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Sacramento Valley Almond Newsletter
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Upcoming Events

Event	Date	Location	Contact
TTTF: IPM Review 2026	Nov 19	Yuba City	Sudan Gyawaly
The Almond Conference	Dec 8-10	Sacramento	The Almond Board of California
TTTF: Prune Dormancy	Dec 17	Yuba City	Franz Niederholzer
Yuba/Sutter Spray Safe	Jan 13	Yuba City	Yuba/Sutter Farm Bureau

Almond Management Considerations – Fall 2026

Maria Perez, Staff Research Associate, UCCE Sutter-Yuba

Post-Harvest Nutrition: To plan for potential fall Boron, Zinc, and Potassium applications, consider referring to the results of the July leaf samples and harvest hull samples, along with 2026 yield.

- **Boron:** A fall application of boron (B) can increase yield by hundreds of kernel pounds per acre if harvest hull B analysis results show deficiency.
- **Zinc:** A fall spray is recommended to provide adequate amounts of zinc that would promote good growth next spring. Use a high rate (20+ lbs zinc sulfate per acre) in November or a lower rate (5 lbs/acre) in October.
- **Potassium:** If a fall application is considered, potassium should be banded or concentrated in micro-irrigation zones.
- **Nitrogen:** A fall application of nitrogen does not provide the same benefits as the other nutrients and can be reduced or skipped if July leaf sampling results showed a nitrogen level of 2.4% or higher.

Cover Crops provide benefits such as increasing water infiltration and soil water holding capacity, providing additional forage for bees in the spring, and allowing field access when the soil is wet. It is recommended to plant by the end of October and to ensure proper germination by monitoring soil moisture and irrigating, if necessary, after planting. An alternative option would also be to maintain resident vegetation in the row-middles which still provides many of the same benefits. Spreading shell is another low-cost approach for increasing water infiltration.

Weed Survey: After the first rain, scout for weeds and develop your weed management strategy for next year.

Winter Sanitation: As mummy nuts are nesting grounds for navel orangeworms and Carpophilus beetles, conducting a survey can help determine if orchard sanitation is necessary. The Sacramento Valley practice has been to count the mummies in 20 trees per orchard. If an average of 2 or more mummy nuts are found per tree, sanitize by shaking or poling nuts to the ground by Feb. 1.

Dormant Spur Sampling: For scale and mite eggs, while also examining green shoots for scab lesions will inform if a dormant spray(s) is a critical investment this winter

Honeybee Planning: Get your order in for 2-3 strong (8 frame/hive) honeybee hives per acre for February pollination. Self-fertile varieties should have 0.5-1 hive per acre.

Weather Considerations: With the winter season incoming, consider how the potential rainfall could affect orchard management and how to minimize negative

impacts. The higher possibly of rain also brings concerns such as an increase of disease like phytophthora which can affect plant production. More information can be found in our phytophthora management and considerations article in this newsletter.

Process Harvest Samples: Evaluating harvest samples out of the freezer would help identify specific pest damage. While grade sheets do not usually specify between different types of insect damage, evaluating harvest samples can serve as a baseline for your 2027 pest management program.

Phytophthora and waterlogging considerations for a very wet winter

Jaime Ott, Orchard Advisor, UCCE Tehama, Shasta, Glenn, and Butte Counties

This winter is likely to be very wet, and now is the best time to start preparing. Wet winter weather can bring on a host of problems for orchards, including waterlogging, Phytophthora root and crown rot, and aerial Phytophthora infections. Flooding by rivers, standing water/soil saturation, and heavy rain events each come with their own risks and challenges. This article will summarize the major challenges growers might face in a wet year, introduce basic mitigation strategies, and point you to additional information.

The Bottom Line

Start preparing for wet weather: clear ditches, make sure drain tiles are working properly, dig trenches or build berms to redirect water away from your orchard.

Consider a phosphite/phosphonate foliar spray or chemigation this fall if your orchard has a history of flooding from nearby canals, creeks, or rivers.

Consider a phosphite/phosphonate foliar spray or chemigation, or a Ridomil Gold or Orondis chemigation next spring if you experienced prolonged flooding/standing water or if you see symptoms of Phytophthora root/crown rot.

