune Research Tour, Part 1**	Jun 24	Orland	Jaime Ott
5	**TTTF: Walnut mold management**	Jul 16	Yuba City	Jaime Ott
6	**Prune Research Tour, Part 2**	Jul 23	Yuba City	Jaime Ott
7	**TTTF: Labor economics**	Aug 20	Orland	Domena Agyeman
8	**TTTF: IPM Review 2026**	Nov 19	Yuba City	Sudan Gyawaly
9	**Prune Research Conference**	Dec 15+16	TBD	Jaime Ott
10	**TTTF: Prune Dormancy**	TBD	TBD	Franz Niederholzer

Article 1: 2026 Prune Orchard Considerations - Spring/Summer

Maria Perez, Orchard Systems Lab Assistant, Sutter/Yuba County
Guadalupe Tejeda, Orchard Systems Lab Assistant, Glenn County

Mid-April

- Crop Assessment:

Thinning should be considered beginning at the orchard's 'reference date', about one week after the pit tip begins to harden. Reference date could be as early as mid-April this year, although typically in late April or early May. Estimate crop load at reference date to make thinning decisions with our thinning calculator. For more information on cropload estimation, see the article New Technology Spotlight: cropload estimation in prunes.

- Plant Nutrition:

As an estimate for crop load is conducted, consider developing the nitrogen (N) budget for the 2026 season, with a possible application towards the end of April. For optimal nitrogen uptake, several smaller applications of nitrogen are recommended from April to August, each no more than 30% of the total budget. For foliar potassium applications, spraying is recommended in late April, and any additional applications should be done every 2-3 weeks. CDFA has a crop fertilization guideline for prunes that can provide more information.

- Irrigation:

To ensure your orchard obtains the appropriate amount of water as the growing season begins and temperatures rise, starts with a maintenance check on your irrigation system. Address issues such as broken lines or replacing filter media. A free irrigation system analysis via Mobile Irrigation Labs is also available to farmers to run efficiency and performance tests throughout the entire system. If you are interested in more information, you can learn more here.

Monitoring soil moisture levels using soil moisture sensors and/or measuring plant water status with a pressure chamber can assist you in deciding when to apply the first irrigation. See this article on Determining When to Start Irrigation in Prune for more information.

Utilizing Weekly ET Reports can help determine the amount of irrigation needed each week.

- Aphid:

Consider conducting weekly monitoring for leaf curl plum aphid and mealy plum aphid as colonies can expand soon after bloom and leaf out occurs in the orchards. Weekly monitoring of 40 trees/block can help determine whether the level of aphid infestation is significant enough to begin spraying. Refer to Managing aphids in prune orchards for more information

- Peach twig borer and oblique-banded leaf roller:

Consider monitoring traps for peach twig borer (PTB) and oblique-banded leaf roller (OBLR) in the orchard to help establish biofix dates. Once biofix has been established, start accumulating degree days to estimate when to begin fruit

inspection. Fruit feeding by peach twig borer and/or oblique-banded leaf roller can lead to higher fruit brown rot risk closer to harvest. Managing these worm pests can help manage fruit brown rot and San Jose Scale

If a biofix was not determined in February using pheromone traps, consider utilizing double sided sticky tape in April to monitor crawler emergence. Continue regular monitoring of San Jose Scale population in the orchard and review treatment plans around 600-700 degree days after establishing a pheromone trap biofix to localize emerging crawlers.

May

- Irrigation:

Continue to monitor your orchard utilizing soil moisture sensors, a pressure chamber, and/or weekly ET to prevent fruit damage (fruit end cracking) and maintain adequate levels of moisture. The months of May and June are critical when it comes to preventing end-cracking following irrigation of dry orchards. Monitor weather forecasts for sudden spikes in temperature (15-20 degree increases), typically in late May or early June as the summer season begins. As heat increases, ensure that orchards aren't behind in irrigation to reduce damage caused by sunburn.

- Rust:

Starting May 1, monitor for leaf rust by doing weekly surveys of 40 trees until July 15. Check lower areas of the tree's canopy for leaf symptoms, paying close attention to non-bearing replants, previous hot spots, and exceptionally vigorous trees. Treatment can be taken into consideration when the first signs of rust are found.

