UC Cooperative Extension
University of California
Agriculture & Natural Resources

Sacramento Valley Almond Newsletter
July 2026

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What's Inside

Upcoming UC Extension Events

	Event	Date	Location	Contact
1	**TTTF: Walnut mold management**	Jul 16	Yuba City	Jaime Ott
2	**Prune Research Tour, Part 2**	Jul 23	Yuba City	Jaime Ott
3	**TTTF: Labor economics**	Aug 20	Orland	Domena
4	**TTTF: IPM Review 2026**	Nov 19	Yuba City	Sudan Gyawaly
5	**Prune Research Conference**	Dec	TBD	Jaime Ott
6	**TTTF: Prune Dormancy**	TBD	TBD	Franz

Almond Summer Management Considerations

Maria Perez, Orchard Systems Laboratory Assistant, UCCE Sutter-Yuba County

July:

- **Irrigation**: Sustain an adequate level of soil moisture to ensure good nut weight gain as the season progresses to harvest cut off. Orchards with moderate to high levels of water stress in the weeks leading up to harvest can reduce the weight of the kernel at harvest. This reduction can lead to a potential loss in yield and profit for the grower. Moderate to high levels of water stress range from -14 to -20 bars while baseline water stress levels can be at -9 bars in standard conditions (95˚F and 30% RH). Consider utilizing a pressure chamber to measure the stem water potential and determine the water stress range of the orchard. Sacvalleyorchards.com has also added a stem water potential baseline calculator that can provide an orchard's baseline with measurements from a pressure chamber.
- **Leaf Sampling:** Consider taking July leaf samples to send for an analysis to check this season's nutrition program and help determine the plan for next season's program. To learn more about leaf sampling and analytical interpretation, see the articles in this newsletter and by The Almond Doctor.
- **Navel Orangeworm (NOW) & Peach Twig Borer (PTB):** Continue monitoring NOW and PTB trap counts as nut development continues to determine management plans for these pests in the orchard. Consider applying an edge spray when sound nuts in edge Nonpareil nuts reach hull split Stage 2C (Figure 1) and a full spray once nuts in the upper canopy of trees within the orchard reach the same stage. Apply a secondary hull split spray prior to harvest as needed. For more information, see our articles on Navel Orangeworm Considerations and 2024 Navel Orangeworm Updates. Consult with your PCA when determining management decisions about NOW and PTB. The 2026 Pest Report can be found here.

Figure 1. Stage 2C of hull split. This is the critical time for NOW insecticide and *Rhizopus* hull rot fungicide applications. The orchard is ready for harvest when all nuts are at Stage 2C.

- **Spider Mites:** Continue monitoring for spider mites and treat as necessary. There can be a substantial leaf drop at harvest due to mite feeding damage which leads to slower drying this year and fewer flowers next year. For more monitoring and treatment information, see the UC IPM site for mites in almonds.
- **Ants:** Monitor for protein feeding ants and consult with your PCA about ant bait materials and application timing. For more information about ant control, there articles here under the Insects & Mites category.

August:

- **NOW Management in pollenizer:** After Nonpareil harvest you may want to spray pollenizer varieties for NOW management. The decision of whether to spray or not should be based on the amount of NOW damage observed in your Nonpareil almonds, progression of the third NOW generation, and when the fourth-generation egg laying will start. If you do choose to spray, plan your application timing based on when you expect to harvest your pollenizers, remembering that pre-harvest intervals are based on the date that you shake, not the date that you pick up the almonds from the orchard floor.
- **Hull Boron (B) Samples:** Boron toxicity or deficiency in the orchards can lead to a reduction in tree health and total yield harvested. Hull analysis results will allow growers to make fertilization decisions with accurate measurements of orchard B levels. Refer to this article for more information about hull boron sampling and analysis.
- **Nitrogen (N) Application:** To support next year's bud development, applying the last N application of the year can be conducted before or after harvest. Using the July leaf sample results can help determine how much N would be necessary for the remainder of this year. If July leaf levels are adequate to high, an additional N application may not be necessary. If levels are low, consider irrigation water nitrate levels when deciding on N fertilizer rates. Having adequate levels of nitrogen before harvest is essential as it is reserved for next year's flowering and fruit set. For additional information about N application in Almonds, refer to the publication "Nitrogen Best Management Practices" from the Almond Board and the CDFA's California Crop Fertilization guidelines for Almonds.
- **Rust:** Monitor for rust in young orchards. Early defloration can result from significant rust infection which can reduce the flower counts next year. See this article on rust management by UC IPM for more information.

Harvest:

- **Harvest when 100% of nuts are at Stage 2C of hull split or more** (Figure 1) and test trees shake clean. This "timely harvest" will minimize NOW egg laying and feeding damage on the harvested nuts, however the chance of Nonpareil

being cleanly hulled and receiving an in-shell premium occurs at stage 5-6. More harvest timing considerations in an article in sacvalleyorchards.com.

