UC CE UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources Cooperative Extension

Sacramento Valley Prune Newsletter

Fall/Winter 2025

In This Issue

Franz Niederholzer
UCCE Advisor
Colusa, Sutter, Yuba Counties

Upcoming UCCE Orchard Events

Program	Date	Location
Groundwater Management & Recharge Meeting	Nov 20, 2025 9A - noon	142A Garden Highway, Yuba City
Third Thursday: Sacramento Valley Tree Crop IPM Review	Nov 20, 2025 1-3 pm	142A Garden Highway, Yuba City
Prune Research Conference	Dec 16-17, 2025	Sacramento
North Valley Nut Conference	Jan 14, 2026, 7 AM - 12 PM	Silver Dollar Fairgrounds, Chico
Yuba/Sutter Spray Safe	Jan 14, 2026	Yuba City
North Sac Valley Prune Day	Feb 26, 2026	Red Bluff
Sutter-Yuba Walnut Day	Mar 4, 2026	Yuba City
North Sac Valley Walnut Day	Mar 5, 2026	Red Bluff

Fall/Winter Prune Orchard Tasks

Guadalupe Tejeda, Orchard Systems Lab Assistant, Glenn County

Dormant tree **training** and **pruning** are typically done starting in late November to maintain tree structure, manage growth, and to manage crop load for the following year. After pruning, remove brush quickly and protect fresh wounds from water-borne spores with a fungicide spray (Topsin-M® or Topsin-M® + Rally®). From October through December, it's a good idea to be on the lookout for any bark damage and manage any issues promptly. Cleaning up any impacted trees and flagging dead trees for removal can aid in orchard health.

When it comes to **nutrition** in prune trees, foliar applications of boron and zinc are often made from late October through the end of November if leaf nutrient analysis indicates they are needed. **Soil potassium**, lime, and gypsum are best applied from October through December to allow winter rains to move the nutrients into the soil.

Insect & Mite Management:

- **Sampling** and **analyzing dormant spurs** is the most important way to determine whether treatment is needed for: San Jose Scale, , European Fruit Lecanium, aphids (if no treatment is done in November), or mites. Examples of what these pests look like and how to identify them can be found here (https://ipm.ucanr.edu/PMG/C606/m606wp01.html). This monitoring form is a great resource to help keep records on dormant spur sample findings. Another helpful resource is the dormant spur sampling guidelines, which help in conducting sampling. Keeping records of other pests observed during monitoring is recommended.

- If aphids become a chronic issue in your orchard, treatments can be applied from the beginning of November to the end of December. Mealy plum aphid and leaf curl plum aphid are the two most common aphids in prune orchards. Sampling at 75% leaf fall can help determine the need for dormant sprays. (For more information regarding management practices for these aphids, the links can be found in the highlighted aphid names.) A zinc sulfate foliar fertilizer application can be considered to improve zinc nutrition and, as a secondary benefit, accelerate leaf fall, which may help disrupt the aphid's life cycle.

- For peach twig borer (PTB), treatment can be delayed until bloom time. PTB can infest prunes, allowing brown rot infection to enter trees and spread. Mummy fruit can be knocked off and destroyed to help reduce the potential for brown rot infection. If dormant or bloom treatments aren't on a routine schedule, or if the crop will be sold as fresh fruit, this resource (https://ipm.ucanr.edu/PMG/C606/prune-ptbpostbloom.pdf) can help in post bloom sampling for PTB.

- While pruning, be on the lookout for any identifiable signs of shothole borer or Pacific flathead borer. Dead or infested branches can be removed from the orchard and destroyed to help remove any further risk of these insects spreading.

- If treatment is needed for any of these pests and planning for pesticide application is required, this pesticide application checklist (https://ipm.ucanr.edu/agriculture/prune/pesticide-application-checklist/#gsc.tab=0) can aid in selecting the practices that work best.