- Peach Twig Borer:

Examine fruit 400 degree days after the first biofix occurs for peach twig borer fruit feeding. In the orchard, look for any larvae entry points on the fruit (ideally 15 fruit from 80 trees), especially when there is fruit to fruit contact or fruit to leaf contact. Treat trees if 2% or more (24+ of 1,200) of the fruits have damage.

- Oblique-Banded Leaf Roller:

Start sampling fruit for oblique-banded leaf roller damage 930 degree days after the biofix. Follow the same sampling protocol and treatment threshold as with peach twig borer.

- Aphids:

Leaf curl plum aphids move onto summer hosts in May, however mealy plum aphids stay in orchards until mid-July. If there is a heavy infestation of mealy plum aphids, it can limit the development of flower buds this year, which can mean less crop for the following year.

- Fertility:

If a good crop is set, continue with nitrogen and potassium fertilization program. More than 50% of the annual nitrogen budget should be applied before June 1.

June

- Irrigation:

To avoid excessive vegetative growth and associated pruning costs without slowing fruit sizing, maintain a mild to moderate tree water stress -12 to -15 bars using a

pressure chamber from late June through early August. More information regarding irrigation management can be found here

- Pest management:

Continue monitoring for Aphids, Peach Twig Borer, Oblique-Banded Leaf Roller, and Rust.

Spider Mites: Starting June 1, consider doing a survey on two spotted spider mites within each orchard block every week. During this survey, spend about five minutes checking 2-3 leaves that are located inside and outside the canopy on 10 trees. Look for any spider mites and their natural predators such as predaceous mites and sixspotted thrips. Treatment management should be based on the population levels of both mites and predators established from the survey conducted. See article on Managing webspinning spider mites in prunes for more information.

Article 2: New Stem Water Potential Calculator Available Online

Curt Pierce, Irrigation and Water Resources Advisor, Glenn, Tehama, Colusa, and Shasta Counties

If you are using a pressure chamber or FloraPulse sensors to manage your prune irrigation, you may be interested in our new online tool for stem water potential (SWP) measurements. Tables have been developed and published by UC to determine baseline SWP values, which depends not only on crop, but temperature and relative humidity (RH) at the location where SWP samples are being taken. Once you cross-reference your temperature and RH on the appropriate table, you can determine the baseline value for that sample and compare the SWP from the pressure chamber to it to determine if it is time to start irrigating.

Now, we have created an online calculator that you can use instead of the tables. Simply 1) select your crop, 2) enter the temperature and RH, and 3) enter the SWP reading you get from your sample. The tool will output both the baseline value, and your sample's deviation from it. In the example shown in the screenshot (Figure 1), we had a pressure chamber reading of -7 bars, and a baseline of -5.7 bars. The deviation from baseline is -1.3 bars, so the tool displays that your pressure chamber reading is 1.3 "bars below baseline."