Consider growing a cover crop or retaining resident vegetation to improve water infiltration, reduce erosion, and allow for earlier equipment access.

Keep records of any flooding or standing water.

Avoid pruning when there is rain in the 10-day forecast. Pruning right after harvest might be your best window this year.

Consider a phosphite/phosphonate foliar spray or chemigation, or a Ridomil Gold chemigation next spring if you see aerial Phytophthora infections of pruning wounds or young shoots.

*any mention of a pesticide product is for illustration only and is not an endorsement or a pesticide recommendation, simply the sharing of research results. Consult your PCA and always read the pesticide label; the label is law.

The Details

We are coming into what is predicted to be a very wet winter. Current predictions are that we will have normal rainfall in October and November, but very high rainfall amounts from December through February. Check out the 2026 September update on Dr. Daniel Swain's Weather West YouTube channel for more information about the predictions for this year. In a wet, rainy winter, we may have to contend with flooding from nearby waterways, with standing water left over after flooding or from poor infiltration, or with saturated soil from high groundwater levels or from levee seeping. These conditions can lead to Phytophthora root/crown rot, waterlogging, or both.

Phytophthora root/crown rot is a disease caused by various *Phytophthora* species which take advantage of saturated soil to infect the roots and crown of the tree. If trees are exposed to flooding, this infection can start as high on the trunk as the floodwater reached, but generally these infections are seen coming up from the soil. Most *Phytophthora* species require at least 24 hours of soil saturation or flooding to initiate infection, so short-duration flooding or soil saturation is of less concern than prolonged periods of too much water. Symptoms are frequently not noticeable until after the tree breaks dormancy. Symptoms include yellowing leaves, poor vigor, lack of fine roots, amber-colored gumming associated with cankers (areas of dead tissue) on the trunk, and sudden tree collapse after bud push in the spring or after the weather warms up in early summer. If you excavate a tree, you may see a significant lack of fine roots, or distinct cankers with clearly defined edges on the larger roots.

Preventing saturated soil conditions or flooding in the first place is your first line of defense against Phytophthora root/crown rot (see more details below). However, if your orchard has historically flooded in wet years, you may consider applying a protective potassium phosphite or phosphonate (e.g. Kphite) foliar spray or chemigation this fall. This treatment can provide up to 5 months of protection against *Phytophthora* species. If you do experience prolonged periods of flooding, standing water, or soil saturation this winter, keep a close eye on your trees as they come out of dormancy—if you start to see symptoms of Phytophthora root/crown rot, consider applying a phosphite/phosphonate foliar spray, or a Ridomil Gold (mefenoxam) or Orondis (oxathiapiprolin) chemigation next spring. Any treatment needs to wait until the tree is truly out of dormancy, so plan to treat from mid-March through mid-May. Be especially watchful for symptoms in young trees (up to 3-4 years old), since they are more susceptible to infection and more likely to be killed if they become infected. In some cases, it could be justified to apply Orondis in the spring if a young block is

flooded, before symptoms are visible. As a note, trees are much less susceptible to Phytophthora root/crown rot when they are dormant, so winter flooding is less concerning than flooding in the spring.

Waterlogging is a physiological problem which is not caused by an aggressive pathogen. When soil is saturated with water, there is little or no oxygen available and the roots (which require oxygen) suffocate. Generally, this takes some time (days to weeks) and is most damaging in cases with standing water, rather than moving water, and when the soil saturation happens while the trees are growing, rather than in the dormant season.

Like with Phytophthora root/crown rot, symptoms are frequently not noticeable until after the tree breaks dormancy. Symptoms include delayed budbreak, yellowing leaves, and poor vigor. Waterlogging generally leads to tree decline rather than a sudden collapse, but can result in tree death if the soil saturation is ongoing and severe. If you excavate a tree, you may see a significant lack of fine roots, and dead medium and larger roots. The duration of the soil saturation will affect the size of roots that are affected. Unlike with Phytophthora root/crown rot, you will not see a distinct boundary between dead and healthy tissue, and you will not see gumming on the trunk.