October and November are ideal months to conduct **weed surveys** in prune orchards. This late fall weed survey form (https://ipm.ucanr.edu/PMG/C606/prune-fallweeds.pdf) may be helpful in this process. These surveys can aid in finding any gaps in herbicide programs. Weeds can be managed with pre- or post-emergent herbicides and for organic orchards, approved organic practices can be used. For more information regarding the susceptibility of winter weeds to particular herbicides, this link (https://ipm.ucanr.edu/agriculture/prune/susceptibility-of-winter-weeds-to-herbicide-control/#gsc.tab=0) can aid in choosing the appropriate herbicide. Monitoring for weeds such as hairy fleabane, horseweed, sprangletop, ryegrass, and jungle rice may be beneficial as these weeds can be resistant to herbicides and may have escaped previous treatments.

For **ground squirrels**, bait treatments and trapping can be considered from mid-September through November, with similar approaches applicable for gophers and voles. More information on rodent biology and management strategies can be found in this article (https://www.sacvalleyorchards.com/prunes/gophers-ground-squirrels-and-voles-oh-my/) as well as on the UC IPM website.

Fall is a good time for planting potted trees if you are **establishing** a new orchard.

*Mention of specific products is not a pesticide recommendation, simply the sharing of research results. Consult your PCA and always read the pesticide label; the label is law.

2025 Season Retrospective

North Sac Valley: Jaime Ott, Orchard Advisor, UCCE Tehama, Shasta, Glenn, Butte Counties

This year, full bloom in the northern Sacramento Valley was around March 23-25. Though we had average chilling this winter (72 chill portions by March 1st at the Gerber South CIMIS station), the weather heated up during bloom, with daily maximum temperatures around 85ºF (Figure 1). Bloom density was variable from orchard to orchard, and fruit set was very hit-and-miss: most of the orchards we tracked were 30-35% fruit set, some were around 20%, and some below 10%. This led to a year where some orchards had to be heavily thinned and others didn't have enough fruit to harvest.

Though the spring felt mild, with fairly low high temps during the day, the Growing Degree Hours 30 days after bloom (GDH30) in Tehama, Glenn, and Butte counties was high this year (7700-8100), driven by the fact that the nights were relatively warm. This suggested that we would have an early harvest and slightly lower sizing potential. However, we had a mild summer, and final green fruit sizes at harvest were slightly larger than what we saw last year (Figure 2), and well in line with what we have measured since 2021. While there was some sunburn in several orchards, we saw nothing like the blue prune drop from 2024. Overall, it looks like we had a good crop with reasonable size.

South Sac Valley: Franz Niederholzer, Orchard Advisor, UCCE, Colusa, Sutter, Yuba Counties

In the Feather River prune growing region (Sutter, Yuba, and south Butte Counties), the season started out looking "normal". Chilling (78 chill portions by March 1 at the Verona CIMIS station) and full bloom timing (March 23-25) were right about recent averages. Bloom was not early, but temperatures spiked up dramatically right at full bloom, going from around 70ºF to almost 90ºF in 3 days before dropping 20 degrees in two days to back under 70ºF. Surprisingly, fruit set was very good (30-40%) in several orchards that saw almost 90ºF right at full bloom. There were also orchards in the area where there was very little fruit set. It may be possible that the low set in some orchards was due to some slight difference in bloom timing compared to others as the spike in temperatures was very short lived. It's hard to know, exactly, what caused the dramatic differences in fruit set this year.

Spring 2025 weather was the usual temperature yo-yo in a wet spring with ±25ºF swings in maximum daily temperatures from late March into early Mary. The post bloom heat units measured as cumulative Growing Degree Hours 30 days after bloom (GDH30) for Sutter Co in 2025 were higher (7460) compared to 2024 (6150). A higher GDH total is reported to advance harvest and generally limit fruit size potential, but as mentioned in the North Valley update, the 2025 crop size potential was good. The much cooler summer of 2025 compared to 2024 might help explain the difference. Reference date, 2025 in the Yuba City area was May 8, just a couple of days earlier than 2024.