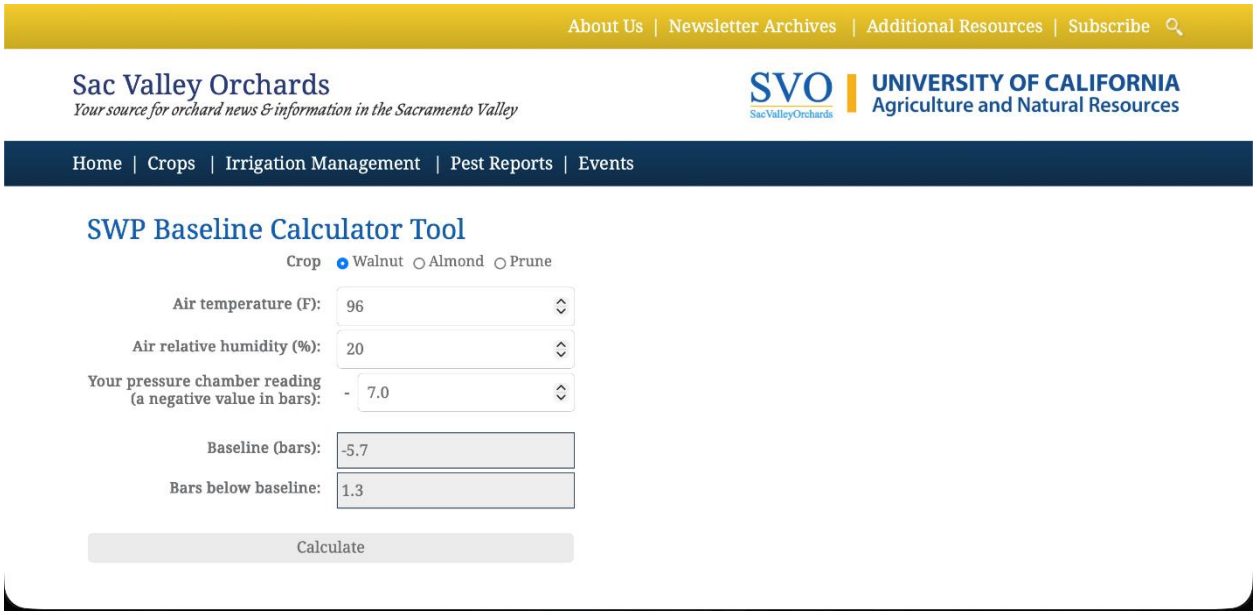

Figure 1. The new online SWP calculator at https://www.sacvalleyorchards.com/swp-baseline-calculator-tool/ provides both baseline and bars below baseline values for SWP samples provided with temperature and relative humidity data

While we no longer recommend using SWP to determine start of irrigation in prune, knowing when your trees have begun deviating from baseline SWP values can still be helpful. For more detailed information on recommendations for start of irrigation in prune, please refer to the article *Determining when to start irrigation in prune*.

Article 3: Thinning or Not? Weigh the Benefits Against the Costs Before Deciding "Not" This Season

Domena A. Agyeman, UCCE Agricultural Economic Advisor; Butte, Glenn, and Tehama Counties
Becky Wheeler-Dykes, UCCE Orchard Systems Advisor; Glenn, Tehama and Colusa Counties

Cropload management is one of the most important practices in prune production. Timely and appropriate (fruit per tree) thinning can improve fruit size, enhance quality, increase market price, and ultimately boost grower return. However, with rising operational costs many growers are questioning whether thinning is still economically justified this season.

Even under higher cost conditions, thinning can remain economically beneficial depending on how it affects yield, fruit size, and market price. The key is to compare the benefits against the costs rather than relying solely on rising expenses. Growers should carefully assess their desired and actual fruit load before deciding whether to thin. This article provides a step-by-step guide on how to assess cropload and determine whether thinning is needed.

This year, elevated diesel prices can significantly increase the cost of mechanical operations. Global supply disruptions following the U.S.–Israel strikes on Iran have affected oil flows through the Strait of Hormuz, contributing to fuel price increases. In California, these pressures have been amplified by limited pipeline connectivity and reduced in-state refining capacity due to refinery closures. Between March 2, and April 6, 2026, diesel prices in California rose by approximately 51%, from $4.99 to $7.57 (Figure 1). As a result, custom farming rates for thinning have likely increased.

