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**Franz Niederholzer**  
UCCE Advisor  
Colusa, Sutter,  
Yuba Counties

## Upcoming UCCE Sac Valley Orchard Events

Date	Event	Time	Location	Contact
April 30	<a href="#">Almond Variety Trials: 2025 Field Meeting</a>	8:45-11am	<a href="#">CSU Chico State Farm</a>	Luke Milliron lkmilliron@ucanr.edu
April 30	<a href="#">UC AgExpert Webinars for CEUs</a>	3-4pm	Online	UC IPM pesticidesafety@ucanr.edu
May 1	<a href="#">Kiwi Vine Cankers</a>	1-2pm	<a href="#">UCCE Sutter County</a>	Clarissa Reyes clareyes@ucanr.edu
May 13	<a href="#">Olive irrigation workshop</a>	9-2:30pm	<a href="#">Glenn Success Square</a>	Becky Wheeler-Dykes bawheeler@ucanr.edu
May 14	<b>Nickels Field Day</b>	8:30-12:15pm	<a href="#">Nickels Soil Lab</a>	Franz Niederholzer <a href="mailto:fjniederholzer@ucanr.edu">fjniederholzer@ucanr.edu</a> (530)-458-0570
May 21	<a href="#">UC AgExpert Webinars for CEUs</a>	3-4pm	Online	<a href="#">Register here!</a> UC IPM pesticidesafety@ucanr.edu
May 29	<b>Prune Research Tour Part 1</b>	8-12pm	TBD	Jaime Ott njott@ucanr.edu
June 24	<b>N. Sac Valley Groundwater and SGMA</b>	12-2pm	<a href="#">Los Molinos Vets Hall</a>	Jaime Ott njott@ucanr.edu
July 15	<b>Prune Research Tour Part 2</b>	8-12pm	TBD	Jaime Ott njott@ucanr.edu

## Spring Orchard Considerations

*Jocelyn Alvarez, Staff Research Associate, North Sacramento Valley Orchard Systems*

*Ben Baldi, Staff Research Associate, South Sacramento Valley Orchard Systems*

### April

- **Crop assessment** – Reference date typically occurs in late April or early May, about 7-10 days after pit hardening. If a sharp knife catches briefly when cutting the blossom end of the flower, it indicates that the fruit has reached pit hardening. Estimate crop load at reference date to make thinning decisions with our [protocol](#).
- **Starting Fertilization Program** - Once your crop load has been evaluated, develop the Nitrogen (N) budget for the 2025 season and consider applying before the end of April. Crop load is the major driver of N and K use in mature prune orchards. For optimal N uptake, apply several smaller (for example, 25-40 lbs N/acre) N application

doses starting after bloom. If considering foliar potassium nitrate applications as part of your potassium program, begin spraying in late April and make additional applications every 2-3 weeks. More than 50% of the annual budget should be applied before June 1<sup>st</sup>. For more information, CDFA has a [crop fertilization guideline for prunes](#).

- **Irrigation** –As the growing season begins and temperatures rise, prepare for the start of irrigation by checking your irrigation system, like filters and emitters, replacing/refilling filter media, repairing broken lines, and addressing any issues now. Start monitoring your orchard soil moisture levels using soil moisture sensors and/or pressure chamber readings to determine when to apply the [first irrigation](#). Low to mild stress levels [2 to 4 bars drier than the baseline](#) are a suitable threshold for irrigating.
- **Aphid** - [Monitor](#) for leaf curl plum aphid and mealy plum aphid since colonies can grow soon after bloom and as orchards leaf out. Using April sprays from petal fall to May 15 can reduce mealy plum aphid to acceptable levels with good to excellent coverage. Oil is ineffective against leaf curl aphid during this period as the spray can't reach inside the curled leaves where aphids are feeding. Other pesticides can effectively control aphids in spring; however, be careful when using pyrethroids (such as Asana®, Warrior®, etc.) or neonics (like Actara®, Provado®, etc.).
- **Peach twig borer (PTB) and Oblique-banded leaf roller (OBLR)** – Place and monitor PTB and OBLR [traps](#) in the orchard to establish biofix dates. Begin accumulating degree days after the biofixes to inform when to begin fruit inspection. PTB biofix in prune orchards differs from almond orchards; don't rely on information from surrounding fields. PTB damage on fruit surfaces can cause brown rot disease entry later in the season.
- **San Jose Scale (SJS)** - If a biofix was not established in February using pheromone traps, double-sided sticky tape around limbs should be used in April to detect crawler emergence. Regularly monitor for increases in SJS populations and consider treating at 600-700 degree days after pheromone trap biofix to target emerging crawlers.