The 2025 crop had very high fruit sugar levels; based on the orchards I checked and conversations with industry field reps. This may have been due to the cooler summer temperatures in 2025 compared to 2024, especially in July. See Figure 3 for a day-to-day comparison of maximum temperatures in 2024 vs 2025.

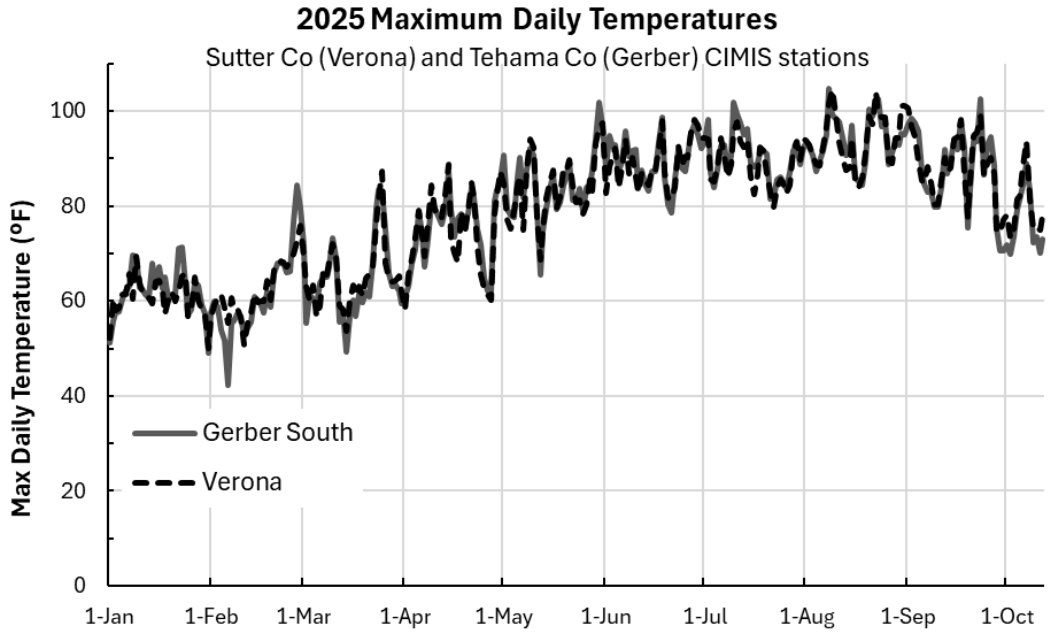

Figure 1. 2025 temperatures. Full bloom was around March 23 in Tehama Co. and March 23-25 in Sutter Co.