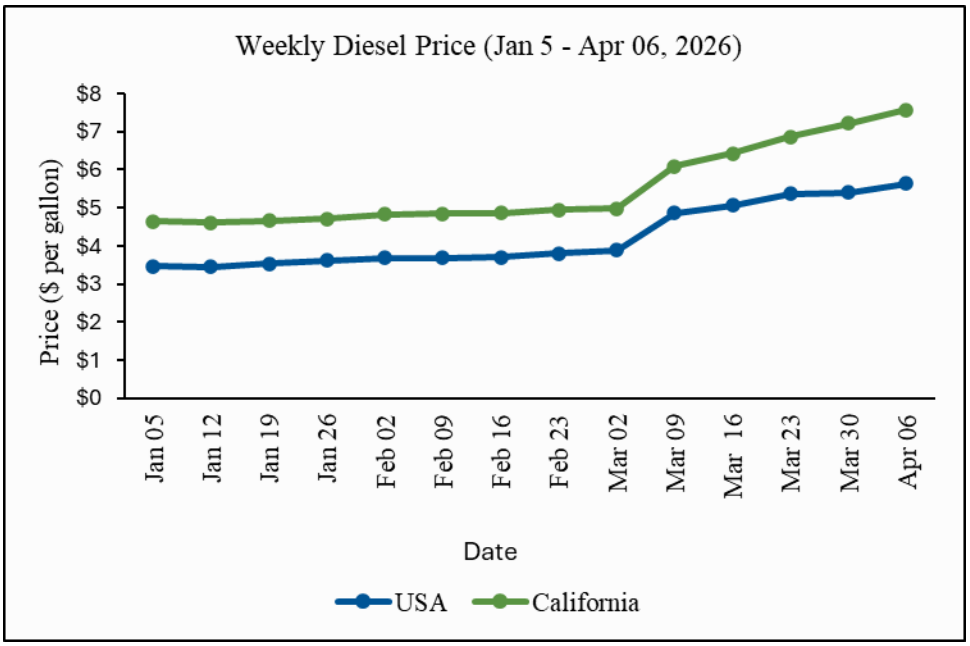

Figure 1: Weekly Diesel Price (Jan 5 - Apr 06, 2026). Source: US Energy Information System

For reference, the 2022 UC ANR cost study for Sacramento Valley prunes estimated mechanical thinning at $85 per acre when performed by custom operators. That $85 pass would equal roughly $93 per acre in today's dollars if adjusted for general inflation. With the increase in diesel prices and labor costs, custom operators may quote significantly more.

Given these rising costs, it is understandable that growers may reconsider thinning. However, avoiding thinning without evaluating its economic impact could lead to unintended losses in fruit quality and revenue.

Partial budgeting is a simple and effective tool for evaluating whether a farm management decision will improve profitability. It focuses only on the revenues and expenses associated with a proposed change. You simply answer four key questions:

1. What will be the new or added revenues?
2. What costs will be reduced or eliminated?
3. What will be the new or added costs?
4. What revenues will be reduced or lost?

Then you calculate the net change in profit as:

(Added Revenue + Reduced Costs) - (Added Costs + Reduced Revenue)

Example scenario:

Suppose you manage a 100-acre mature prune orchard. This spring, your cropload assessment indicates that thinning is needed. Your custom operator has raised their rate to $150/acre, citing increased diesel and labor costs. This is much higher than you anticipated, and you are now wondering whether thinning is still worthwhile.

Without thinning, you expect a yield of 4.0 dry tons per acre, but the smaller fruit size would likely bring a price of $1,800/ton. If you thin, you anticipate 3.5 dry tons per acre, but the larger, higher-quality fruit would command a price of $2,100 /ton. You would also save $30/acre each in hauling and drying costs due to better fruit size and improved dry-away.

In this made-up example, thinning delivers a price premium of $300 per ton ($2,100 vs. $1,800). However, this comes at the cost of sacrificing 0.5 dry ton per acre in yield (from 4.0 to 3.5 tons). When these changes are organized into a partial budget (Table 1), they show a positive net change of $60/acre ($6,000 across the 100 acres). This indicates that the additional revenue from higher-quality fruit, combined with savings in hauling and drying costs, more than offsets the thinning cost and the loss in yield. Therefore, thinning would be the more profitable option.

Table 1. Partial budget for a 100-acre prune orchard thinning

Added Revenue		**Added Costs**	
Revenue from increased fruit price		*Cost for thinning*	
$300/tons × 3.5 tons/acre × 100 acres	$105,000	Custom operation: $150/acre × 100 acres	$15,000
Reduced Costs		**Reduced Revenue**	
Savings in harvest & drying for thinning		*Value of yield sacrificed due to thinning*	
Harvest: $30/acre × 100 acres	$3,000	$1800/tons × 0.5 tons/acre × 100 acres	$90,000
Drying: $30/acre × 100 acres	$3,000		
Total added revenue and reduced costs	$111,000	Total added costs and reduced revenue	$105,000
Net change in profit = $111,000 - $105,000 = $6,000			

The purpose of this article is to highlight why thinning decisions should not be based solely on the rising cost of mechanical services. While skipping thinning may save money upfront, it can lead to over cropping: smaller fruit, lower quality, higher drying costs, and increased risk of alternate bearing leading to fewer flowers and a smaller crop next year. Instead, it's worth running a partial budget using realistic numbers from your own orchard to get a clearer picture of whether thinning is still worthwhile. Trying a range of cost, yield and price scenarios can also help you see how sensitive your returns are and make more confident decisions under uncertain conditions.

Article 4: North Sac Valley Fruit Set and GDH30 Report

Jaime Ott, UCCE Tehama, Shasta Glenn, Butte Counties

The Bottom Line:

- Despite warm weather near Improved French bloom, most orchards have a heavy crop this year.
- We have high GDH30 values, so expect an early harvest and poor crop sizing.
- To maximize fruit size despite the warm weather, consider thinning before reference date and targeting a modest cropload.