- **Dust:** Dust at harvest can create unhealthy environments for workers and community members in and around almond orchards. Plan to minimize dust at harvest by adjusting sweeper head heights, blower spout angles, and fan speed. For additional information on reducing dust impact, see this article from the Almond Board.
- **Shaker damage:** Ensuring all trees are ready to be shaken when starting harvest can help limit shaker damage in the orchard. Conduct a test-shake on trees that have been documented to be the most vigorous and where nuts "stay green" the longest. Depending on scaffold height, consider clamping closer to the scaffold crotch instead of the lower part of the trunk to minimize root damage and get the best shake to the canopy. In young (third and fourth leaf) orchards, be extra cautious when shaking. Shake young orchards last to reduce risk of shaker damage. The cambium toughens as the summer progresses. (look for article on shaker damage being published in the coming weeks)
- **Nut Damage Analysis:** Nut damage analysis (harvest samples) can help you understand the primary sources of nut damage in your orchard and plan for reducing damage next year. After shaking and before sweeping, collect 500 nuts throughout your orchard for analysis. Use the UC IPM Harvest Sample resource and our article on Harvest Damage Evaluation for Almonds to conduct your damage analysis. If you don't have time to crack out your nuts at harvest, you can freeze them at harvest and crack them out later or employ a commercial for-fee harvest analysis. At least one company in the Sacramento Valley offers this service.
- **Don't stockpile wet nuts:** Nuts with hull moisture above 12%, kernel moisture above 6%, or total fruit (hull and kernel) moisture above 9% shouldn't be stockpiled as nut quality could be reduced by mold and concealed damage. Collect nut samples from the top and bottom of the window when checking for moisture, as nuts closer to the bottom tend to have high moisture content compared to those on top of the windrow.

Post-Harvest:

- **Post-harvest irrigation:** Return irrigation to your trees as quickly as possible after harvest to minimize water stress as much as possible. Water stress in August-October can lead to defoliation and interfere with next year's bud development. Dry trees after harvest = fewer flowers next spring = less crop.
- **Post-harvest disease and shaker damage assessments:** When conducting an inspection on the trees after harvest, check for hull rot, leaf rust, red leaf blotch, and shaker damage on the trees after harvest. Refer to the Postharvest Nutrition Review article in sacvalleyorchards.com.

September:

- **Plan fall Zinc (Zn) and Boron (B) Sprays:** Refer to the orchard's nutrient history, July leaf (Zn) and harvest hull B analysis to determine whether an application of foliar Zn and B is necessary. If a foliar spray was used earlier in the season, the spray would remain on the leaves and can contaminate leaf samples. Taking that into account, growers and CCA's can determine an accurate spraying plan for orchard development.
- **Plan for your Fall Potassium (K) application:** Almond trees utilize a major portion of the potassium applied for flower and fruit development. If a fall K application is part of the orchard's nutrient management plan, preparation can begin for the applications. Banded or targeted broadcasting down the tree row are good options for getting your money's worth out of a fall potassium application. Again, see the Postharvest Nutrition Review article in sacvalleyorchards.com.
- **Prepare for cover cropping:** Cover cropping can be considered if growers are looking to improve soil health, providing pollenizer sites for bees, and/or increasing winter water infiltration in their orchards. If you're considering planting a cover crop this year, you'll want to get the seed in the ground by the end of October. Start considering your options now using the UC-Almond Board Cover Crop Best Management Practices guide.

Reminder: Summer tissues sampling

Franz Niederholzer, UCCE Orchard Advisor, Colusa and Sutter-Yuba Counties

Nutrient inputs (fertilizer, amendments, etc.) are expensive. Crop losses from nutrient deficiencies cost the grower even more. For example, fertilizer inputs (nitrogen, potassium, zinc, and B where needed) can run to **$**500 per acre, but nitrogen (N) deficiency alone reduced almond yield by more than 500 kernel **pounds** per acre in a UC study. Excess orchard N can increase risk of future crop losses from leaf rust and hull rot and increase sanitation costs after harvest.

A summer (July) leaf sample paired with a hull sample at harvest is an important check on orchard nutrition status, helping deliver the best results from a fertilizer program. Separate samples from each variety in the orchard help keep yields consistent and orchards healthy over time. Leaf analysis costs are roughly a dollar/acre for a 50-100 acre block, and when done correctly, worth far more to the grower.

Following certain steps ensures consistent, accurate results.

- Only sample fully expanded, healthy leaves from non-bearing spurs [Leaves from bearing spurs have lower nutrient levels than leaves from non-bearing spurs.] All the UC research and tables (see Table 1 below) are based on leaf samples from non-bearing spurs. A sample of about 100 leaves is the target volume.