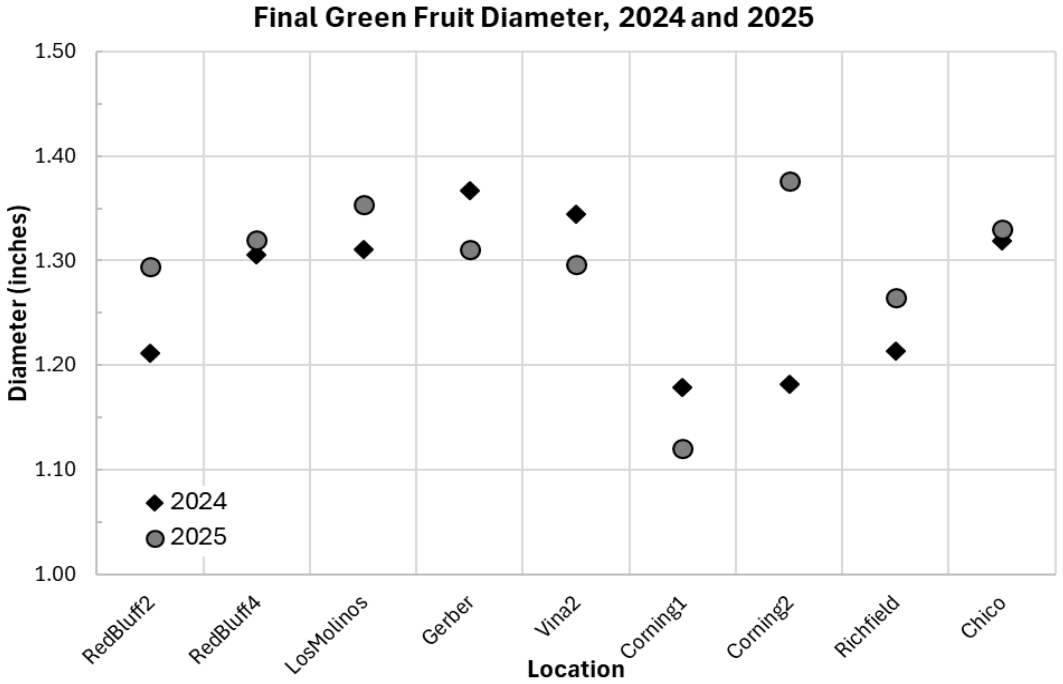

Figure 2. 2024 and 2025 final fruit size for nine orchards in the Northern Sac Valley. Average diameter for 2024 was 1.27 inches, and average diameter for 2025 was 1.30 inches

Difference in daily maximum temperature from 2024 to 2025, Verona CIMIS.

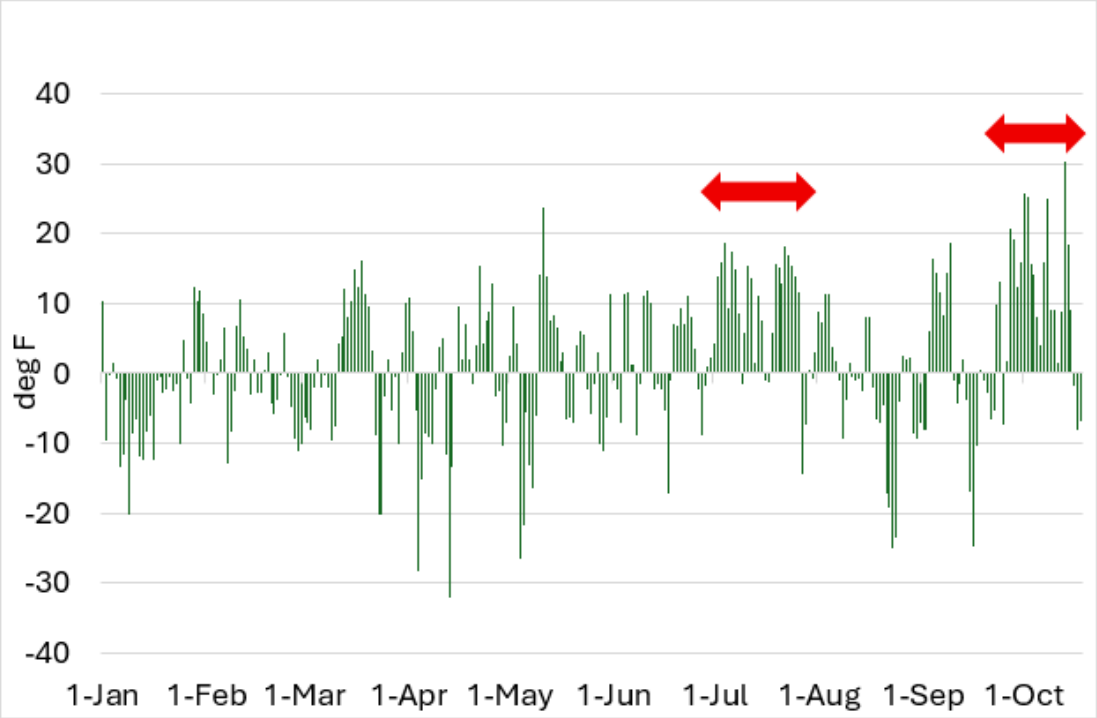

Figure 3. Comparison of maximum temperatures for the same calendar day, 2024 vs 2025 in southern Sutter Co (Verona CIMIS). Where the 2024 max temperature was higher than the 2025 max temperature for that same calendar day, the value is positive and it's negative where the temp was higher in 2025 than 2024. Two heat waves in 2024 are shown with red lines.