Preventing saturated soil conditions, standing water, or flooding is your only defense against waterlogging. Since this is a physiological problem, a lack of oxygen for the roots, the only way to improve conditions is to remove excess water from the soil. Waterlogging is worse on heavier soils, compacted soil, or soils with a hardpan layer. Practices which improve water movement through the soil or away from the orchard will help prevent or mitigate waterlogging.

General prevention for Phytophthora root/crown rot and waterlogging is, luckily, the same. In both cases, you want to prevent flooding, prevent standing water, and prevent soil saturation. After harvest is a good time to take stock for the upcoming winter: how can you keep water moving through and out of the root zone of your trees? Make sure your drainage ditches and culverts are clear and won't back up into your orchard. Consider digging trenches to channel standing water away from your orchard. If your area is prone to flooding, consider building berms to protect your trees if nearby waterways overflow. Keep equipment out of the orchard when soil is wet, as compaction is much worse in wet soil.

This may be a good year to plant cover crops, or to allow the resident vegetation to grow in your orchard. Keeping the ground covered and roots in the soil will help with water infiltration, reduce runoff and erosion, and allow for earlier equipment access. The extra leaf area can also help dry out saturated soil more quickly. Check out this cover crop selector tool from the Western Cover Crop Council.

If you do experience flooding or standing water this winter, there are a few things to consider:

1) Try to keep records of what happened: when did the flooding start? What areas were affected? How long was the area flooded? When did you notice the first symptoms?
2) In most cases it is worth keeping the damaged trees for a while, both for insurance purposes and to see what recovers. This is especially true of cases where you are dealing primarily with waterlogging.
3) Both waterlogging and Phytophthora root/crown rot compromise the root systems of your trees. When spring rolls around and you start thinking about irrigating, proceed with caution to not make your problems worse. Affected trees will take up less water than their healthy counterparts. They also might have a much shallower root system and need more frequent irrigations with a shorter duration. If you use the pressure chamber to guide your irrigation decisions, understand that the trees with compromised root systems might seem stressed, but in many cases adding more water won't help the problem. Use a combination of pressure chamber and soil moisture monitoring to understand when it is time to irrigate affected trees.
4) Prolonged flooding and soil saturation can have long-term impacts on your trees. It may take a year or two for trees to recover.

Aerial Phytophthora, or Phytophthora pruning wound canker, caused by *Phytophthora syringae* is another problem we could face if this winter is as wet as predicted. This is different from the Phytophthora infections mentioned above, when flood water causes infection high on the trunk of the tree, though some people will also refer to that as aerial Phytophthora. Aerial Phytophthora (Phytophthora pruning wound canker) made a comeback with the atmospheric rivers we had in 2023. Infection by Phytophthora syringae is favored in windy, rainy conditions. Symptoms include profuse gumming from cankers originating at pruning wounds or gumming at the base of dead young shoots. Cankers can expand rapidly in cool weather, sometimes leading to large branch dieback. In young trees, receiving large training cuts, this disease can be particularly damaging. Cankers stop expanding when the weather gets above 73ºF, and the pathogen dies out when the weather warms up in the summer.

Like with all pruning wound diseases, the risk of aerial Phytophthora can be minimized by pruning during dry weather. After harvest is an excellent time to make pruning cuts. Unprotected pruning wounds are susceptible for up to 4 weeks, but applying a phosphonate product directly to the fresh pruning wound reduces the chance of infection. Note that *Phytophthora* species are NOT true fungi, so fungicides

like Topsin and Rhyme are not effective for preventing or treating Phytophthora infections.

If your orchard develops aerial Phytophthora, there are several chemical management tools at your disposal. Potassium phosphite or phosphonate can be applied as either a foliar spray or by chemigation. Ridomil Gold (mefenoxam) can be applied via chemigation. All these treatments need to be applied when the tree is fully out of dormancy and completely leafed out, coinciding with the spring root flush. This is generally mid-March through mid-May. Note that Orondis (oxathiapiprolin), which is very effective in treating Phytophthora root/crown rot, is not mobile enough to effectively treat aerial Phytophthora.