## May

- **Irrigation** – Continue monitoring your orchard using a pressure chamber, soil moisture sensors, and/or weekly ET to maintain adequate moisture levels and prevent fruit damage. May and June are critical months for preventing end-cracking. Monitor the weather forecast for sudden temperature spikes (15-20 degree increases), typically in late May or early June as the summer season starts. Ensure orchards are not behind in irrigation to reduce sunburn damage as the heat increases.
- **Rust:** Monitor for [leaf rust](#) beginning May 1 by surveying 40 trees weekly until June 15. Check lower parts of canopy for leaf symptoms and treat at the first sign of rust. Rust control materials can be found [here](#).
- **Peach twig borer (PTB):** Monitor for [PTB](#) fruit feeding 400 degree days after the first biofix. In the orchard, look for larvae entry points on the fruit (ideally 15 fruit from 80 trees), especially where fruit contact each other or touch leaves. Treat if 2% or more (24+ of 1,200) of the fruit have damage.
- **Oblique-banded leaf roller (OBLR):** Begin sampling fruit for [OBLR](#) damage 930 degree days after biofix. Follow same sampling protocol and treatment threshold as with PTB.
- **Aphids:** [Leaf curl plum aphids](#) move to summer hosts in May, but [mealy plum aphid](#) stay in orchards until mid-July. Heavy infestation of mealy plum aphid can limit flower bud development this year, which can mean less crop next year.
- **Fertility:** Continue with nitrogen and potassium fertilization program if a good crop is set. More than 50% of annual N budget should be applied before June 1<sup>st</sup>.

## June

- **Pests and Disease** – Continue monitoring for aphids, PTB, OBLR, and rust.
- **Spider mites**: Begin scouting by checking two different sections of the orchard each week. Spend about five minutes in each section, checking 2-3 leaves (some inside and outside of the canopy) on 10 trees. Look for spider mites and their predators (predaceous mites and [sixspotted thrips](#)). Treatment decisions should be based on population levels of both mites and predators. If more than 20% of leaves have mites, but less than 50% of the leaves have predators, treat for mites. If more than 60% of leaves have mites, treat even if most leaves have predators.
- **Irrigation Management**: To avoid excessive vegetative growth and associated pruning costs, maintaining a mild to moderate tree water stress (4 to 10 bars drier than baseline) with the [pressure chamber](#) from late June, through early August reduces shoot growth without slowing fruit sizing. Learn more from our article on [Pre- and Post- Harvest Irrigation Management in Prunes](#).

### Technology Spotlight: Cropload Estimation in Prunes

*Becky Wheeler, Farm Advisor, UCCE Glenn, Colusa and Tehama Counties*

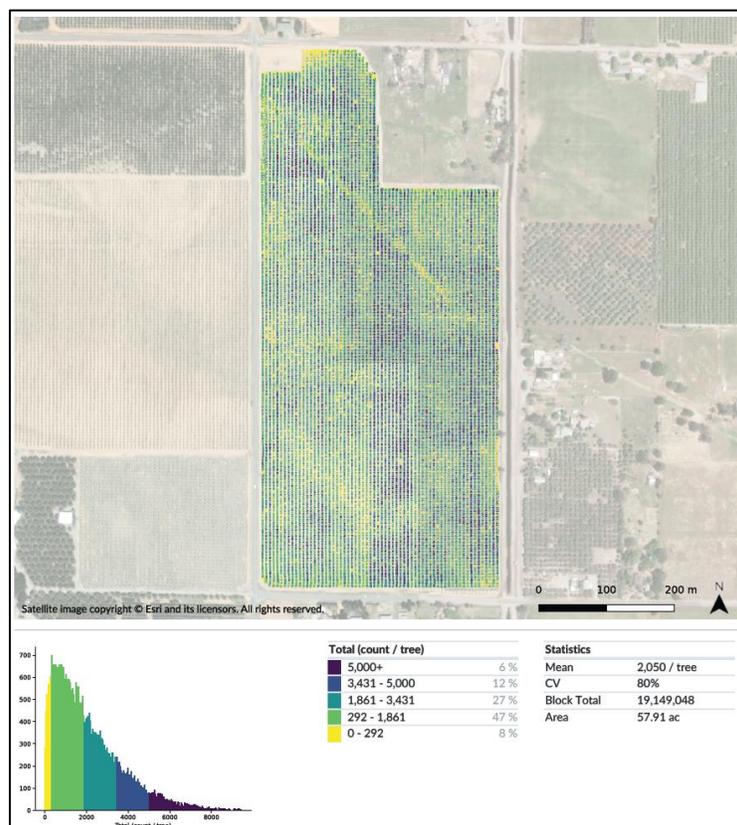
Recent advances in imaging technologies combined with highly accurate GPS tracking can provide growers with detailed and precise information about their orchards. While there are no current UC replicated studies on the use of the technology in prunes, several growers report using it to help estimate crop load when making thinning decisions. Dropcopter, a local company based out of Northern California, utilizes the Green Atlas Cartographer unit to rapidly scan orchards providing growers with data on bloom, crop load, and other tree characteristics to help make management decisions. Dropcopter has been used on over 10,000 acres across California and their footprint continues to expand.