New UC Davis Prune Varieties Prove Promising 2025

Sarah Castro, Prune Cultivar Development Manager, Plant Sciences Department, UC Davis
& Dr. Ted DeJong, Professor (retired), Plant Sciences Department, UC Davis

The UC Davis Prune breeding program is currently promoting new, promising French-type selections whose harvest window spans 2 weeks before 'Improved French' to 2 weeks after 'Improved French'. These French-types have a variety of harvest dates, bloom dates and all have low dry away ratios that are sure to draw attention from prune growers who are interested in lowering their operational costs. Many of the cultivars have been test-processed and dried using commercial dehydrators in cooperation with interested growers. The goal of the breeding program is to breed new cultivars that will broaden the bloom and harvest windows and save grower's operational costs and stabilize prune production in California. This program is directed toward reducing drying costs with lower fruit dry away ratios and lowering production costs by reducing pruning. We recognize the importance of harvest timing with any new cultivars. See Figure 1 below, it depicts a representation of approximate harvest timings for the most promising items. Many varieties in Figure 1 have many years of data, others are still undergoing testing for attributes such as self-compatibility and heat tolerance.

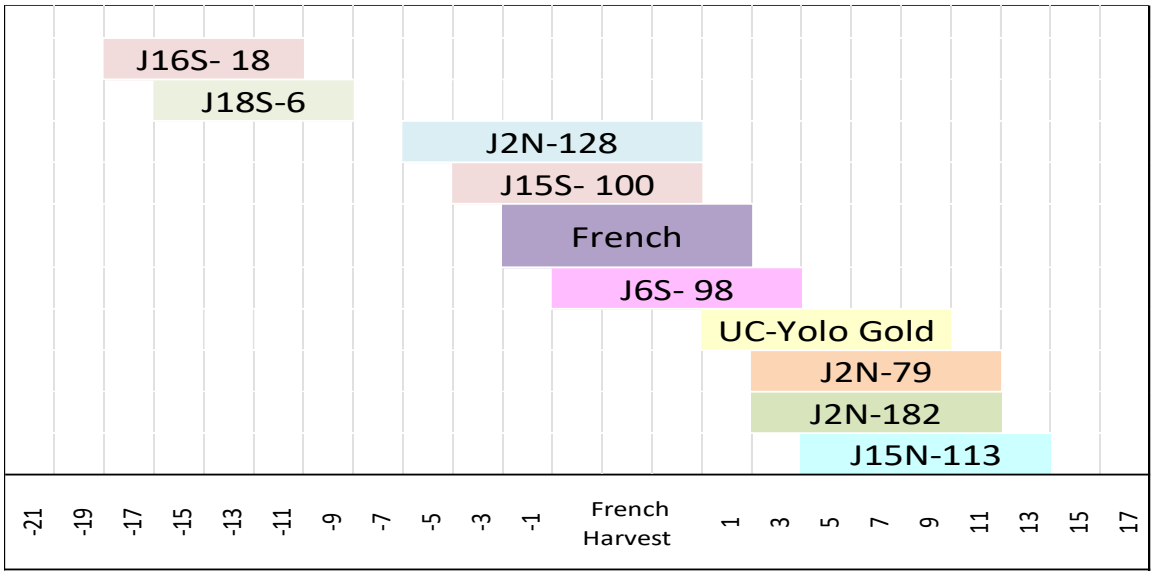

Figure 1. This graphic represents approximate harvest windows in relation to Improved French, based on 2024 & 2025 harvest data. Yearly variations will occur due to location & other environmental factors.

Early Harvesting Items: Items J18S- 6 and J16S-18 have been evaluated in the selection block for two years. There is still more to learn, but the dried fruit quality is excellent. Both items need to be tested for pollen self-compatibility. J16S-18 is especially promising after having a brix of 34 and a dry away ratio of 2.5 in early August.