For more information check out these articles at sacvalleyorchards.com:

Flood Damage

Waterlogged Orchards and Phytophthora

Wet winter concerns: Phytophthora and waterlogging

Wet years can lead to aerial Phytophthora outbreaks in almond orchards

Sacramento Valley almond crop quality update, 2026

Franz Niederholzer, Orchards Systems Advisor, Colusa and Sutter/Yuba Counties
Sudan Gyawaly, UC IPM Advisor, Sacramento Valley

The most recent Position Report released by the Almond Board of California shows a 0.55% drop in total rejects from 2025 (2.25%) to 2026 (1.70%) for the month of August in the Sacramento Valley.

The August report is the first for the new crop year and Nonpareil and Independence deliveries make up most (>95%) of August receipts in 2025 and 2026. Nonpareil receipts were 75-80% of the reported August volume for both years.

Current reject trends differ by variety. Early receipts in the Sacramento Valley show a marked improvement in Nonpareil quality from last year, and an upward trend in Independence rejects. August, 2025 Nonpareil rejects were 2.4%, dropping to 1.6% this (2026) year. In comparison, Independence rejects rose from 1.7% in August, 2025 to 2.2% for the same period in 2026.

It is very early to draw solid conclusions regarding crop quality for the entire season, but some possible explanation(s) for the August data are emerging from trap counts and conversations with growers and PCAs.

- Navel orangeworm pressure appears generally lower this year than 2025. It's hard to tell exactly what contributed to this situation, but strong contributors include excellent sanitation weather early last winter, lack of sustained heat through the summer, and active pest management (mating disruption, multiple hull split sprays) as nut prices continued to climb .
- Reports of significant "brown spot" damage in the Sacramento Valley, particularly in Independence. In this region, brown spot is thought to be largely due to leaffooted bug (LFB) feeding. LFB numbers probably increased this spring following a warm winter and very warm March which encouraged early dispersal of adults from their overwintering sites.
- Kernal gumming, often on the nut tip, of large nuts, possibly due to rapid nut growth in the warm weather of late February and all of March.

What are our initial impressions from these early quality reports?

- Keep a strong focus on NOW management. Sanitize carefully, use mating disruption, spray carefully, and harvest mature nuts as soon as prudent. Are trap counts decreasing in areas where mating disruption is used?
- Keep up monitoring LFB, spray carefully, and work with your neighbors to reduce overwintering food sources for LFB near orchards, such as old pomegranate fruit.
- The cause(s) of kernel gumming (and what to do about it) will be a topic of discussion all winter. At least a part of the problem in some orchards may be low boron (B) levels. If B is low, this can be corrected with proper rates and timing of B fertilizers. Consult with your CCA regarding a B program right for your orchard if harvest hull levels are low (<80 ppm) to moderate/adequate (100--150 ppm).

  It's a challenge to balance sufficient B for the crop without overdoing it – excess B can harm yield. Yet B losses from an orchard can be significant. Boron can be leached from soils with winter rains and crop B use. A 1000 lb of kernel crop removes the equivalent of 1 lb of 20% B fertilizer (Solubor•, etc.) when hull B is at 100 ppm B (most of the B in almonds is in the hull). Now is the time to plan a B program for the 2027 almond crop.

Red Leaf Blotch update, September 2026

Jaime Ott, Orchards Advisor, UCCE Tehama, Shasta, Glenn, Butte

Red Leaf Blotch (RLB) is a foliar disease of almonds, first identified in 2024 in the northern San Joaquin Valley. In 2025, it was first detected in the Sacramento Valley, and currently the disease has been reported throughout our region. In other countries

where this disease occurs, it is considered the most damaging foliar disease of almonds and is what fungicide spray programs are built around. It is likely that RLB will become a significant disease in California almonds.

Symptoms of RLB (Figure 1) first appear in late April to early May as small, diffuse yellow spots on leaves. These spots expand and turn orange, eventually producing reddish-brown spores. Through June and July, leaves curl, become necrotic, and fall off.

Figure 1. Symptoms of Red Leaf Blotch (RLB).

Left: early May, small diffuse yellow spots.