The Details

This year, despite warm temperatures during our Improved French Bloom, most orchards have a heavy crop. We consider temperatures above 80ºF during and just after bloom to be potentially damaging to the crop. Orchards in the Red Bluff area reached full bloom around March 9th and 10th, with daily highs at or just under 80ºF. On March 13th the daily high was around 84ºF, and the highs remained above 80ºF for the next several days (Figure 1). Bloom was very strong, likely due to the balmy summer we had last year which allowed many flower buds to set. The good chilling this winter, followed by the warm temperatures, meant that the bloom was compact and only lasted about a week in most orchards. While the warm temperatures just after bloom caused some concern, we had excellent set, ranging from 25% to 50% set in the four orchards I measured. This high set, coupled with the strong bloom overall, means that most orchards have a crop that will require extensive thinning to maximize fruit size and grower returns.

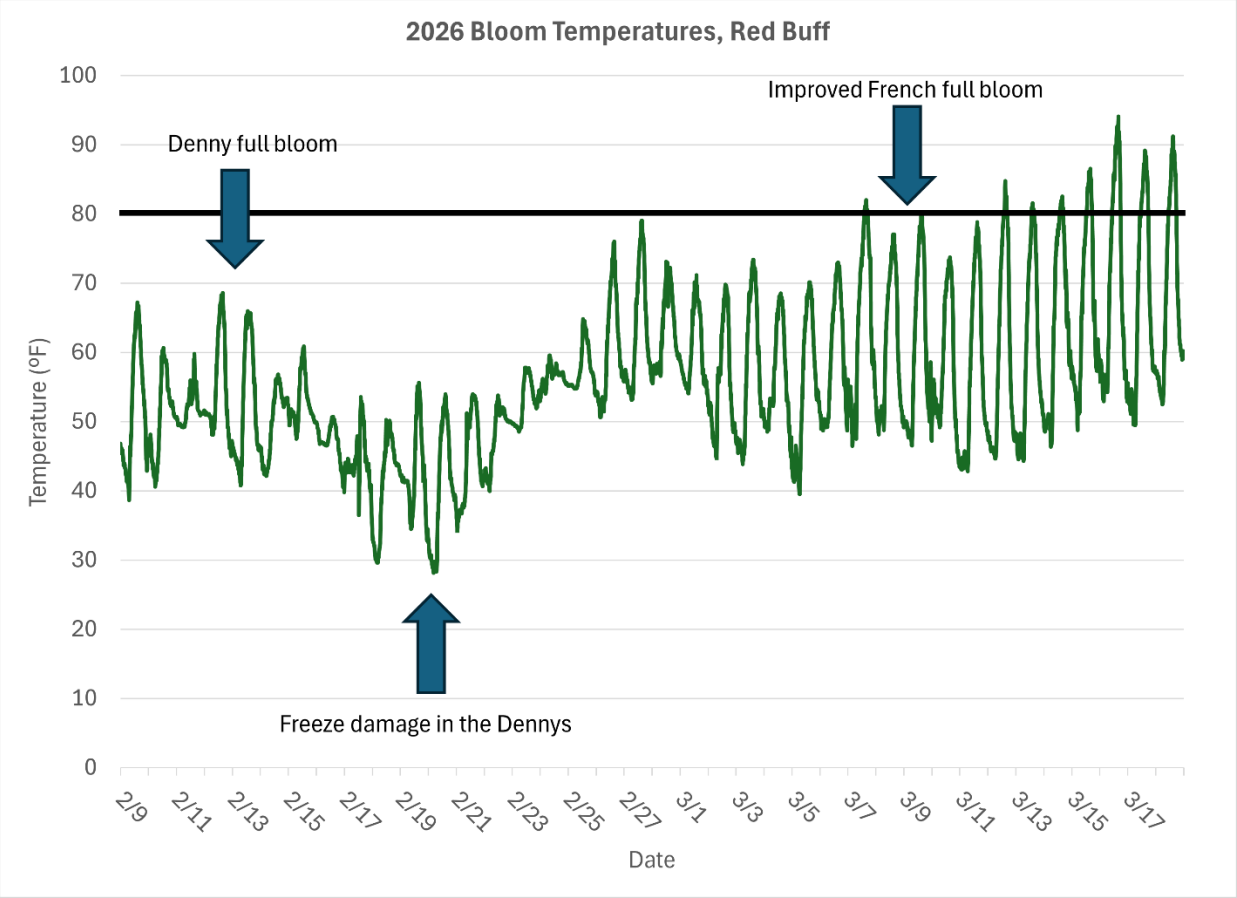

Figure 1. Temperatures in Red Bluff during and after bloom for Denny and Improved French. The warm weather 3-4 days after full bloom in Improved French did not affect crop set. The cold weather a week after Denny full bloom caused crop damage.

