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Franz Niederholzer
UCCE Farm Advisor
Sutter, Yuba, and
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Fall Prune Orchard Management Considerations

Clarissa Reyes, North Sacramento Valley Orchard System Staff Research Associate

Irrigate to **maintain mild to moderate water stress** post-harvest. Stem water potential should be between -12 and -16 bars as measured by a pressure chamber. Avoid high water stress levels as *Cytospora* spreads faster in stressed trees compared to adequately watered trees.

Prune to remove *Cytospora* and to manage next year's crop:

- Remove existing [cytospora](#) cankers and spore sources (see photos in this newsletter) by cutting branches several inches to a foot below the symptoms and burn prunings (if permitted).
- Consider your management goals: topping young vigorous trees before a big wind can reduce risk of blow-over, while [long pruning](#) can increase early yields in young prune plantings.
- Prune early in the fall to allow cuts to harden off before seasonal rains. Protect fresh wounds from water-borne spores with a fungicide spray (Topsin-M® or Topsin-M® + Rally®).

Sanitize your orchard by removing fruit mummies and blighted shoots to remove disease inoculum. Remove bark damaged during harvest (cutting back to "tight bark"), and backhoe out diseased or dead trees to prepare for replants.

Take soil samples to check soil salinity and toxic salt (chloride, sodium and/or boron) levels going into what could be another dry winter. This is especially important for newer orchards on Krymsk 86 rootstock, which is more sensitive to chloride than Marianna or Myro. UC ANR provides a [free video series on soil sampling](#).

Band potassium (K) in the soil, based on July leaf sample results, visual symptoms, and the amount of fruit harvested this year. Some growers wait to check cropload in the spring before applying any potassium. In-season potassium options include foliar sprays and/or fertigated material.

Apply foliar zinc (Zn) to correct zinc deficiency (July leaf sample <18ppm). Spraying 20 lbs/acre of 36% zinc sulfate in late October can deliver needed zinc into the tree and, in addition, can facilitate leaf drop, reducing risk of blow over and/or disrupting aphid reproduction. Be sure to time with natural leaf drop because early defoliation may interfere with plant carbohydrate storage.

Plant new trees. Protect trees from sunburn and herbicides with white interior latex paint diluted 2:1 water to paint, plus tree wraps. If tree wraps are used without painting trees, the boxes should be flattened (◇ from the top, not □) to avoid "wrapper burn." Research in almonds shows that white paint, alone, doesn't protect young tree trunks from herbicide damage.

[Check irrigation system](#) for uniform distribution to prepare for heat or frost protection during bloom.

[Survey for weeds](#) after the first rain to identify perennials, germinating winter annuals, and summer species that escaped the past season's control tactics to inform next year's control strategies. UC IPM provides a [printable weed survey form \(PDF\)](#).

[Manage gophers](#) when populations are at their lowest before the breeding season (March-May). Trapping, fumigation, and baiting can all be effectively utilized when soil is moist.

[Sample dormant spurs](#) to determine pest management needs for aphids, [mites](#), and scale pests.

- **Aphid:** If you have a history of aphid infestations, assume you have an annual problem and [treat aphids between fall and leaf out](#).
- **San Jose Scale:** Where spur sampling shows a need, treat low to moderate populations with oil, or for moderate to high infestations, oil with insect growth regulator (Centaur®, Seize™). Check with your PCA about using oil if the trees and/or soil are dry to avoid oil burn damage, especially to young shoots.
- **Peach Twig Borer (PTB):** PTB can infest prunes. Dormant sprays of oil plus spinetoram (Delegate®), spinosad (Entrust™, Success™) or diflubenzuron (Dimilin®) will kill overwintering larvae without causing water quality issues—oil alone does not control peach twig borer. Managing PTB is part of a fruit brown rot control program as skin damage from worm feeding provides an avenue for disease infection. Including B.t. (Javelin, Dipel, etc.) with bloom fungicide sprays will also give good PTB control if a dormant spray is not needed for scale.

Battle Back Against Cankers Before They Kill Your Trees!



Cut it out and protect it!

*Luke Milliron, UCCE Orchard Advisor Butte, Glenn, and Tehama Counties;
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Step 1. Prune to remove Cytospora! Remove existing cytospora cankers and spore sources (see photos) by [cutting branches several inches to a foot below the symptoms](#) and burn prunings (if permitted). If you fail to remove these cankers, they will likely continue to grow and eventually kill the tree.

Step 2. Prune early in the fall to allow cuts to harden off before seasonal rains. Protect fresh wounds from water-borne spores with a fungicide spray (Topsin-M® or Topsin-M® + Rally®).

You can learn more in an **upcoming webinar: Practical Canker Management in Almond and Prune**

When: Thursday Sep 29, 2022 9:00-10:30 AM. [Register in advance for this webinar!](#) After registering, you will receive a confirmation email containing information about joining the webinar. For folks who can't attend or want to watch it back - this webinar will be recorded.