Prune growers are faced with difficult thinning decisions annually. An accurate understanding of the crop load of the trees is critical in choosing whether and how much to thin to maximize the potential quality of the fruit at harvest. However, orchards can be highly variable based on soil types, proximity to water sources like canals or neighboring rice fields, and the history of the field. Tools like Dropcopter's crop scanning services can help growers understand variability in the field as well as gain a better understanding of the total yield expected. Additionally, processors can utilize the technology later in the summer to get a more accurate estimate of the crop that will be coming into the dryer, making labor and logistical planning easier.



*Figure 1. Dropcopter's Green Atlas Cartographer in a prune orchard.*

The Green Atlas Cartographer is essentially a UTV with LiDAR (light detection and ranging) imaging and GPS hardware attached to it (Figure 1). The Cartographer drives quickly up and down every row of an orchard, collecting thousands of high-resolution images. The Cartographer can cover approximately 250 acres in 8 hours, and the machine can be used 24 hours a day since the imaging equipment utilizes powerful flash lighting. Dropcopter personnel then ground truth the data by counting the fruit on 6 trees to put actual numbers to the comparative data. Imaging data is then processed by Dropcopter, combined with the ground-truthed field numbers, and is available to the grower within 48 hours. The data includes the number of fruit per tree, fruit size, color index, canopy size and density, and leaf area. Growers can request the data in a variety of formats, including on a tablet, on a USB thumb drive, or printed. Maps can be very granular with nearly tree-by-tree data (Figure 2) or can be blocked into zones. The data can be translated into actionable management decisions in several ways. For example, a zone map of crop load can be loaded onto a tablet and on display in the cab for shaker operators. A GPS marker indicates to the operator which zone they are in and a simple color-coding system indicates which trees to thin hard, which to only lightly thin, and which trees not to thin at all.



*Figure 2. Example of data returned from crop sensing in a prune orchard. Dot colors on the field map indicate the number of fruit per tree, and total field statistics are summarized beneath the image.*

Prune growers can currently get the most bang for their buck by using Dropcopter's crop sensing services to inform thinning decisions. As more technologies like variable rate fertilizer applications become available and accessible, the data provided has the potential to inform increasingly precise farming decisions, minimizing waste and maximizing efficiency. More accurate industry-wide crop estimates can also improve efficiency for handlers, and for processor marketing strategies both domestically and internationally. The

future of this technology is exciting and has great potential for keeping prune growers as profitable as possible in a competitive global market.

To learn more about Dropcopter or to schedule crop sensing services, please visit [www.dropcopter.com](http://www.dropcopter.com) or contact Matt

Koball, Dropcopter Founder and CEO, at [mattk@dropcopter.com](mailto:mattk@dropcopter.com).

\*Please note that this article does not serve as an endorsement of products or services described, but rather an informational article on a new technology available to growers

**Up-to-date *orchard*-related events, news & articles from  
UC Cooperative Extension *farm* advisors from the *Sacramento Valley*.**



The screenshot shows the header of the Sacramento Valley Orchard Source website. On the left, the text reads "Sacramento Valley Orchard Source" with the tagline "Your source for orchard news & information in the Sacramento Valley" below it. In the center is an image of a branch with green leaves and small white flowers. On the right is the "University of California Agriculture and Natural Resources" logo. Below the header is a navigation menu with the following items: HOME, BLOG, ALMOND, PISTACHIO, PRUNE, WALNUT, ET REPORTS, PEST REPORTS, EVENTS, ABOUT US, and a search icon. At the bottom left of the navigation bar is a button that says "Follow @SacOrchards" with a Twitter icon.

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