Since bloom, the relatively warm weather has led to a high GDH30 this year, which predicts an early harvest and poor crop sizing. We are over 8,200 growing degree

hours in the 30 days after bloom (GDH30). Any year where we are over 6,000 is considered a “high” year. In years with high GDH30 values, harvest timing tends to be earlier. Couple this with our early bloom, and we expect harvest several weeks earlier than last year. Years with high GDH30 values also can lead to poor fruit sizing during the season. Last year our GDH30 was high (around 7,700), but the mild summer still allowed for good fruit size gain. This year, the GDH30 is even higher, and we should not count on mild summer weather to size the fruit. Managing cropload is your main tool for ensuring good fruit size despite the weather.

Given the heavy crops in most orchards and the high GDH30 predicting early harvest and poor fruit sizing, this is not a year to ignore your thinning program. Reference date will be early, and you don’t want to give up precious size gain by waiting until after that to thin. I was in an orchard last week where we counted over 10,000 pieces of fruit per tree—after shaking as hard as we could to strip the tree, we still had over 2,000 pieces of fruit remaining. **This is a year to consider thinning early and hard to target the lower end of what your trees can do.**

Visit SacValleyOrchards.com for more information on heat at bloom, thinning, and GDH30:

Bloom weather and prune fruit set: what we know so far

Checking cropload and shaker thinning prunes

Technology Spotlight: Cropload Estimation in Prunes

GDH30 for 2025: where we stand and what is means

Article 5: South Sac Valley Fruit Set and GDH30 Report

Franz Niederholzer, UCCE Farm Advisor, Colusa, Sutter, Yuba Counites

Bottom line:

In many prune orchards in the Yuba City/Gridley area, it looks like a decent to good crop set, but early bloom + warm post-bloom weather may deliver:

- early reference date (April 13-16 this year?)
- a relatively poor fruit sizing year (early thinning, where needed, should improve final dried fruit size)
- early harvest (first week of August for Yuba City?)

The rest of the story:

In peaches and prunes, heat units are measured as Growing Degree Hours (GDH) and the total of those heat units in the first 30 days after full bloom are reported as GDH30. Current (2026) GDH30 values for Sutter Co are 15-25% higher than any of the last five years. The last time GDH30 was this high (8300) was 2019. Higher GDH30 indicates an increased chances of 1) earlier harvest than expected for the same bloom timing and 2) poorer fruit size potential.

What does this mean to growers?

Harvest timing predictions are helpful in long-term planning such as timing custom harvesting, hiring extra field staff, planning major equipment repairs, etc. Based on current GDH30 values, harvest predictions in the southern Sacramento Valley range from the last week of July (Solano County) to August 5-8 (Sutter Co).

Particularly important for growers this spring is the impact of a high GDH30 accumulation on fruit growth and thinning timing. A warm (high GDH30) spring tends to reduce fruit size at harvest, especially for unthinned or late thinned orchards. To deliver the best fruit size possible at harvest, early (reference date) and more aggressive fruit thinning is recommended (compared to a cooler spring). “Aggressive thinning” refers to a slightly lower number of fruit per tree, not shaking the trees harder. For example, if the target fruit count per tree after thinning is generally 4000-6000 fruit per tree, this is the year (due to high GDH30) to target early thinning to 4000-5000 fruit per tree. If thinning is needed this year in an orchard, experience shows the key to the most profitable crop will be, in this order, 1) early thinning and 2) slightly dropping the target number (fruit per tree after thinning) based on grower experience and preference. The challenge is to not thin so hard that the total crop is dramatically reduced and grower returns suffer. Growers must decide the best practices for each orchard.