- Take samples from trees at least 90 feet apart from across the orchard where trees of the same variety/rootstock are of similar size and health. If there is a "problem" section of the orchard, take a separate sample for that area and compare the results when the lab report arrives. Some growers and/or PCA/CCAs flag or otherwise mark trees and use those same trees each year to reduce tree-to-tree variability in lab results.
- Keep the leaf samples refrigerated and hand-deliver or over-night express to the lab.
- To check orchard boron (B) status don't use July leaf samples but grab about a pint of dried hulls from windrows across a field just ahead of pickup and ship to the lab.
- Leaf sample results influence decisions that can run to tens of thousands of dollars per orchard. Therefore, the person pulling the tissue samples should be trained and carefully follow the sampling steps listed above.

Leaf and hull sample results should be reviewed in combination with yield data for the past year as well as notes about orchard health (vigor, etc.) to best evaluate an orchard fertility program for the past year and plan for next year. Remember that half the trees in the orchard are below and half are above the value shown on the nutrient report. Given this, an article last year argued that 2.4% N should be the goal on the July report.

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Table 1. Critical nutrient levels for almond leaves sampled in July (from fully expanded leaves on non-bearing spurs) and almond hulls sampled at harvest (modified from table in Almond Production Manual; UC ANR Pub. 3364) plus almond crop nutrient use per 1000 pounds of kernel crop.

Nutrient	Deficient	Adequate	Excessive	Crop nutrient use per 1000 lbs kernel crop
Nitrogen (N)	< 2.0%	**2.2-2.5%**	> 2.7%	68 lb N
Phosphorous (P)		**0.1-0.3%**		18 lbs P_2O_5
Potassium (K)	< 1.0%	**> 1.4%**		95 lbs K_2O
Calcium (Ca)		**> 2.0%**		7 lbs Ca
Zinc (Zn)	< 15 ppm			1 oz Zn
Manganese (Mn)		**> 20 ppm**		

Copper (Cu)				
Magnesium (Mg)				
Sodium (Na)			> 0.25%	
Chlorine (Cl)			> 0.3%	
B (hulls @ harvest)	< 80 ppm		> 200 ppm	0.33 lb B

The crop nutrient use data presented here are taken from this source: Final Report 2008-13 CDFA Fertilizer Research and Education Program, 10-0039SA, Project Leader: Dr. P.H. Brown, UC Davis Department of Plant Sciences

Early Harvest Considerations

Franz Niederholzer, UCCE Orchards Advisor, Colusa, Sutter-Yuba Counties

Early bloom and a warm March contributed to rapid almond crop development this year, with kernel fill and first hull split at least a week ahead of past years. Please consider the following suggestions when planning for preharvest pest management.

- Harvest timing: While harvest timing varies with orchard location and management, an earlier than usual harvest timing is expected. From what I can tell, many growers may start shaking in mid to late July. Shake date, not pickup date, should be used with pesticide preharvest Intervals to comply with label requirements.
- Hull split spraying reminders:
- First hull split sprays were early, with many sprayers going the week of June 15.
- Based on current heat unit (degree day) accumulations, the third generation of NOW should start 7 to 10 days ahead of last year. If timely Nonpareil harvest can be ahead of that generation, worm damage should be reduced. Test shakes are critical to balancing shake timing for best product quality and trunk health (no bark damage) with pest management (avoiding NOW).
- Slow sprayer speeds (for example, 2 MPH) and higher spray volumes (150-200 gallons per acre) deliver better pest management compared to higher sprayer speeds and less spray volume (for example, 3 MPH;100 GPA).
- Spraying when relative humidity drops below 40% can reduce spray coverage through evaporation. For better spray coverage, apply foliar sprays in the late evening into early morning under high heat and low humidity conditions.
- If planning to use ant bait this season, consider advancing your ant bait spreading timing to match up with projected earlier harvest. If we have a poor almond drying year (smoke, higher humidity, etc.) it will be important to have good ant control where treatment is needed.

Hot humid summer and wet winter ahead?

Franz Niederholzer, UCCE Orchards Advisor Colusa and Sutter-Yuba Counties

When planning orchard operations for this fall and winter, consider including options for a warm fall and/or a very wet winter.

On June 11, 2026, the National Weather Service issued an El Niño Advisory, warning there is currently a "63% chance of a very strong El Niño from November to January". What could this mean for the Sacramento Valley? Considering past El Niño events, weather in the rest of 2026 and into 2027 could include above-average temperatures extending into the fall, and a significant increase in winter rains. In the winters of 1982-83 and 1997-98, strong El Niño weather events contributed to record annual rainfall totals (for example, 35-40" in Colusa County), producing significantly higher river levels, and flooding in the Sacramento Valley.

What is the short-term forecast? As of June 18, the National Weather Service's Climate Prediction Center is predicting "likely above normal" temperatures and equal chances of normal precipitation for August through September. Fall forecasts will be released later this summer.

For more information on the current El Niño forecast, check out Dr. Daniel Swain's Weather West blog. Dr. Swain is a climate scientist with UC ANR and the National Science Foundation's National Center for Atmospheric Research.