J2N-128 This prune tree produces purple fruit that harvests with, or just before, 'Improved French'. The fruit has a fresh to dry weight ratio of 2.2-2.4 with a sweet, satisfying prune flavor. The fruit does not typically get softer than 4 lbs pressure because the fruit will start to dry on the tree rather than softening and falling off. This leafy tree is upright in structure and is more spur bearing than 'Improved French'. The tree blooms about a week before 'Improved French'. Thanks to the CA Prune Board's sponsorship there are about 10 acres of test orchards in the ground for this item. In 2026 we can expect to trial pit it so handlers can decide if it is acceptable for processing. **J15S- 100** This item has an expanded planting at our Sierra Gold test block. We will have extra fruit to trial and test in 2026+. We know the pollen is self-compatible and the dried fruit quality is excellent. Harvest timing is something the breeding program is continuing to examine. In 2025 it harvested before 'Improved French' on the 19th of August; in 2024, it harvested slightly after 'Improved French' on 9/10/24. Regardless, in both years the tree showed great promise with 31 brix in 2024 and 35 brix in 2025 and 2.4 and 2.5 dry away ratios respectively.

J6S- 98 is a promising new prune that has an expanded planting at our Sierra Gold test block. It has great dried fruit quality and an upright and spreading tree structure. The fruit is yellow on the tree, but you would never guess it looking at the dried product. Despite the yellow fruit color, this is still considered a French type fruit. It was harvested too early in 2024 but still had a brix of 26 and dry away of 3.2. In 2025 it was harvested right at 'Improved French' timing and had 31 brix and 2.6 dry away. We hope to test pit some in 2026 or 2027 when there is adequate fruit from our block at Sierra Gold.

J2N-79 This prune tree produces dense, purple fruit that harvests around or after 'Improved French'. The fresh to dry weight ratio ranges from 2.0 to 2.9 depending on how long the fruit hangs on the tree before harvest. The fruit does not soften like 'Improved French', sugars increase due to fruit partially drying on the tree and consequently the flesh does not soften. The dried fruit is very dense and tough in its natural condition before pitting, but the processed fruit is very pleasant to eat with soft flesh and texture. The fruit

size varies depending on crop load. This tree should not be over-cropped. The flowers typically bloom 6 days before 'Improved French', and the pollen is self-compatible. Tree structure is upright with a tendency to be spur-bearing. Thanks to the CA Prune Board's sponsorship there are about 10 acres of test orchards in the ground for this item. In 2026 we can expect to trial pit it so handlers can decide if it is acceptable for processing.

J2N-182. This item harvests after 'Improved French', and blooms 11 days before 'Improved French'. J2N-182 has excellent eating quality and arguably has the best dried fruit taste of all of our selections. If overcropped, the fruit will be small and the low dry away ratio, compromised, so thinning is important on heavy crop years. This tree produces fruit early in life and will self-pollinate. We have more to learn about this item, but so far it has proved very promising. There are 2 acres of test trees in Winters, CA.

UC-Yolo Gold™ (Patent name "UC G2S-8")

Pro: Tastes superior Con: Doesn't mix with 'Improved French'.

This newest release from UC Davis is a beautiful yellow fruit that blooms approximately 4 days before 'Improved French' and is ready for harvest approximately 10 days after 'Improved French'. The fresh fruit is oval shaped and maintains its oval shape when dried. Fresh fruit weight is larger than 'Improved French' and dried fruit ranges from 9.8 to 11.9 g. Fresh to dry fruit weight ratios range from 2.5-3.1 depending on sugar content and fruit maturity. Fruit sugar contents range from 22 to 27 ºBrix and fruit sugar content appears to be more affected by over-cropping than fruit size. The flowers are pollen self-compatible. The tree grows fairly upright and bears primarily on spurs and short shoots. The tree is more precocious than 'Improved French', meaning it will produce fruit early in its life. This tree has been selected primarily for its consistent bearing and dried fruit quality and flavor. The patented name is 'UC G2S-8' but it is trademarked under the name 'UC-Yolo Gold™'.