Why does warmer weather after bloom (higher GDH30) mean smaller fruit size potential? Warm weather increases fruit growth rate and shortens fruit development times (see Figure 1); meaning more resources (sugars, nutrients, etc.) are needed to fuel fruit growth over a shorter length of time compared to cool springs. Thinning is the best way to increase resource availability to individual fruit under excess cropload; quickly balancing fruit demand with resource availability. Early thinning allows the remaining fruit to quickly get more resources per fruit and so grow faster in the shorter early fruit growth window of a warm spring.

2026 is shaping up to be a poor year for fruit sizing. Where needed, early thinning with a slightly lower fruit per tree thinning target should improve chances for a more profitable crop.

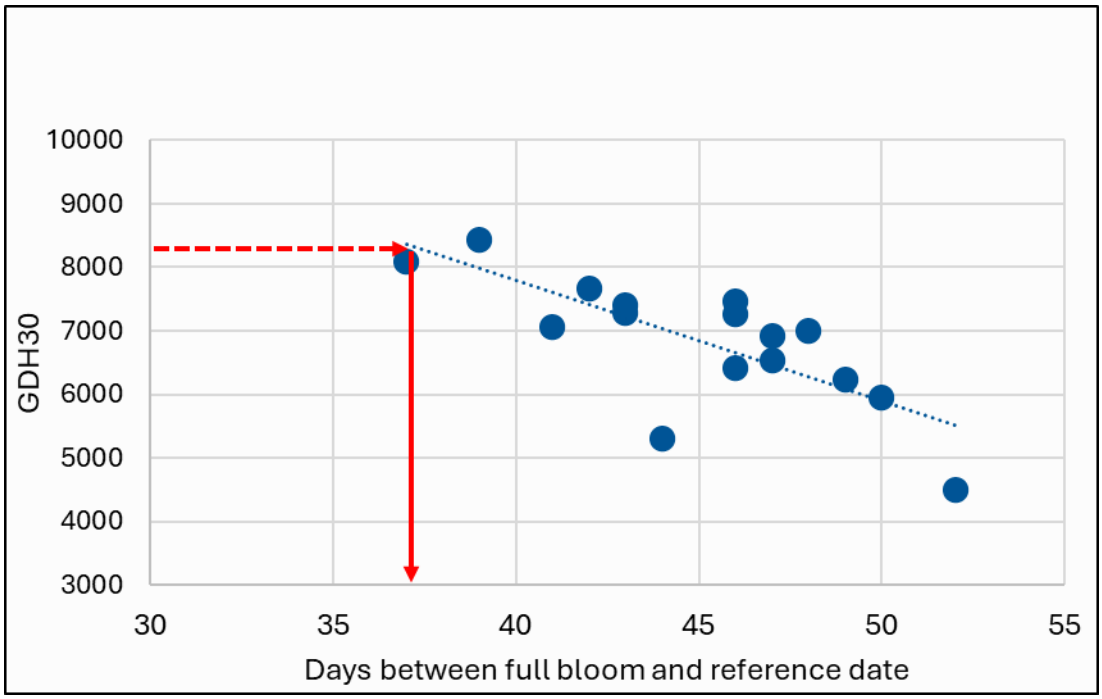

Figure 1. An example of how early heat (high GDH30) shortens fruit development. Fewer days pass from full bloom (FB) to reference date (RD) with higher GDH30. Data (2010-2025) are from Sutter County. Red line shows 2026 GDH30 and expected time from FB to RD. All GDH30 data are from Verona CIMIS station.

Article 6: Optimizing Potassium Programs in Prune Orchards: Timing and Crop Load

Dr. Rich Rosecrance and Karla Caldera, Plant Science, California State University, Chico

Potassium (K) plays a major role in prune production—fruit size, sugars, and dry-away. Many growers use foliar potassium to supplement soil programs, but results can be inconsistent. Recent field trials using rubidium (Rb) as a tracer help explain why. The results show that timing and crop load largely determine whether foliar K actually makes it into the fruit.

Start with the basics: Soil potassium still matters most

All soil-applied potassium sources tested (coarse SOP, fine SOP, and KTS) performed similarly (Figure 1).

- Leaf K stayed in the adequate range
- No differences in fruit size
- KTS applied later ran slightly lower, but still within K sufficiency range

Takeaway: Keep soil potassium as the foundation of your program. Choose products based on price and application fit, not expected performance differences.