Upper left: Cytospora canker – clear canker margin and evidence of devastation in the background (photo: Niederholzer). **Upper right:** Cytospora canker in a major scaffold – clear evidence of the canker continuing beyond the cut (dark brown – dead bark on the outside of the cut surface, with the canker continuing down the scaffold, photo Milliron). **Lower left:** Photo of newly dead (2022 season) branches – infected at mechanical pruning cuts – photo taken during 2022 harvest (photo Niederholzer). **Lower right:** The bumps below this mechanical cut indicate that the bark has been killed and has now become a spore source (the bumps are pycnidia which will release fungal spores that can infect new trees during the next storm event, photo Niederholzer).

New prune varieties show promise in reducing fruit drying costs.

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

2022 is a year of ugly jerks in input costs. Fuel and fertilizer prices are way up. Higher natural gas and labor costs are pushing up drying costs, further reducing net grower returns in what looked to be a good market year. Mechanical pruning and careful production practices (to name a few steps) may help cut costs in the short term in established orchards. In the long run, cutting drying costs and increasing harvest timing flexibility may help prune growers net returns and stay in business. This long-term picture will require developing and field-testing new prune varieties that market like 'French' prune but have much lower dry away ratios (2-2.5) and hang longer on the tree without harming dried fruit quality.

The UC Davis Prune Variety Development program, funded by the CA Prune Board, has developed several French-type prune varieties with low dry away numbers (2-2.5). These varieties "dry on the tree" while retaining

good fruit quality. Projected savings for grower could be hundreds of dollars per acre in drying costs (see projected costs in the table below). These new varieties can be harvested over a longer time period giving growers more flexibility in managing harvest. More information on new varieties and contact information for UCD Prune Devo program are available [on-line](#).

Four new, numbered varieties performed well in small trials over several years. These varieties must be field tested in small plantings (1-2 acres) before a large orchard should be planted. Test trees are available to interested growers. For more information on availability of test trees, contact Sarah Castro (scastro@ucdavis.edu) with UC Davis Prune Variety Development program.

Projected differences in hauling and drying costs for 'French' prune (thinned or unthinned) and a new, unreleased 'French'-type prune variety (J2N-128). These figures are intended as an example of possible production values.

| Treatment | Fresh tons/acre | Yield (dry tons/a) | Trucking cost \$/acre (@\$12/ton) | Dry away | drying cost/acre (\$175/green ton) |
|-------------------|--------------------|--------------------------|---|-------------|---|
| French, unthinned | 9.3 | 3 | 111.6 | 3.1 | 1627.5 |
| French, thinned | 8.7 | 3 | 104.4 | 2.9 | 1522.5 |
| J2N-128** | 6.6 | 3 | 79.2 | 2.2 | 1155.0 |

**This variety selected only as an example. There are four 'French' type varieties that show promise.

New IPM Advisor Introduction

Sudan Gyawaly, UC Area Integrated Pest Management Advisor Butte, Sutter-Yuba, Glenn, Colusa, & Tehama Counties

I joined UCCE as an Area IPM Advisor based in Butte County in July and am very excited about this opportunity. I will oversee Butte, Sutter-Yuba, Glenn, Colusa, and Tehama counties and look forward to working with the growers in the region. I was born and raised in Nepal, a south Asian country, where I completed an undergraduate degree in Agriculture. I worked in rural areas of Nepal for a couple of years, providing sustainable vegetable production and pest management training to growers before moving to the United States in 2009 for graduate studies.

I have an academic background in pest management and have an M.S. and a Ph.D. degree in entomology from West Virginia University and Virginia Tech, respectively. Most recently, I worked as an Associate Specialist at UCCE Stanislaus County, where I worked on various tree nuts pests, including walnut husk fly, navel orangeworm, and Pacific flatheaded borer. Before that, I was a post-doc at North Carolina Agricultural and Technical State University in Greensboro, NC. At Greensboro, I researched pest management on vegetables and fruit trees on small farms.

I am currently learning about the crops and pests situation in the region by meeting and talking with growers and other stakeholders. I plan to develop a need-based applied IPM research and extension program for orchard crops, including walnuts. I will design and deliver IPM information using various extension tools, including personal consultations, print publications, public presentations, and field days.

I can be reached by phone at 530-538-7201 or by email at sgyawaly@ucanr.edu.



Upcoming Orchard Meetings

| | |
|--|---|
| Thursday September 29 | Prune & Almond Canker Zoom Webinar (9-10:30 AM) |
| Thursday January 19 | North Valley Nut Conference - Silver Dollar Fairgrounds |
| Wednesday February 22 | South Valley Prune Meeting – Sutter Co Ag Building |
| Thursday February 23 | North Valley Prune Meeting - Red Bluff Elks Lodge |
| Thursday March 2 | Tehama Walnut Meeting - Red Bluff Elks Lodge |
| Many more meeting dates to come! Details will be at www.sacvalleyorchards.com | |



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