Table 1. Newest promising items available for testing from the UC Davis Prune Breeding program. These cultivar's approximate harvest dates are imaged above in the harvest timing graphic.

Approx. harvest date	Item Name	Fresh weight (g/frt)	Pressure	Brix	Dry away ratio	Dry size (Ct/lbs)	Fruit type
8/5/2025	J16S- 18	30.8	3.4	34.5	2.5	37.0	French
8/5/2025	J18S- 6	27.8	3.2	23.9	3.1	49.0	French
8/26/2025	J2N-128	25.9	3.6	35.6	2.4	40.8	French
8/19/2025	J15S- 100	29.8	5	35.5	2.5	39.5	French
8/26/2025	Imp. French	29.8	2.8	32.9	2.5	43.1	French
8/26/2025	J6S- 98	29.7	4.5	31.7	2.6	44.1	French
9/2/2025	UC-Yolo Gold	31.9	4.6	31.3	2.5	47.8	Gold Gourmet
8/26/2025	J2N- 79	33.9	5.2	32.2	2.4	45.0	French
9/8/2025	J2N-182	31	4.4	33.2	2.5	40.0	French
8/26/2025	J15N-113	30	5.5	33.6	2.4	42.7	French

UC Davis Program Information

The prune breeding program is funded by the Prune Board of California. The goal of the breeding program is to breed new cultivars that will broaden the bloom and harvest windows and save growers on operational costs and stabilize prune production in California. The main costs the program tries to reduce are drying costs (via dry away ratio) and pruning costs. The program has many new items every year that are commercially viable candidates for future release. We try hard to test these items as much as possible, but help is needed from the industry to thoroughly evaluate them. For example, rootstock compatibility specifically with Krymsk 86 is still being determined. Extra tests around California help bolster our confidence that these items will reduce grower costs and revitalize the California prune industry. If you are interested in planting some new cultivars, please contact Sarah (scastro@ucdavis.edu). The Prune Board has a subsidy program that helps reduce your financial risk. Another way to learn about this program is to follow it on Instagram @cali.prunebreeder.

Advancing Prune Bloom: What we know so far

Franz Niederholzer, UCCE Farm Advisor, Colusa and Sutter/Yuba Counties

Bad bloom weather – extreme heat, cold, or extended wet weather – can drastically reduce or eliminate commercial prune crops in the Sacramento Valley. Such bloom weather is a major economic stress to growers and costs California packers market share internationally, further impacting prune economics in this state.

What's being done to overcome this major issue? To date, research into bloom weather related prune crop failure focused on 1) understanding bloom weather conditions impacting fruit set, 2) testing practices or material(s) at bloom to improve crop set under extreme weather, and 3) testing practices which shift bloom timing, potentially avoiding bloom during extreme weather. Here's what UC researchers and extension advisors have learned so far.

Weather impacts on bloom range from frost to extreme heat.

- Critical bloom temperatures for freeze damage are established (see Table 18.2 in Prune Production Manual, p.201). Buds at certain development stages are damaged following 30 minutes of exposure to certain temperatures. The explanation for crop loss due to heat at bloom is not so simple.

- The greatest risk for crop loss is when bloom is early (before March 15) and extreme weather hits during bloom – high temps above 80°F at or just after full bloom or extended cool, wet weather through bloom.

- Maximum pollen tube growth occurs with temperatures in the mid-70's, while temperatures under 60°F and over 80°F slow pollen tube growth. Bloom weather supporting the best fruit set conditions is consistent warm days in the mid-70's from popcorn through petal fall. Extended cool temperatures (under 60°F) or wide swings in daily temperatures (for example, from the low 60's to over 80-81°F and back into the 60's) can result in very low fruit set as most conditions the flowers experience are for poor flower activity (measured by pollen tube growth). When heat spikes hit just at or within a day or two after flowers open, fruit set is most heavily impacted.