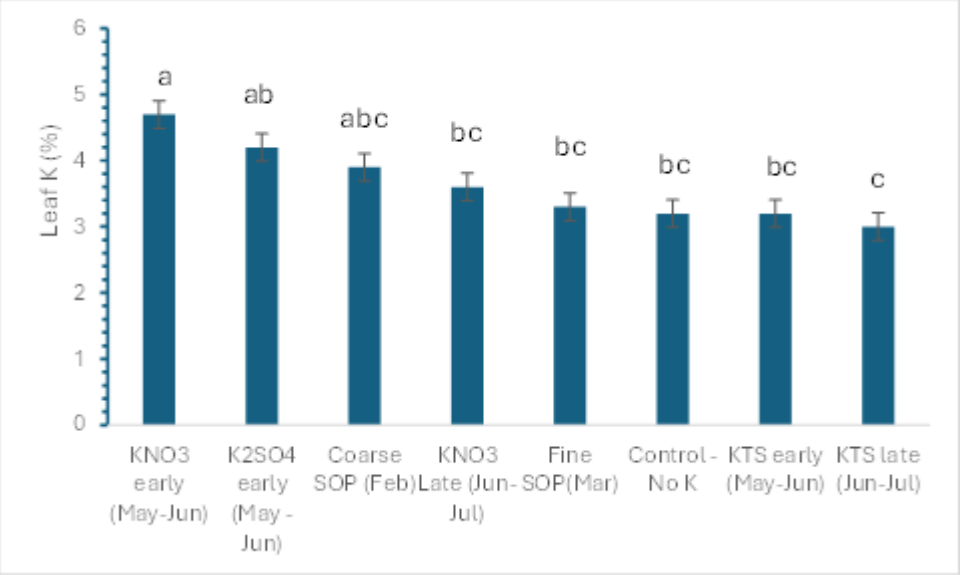

Figure 1. Percent leaf potassium in July in prune trees treated with seven different treatments of soil-applied potassium, as well as an untreated control.

Foliar Potassium: Timing Matters

Foliar K moved out of the leaf within about 3–5 weeks after application (Figure 2).

- May–June: good movement into fruit
- July and later: much more K stayed in the leaves

Early in the season, the tree is moving nutrients efficiently to fruit. Later in the season, that movement slows and foliar K is far less likely to reach the crop.
Takeaway: If you're going to spray foliar K, do it early (May–early June).

Crop Load: The Driving Force

Crop load had the biggest impact on whether foliar K reached the fruit (Table 1).

Table 1. How crop load affects where foliar potassium ends up:

Heavy Crop	Light Crop
K recovery in fruit: 20–30%	K recovery in fruit: <5%
K retained in leaves: Low	K retained in leaves: High
Fruit size (100 ct): 822 g	Fruit size (100 ct): 1020 g
Dry-away: Higher	Dry-away: Lower

In heavy crop years, fruit act like a strong sink, pulling potassium out of the leaves and into the fruit. In light crop years, that demand isn't there, so most of the foliar K stays in the leaves or is stored in branches.
Takeaway: Foliar potassium is a high-return input in heavy crop years, but a low-return input in light crop years.

Foliar Fertilizer Source: Efficiency vs Cost

Potassium nitrate (KNO_3) moved more potassium into fruit than potassium sulfate (K_2SO_4). Sulfate sources were about 65–70% as effective. At current prices, KNO_3 is only about 4% more expensive per ton. So you're paying slightly more for a material that delivers quite a bit more K to the fruit.
Whether that pencils out depends on the crop:

- Heavy crop: Higher efficiency likely pays
- Light crop: Most of that extra K doesn't reach the fruit

In light crop years, much of the foliar K (and associated N) remains in the tree. That material is not lost; it can be stored in wood and roots and used later, but it doesn't help this year's crop.
Takeaway: Foliar KNO_3 applications can be worth it in heavy crop years and early applications. In lighter crop years, a lower-cost material (K_2SO_4) may make more sense. Foliar K in light-crop years may act more as a reserve-building input than a fruit-sizing tool.

Practical Recommendations

- Keep a solid soil potassium program
- Use foliar K as a supplement, not a replacement
- Spray early (May–early June)
- Focus on heavily cropped blocks
- Consider KNO_3 when crop demand is high
- Avoid relying on late-season foliar sprays to improve fruit size or dry-away