Center: mid-June, spots enlarge and turn orange, eventually developing red-brown spores. Right: late July, leaves become necrotic, curl, and fall off (Photo credit Trouillas Lab)

Even though symptoms aren't visible until May, the infections happen much earlier in the spring. This means that **preventative fungicide sprays are the only way to manage this disease**, and treatment after symptoms are visible is ineffective. The fungus overwinters on fallen leaves. When it rains in the spring, spores are released which infect newly-emerging almond leaves. These infections can occur during and after rains starting in approximately late February through late April. It is important to note that RLB is not like rust, where spores produced during the season can cause new infections. All the infections for the year are established in the spring.

The most effective products* to control RLB included various mixed fungicides with FRAC groups 3 + 7 (e.g. difenoconazole + pydiflumetofen); 3 + 11 (e.g. difenoconazole + azoxystrobin or tebucnonazole + tryfloxystrobin); 7 + 11 (e.g. fluopyram + trifloxystrobin, fluxapyroxad + pyraclostrobin, or boscalid + pyraclostrobin); 7 + 12 (adepidyn + fludioxonil), and FRAC 3-triazoles (metconazole

or flutriafol). Be mindful to follow all label instructions, and to rotate chemistries to prevent resistance development.

Spray timing is crucial for RLB control and is based on leaf emergence and rain. For orchards at risk, the first spray should be at petalfall/first leaf emergence, with a second spray 2-3 weeks later, and, if wet weather continues, a third spray 5-6 weeks after the first. Sprays are most effective if applied right before a rain event.

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Updates on invasive carpophilus beetle in the Sacramento Valley

Sudan Gyawaly, UC IPM Advisor, Sacramento Valley

Carpophilus truncatus, commonly called the carpophilus beetle, is a tiny (~1/10 inch long) insect and a new threat to California nut crops. A key pest of almonds in Australia, this insect reportedly causes an average of 2-5% damage in Australian almonds. The beetle was first detected in multiple counties in the San Joaquin Valley almond and pistachio orchards in 2023; since then, it has been found in these nut crops in other regions across California, including the Sacramento Valley.

I have been conducting detection and monitoring surveys of this pest as part of statewide surveys, in collaboration with other UC entomologist colleagues, in multiple nut-crop orchards for the last couple of years. My recent surveys have confirmed that the beetle is also present in several orchards in the Sacramento Valley, though we have not seen widespread damage by this pest yet. In our surveys, the traps captured several thousand beetles (most of which were from one of multiple carpophilus species that don’t attack nuts in the tree), but a small number were *C. truncatus* beetles recovered from two almond and two pistachio orchards.

In addition to the trap survey, we also received multiple suspicious beetles and infested nut samples from PCAs and Consultants throughout the season. After diagnosis, we found several *C. truncatus* beetles and larvae in walnut samples recently collected from the orchard floor of a well-managed Chandler orchard in the region. A well-known pest of almonds in Australia, *C. truncatus* has been reported in walnuts in other countries, including Italy, Chile, and recently Australia, but the degree of infestation in walnuts seems lower than in almonds and pistachios. In the Central Valley, *C. truncatus* was first detected infesting a walnut block in Stanislaus County in 2023. The detection of this beetle in the walnut block in our region highlights the importance of paying attention to this pest in walnut orchards as well.

The carpophilus beetles overwinter as adults in remnant nuts, known as "mummy nuts," predominantly in the ground. They seem to utilize those nuts for building populations until the hullsplit. Therefore, orchard sanitation, particularly shredding or destroying nuts on the ground, is a critical management practice for this pest. In studies conducted by UC researchers, insecticides have provided limited control of this pest so far. In summer, beetles lay eggs on hullsplit nuts, and larvae and adults feed directly on the kernel. This beetle's damage can be confused with navel orangeworm damage, as both feed on the kernels and often infest the same nut, making it challenging to find tiny beetle larvae in a mix of frass and nutmeat powder. Navel orangeworm feeding produces brown frass with copious webbing, while carpophilus beetle produces fine powder frass with minimal webbing. Inspecting hull-split nuts during the season and/or mummy nuts during the winter is the best way to detect these beetles and damage. Additionally, a visual guide is available to identify carpophilus beetle damage; you can access it by clicking the link or googling “visual guide to identify carpophilus beetle damage”. We will continue to monitor this pest to track its status in the Sac Valley, and we encourage you to contact us if you need help identifying beetle damage or have seen any.