What can prune growers do to avoid crop failure when the weather forecast is for heat at bloom?
To date, no "rescue sprays" have improved fruit set in field trials.

Cooling the orchard:
Micro-sprinkler irrigation during hot days can reduce orchard temperatures by several degrees (F) and could be the difference between good set or bad, depending on the maximum temperature in the orchard. Irrigation only needs to be run when temperatures are hot (over 75°F). Drip or flood irrigation provides little temperature drop during bloom.

Another option to try to improve the chances of good weather when flowers open is to advance prune bloom with dormant spray, hopefully into cooler weather. This approach isn't always successful in avoiding bad bloom weather but, going back to 205, delivered good fruit set in at least 50% of cases with extreme bloom heat while untreated trees set very poor crops. Spraying horticultural oil in late December through January advanced full bloom 1-3 days over unsprayed trees in research done in 2008-2010. See the results in Table 1. Results were highly variable within the same year and across years.

A dormant spray of CAN17 fertilizer + non-ionic surfactant (NIS) applied to primarily address nitrogen (N) deficiency and provide N and calcium to buds ahead of bloom is another way to advance prune bloom. Like oil sprays listed above, CAN17+NIS was tested in 2008-2010 in Sutter and Yuba Counties using 25% CAN17+2%NIS in 100 gallons per acre. This combo at a lower rate (12.5%CAN17+0.5%NIS) was reexamined in 2025 in south Butte County using the same spray volume. In 2025, later spray dates were used to retest the benefit of February timings. See the results in Table 2. As with oil sprays, results varied within and across years.

Please note: If the soil and/or trees are dry when spraying, a heavy oil rate (4 gallons of oil/acre) can cause oil burn (phytotoxicity). Spraying high rates of CAN17 on dormant prune trees (January) has not damaged the trees in a total of six years of research, but use of this material for nutrition and bloom advance should be approached very carefully. Consult with an experienced PCA when considering advancing bloom with any spray material.

When spraying in late December or January to advance prune bloom, weather conditions (before, during, and after spraying) influence the bloom effect of the spray. Spraying in early December or in February generally produced less bloom date change than late December through January window.

Research will continue to develop a better understanding of what influences bloom timing and fruit set.

****

Table 1. Advance in bloom date after spraying horticultural oil (4 gallons per acre of 440 supreme oil) on specific days over unsprayed (no dormant spray) prune trees. 2008-2010. Spray dates varied due to local weather conditions.

2008		2009		2010	
Spray Date	Bloom advance (days)	Spray Date	Bloom advance (days)	Spray Date	Bloom advance (days)
22-Dec	**-2**	23-Dec	**-2**	14-Dec	**-1**
2-Jan	**-3**	6-Jan	**-3**	29-Dec	**-2**
18-Jan	**-3**	26-Jan	**-1**	15-Jan	**-2**
30-Jan	**-3**	11-Feb	**-1**	28-Jan	**-2**

Table 2. Advance in bloom date after spraying CAN17 fertilizer + non-ionic surfactant on specific days over unsprayed (no dormant spray) prune trees. 2008-2010, 2025. Spray dates varied due to local weather conditions. In 2025, 12.5% CAN17+0.5%NIS was used. In all other years, 25% CAN17+2%NIS (v/v) was sprayed.

2008	**2008**	**2009**	**2009**	**2010**	**2010**	**2025**	**2025**
Spray Date	Full Bloom from control (days)	Spray Date	Full Bloom from control (days)	Spray Date	Full Bloom from control (days)	Spray Date	Full Bloom from control (days)
22-Dec	**-3**	23-Dec	**-2**	14-Dec	**-3**		
2-Jan	**-3**	6-Jan	**-3**	29-Dec	**-3**		
18-Jan	**-3**	26-Jan	**-1**	15-Jan	**-5**	17-Jan	**-1**
30-Jan	**-4**	11-Feb	**0**	28-Jan	**-1**	1-Feb	**-1**
						15-Feb	**0**