



Summer 2019 | Stanislaus County Cooperative Extension

Author



Kari Arnold, PhD
 Area Orchard & Vineyard
 Systems Farm Advisor
 (209) 525-6821
 Email: klarnold@ucanr.edu



Walnut News

& *Fruit for Thought*

Covering walnuts, cherries,
 apricots & grapes

In this Issue

Walnut Blackline	2
Howard Fallen Nuts	2
Grapes	3
Cherries	3
Apricots.....	3

Announcements

Not everything is better in black & white...

In an effort to control costs, newsletter hard copies are provided via regular mail in black and white. To view color versions, please visit our website at:

cestanislaus.ucanr.edu

Walnut Blackline Disease

Walnut Blackline Disease has been an issue in walnuts for many years. Symptoms are similar to *Phytophthora* and *Armillaria* infections in that infected trees show dieback of terminal shoots and decline, commonly looking their worst in July and August. The difference that separates this disease from a root and crown infecting fungus is this disease is caused by a virus, and a distinctive blackline (in the case of black walnut rootstocks) or a canker (in Paradox rootstocks) develops at the graft union. Affected trees tend to sucker profusely.

The virus responsible for the issue is *Cherry leafroll virus* which enters the English scion by way of infected pollen from infected trees. The infection then reproduces and moves into the English walnut, unnoticed, because the English walnut is tolerant of the virus and expresses no symptoms. When the virus reaches the Northern California Black walnut rootstock, or paradox rootstock, which is a hybrid cross of Northern California Black and English, a hypersensitive response in the form of cellular death occurs because the Northern California Black walnut is resistant to the virus. Resistance is typically a benefit to most crops; but in this case, it produces a negative response.

A tell-tale sign of the problem can be seen when removing the bark from the graft union. This may

be needed in a number of places along the graft union because the blackline is not always continuous.

Walnut blackline affected trees will continue to decline and there is no mitigation to cure them. These trees should be removed because their infected pollen is spreading to other trees in the orchard. Often times as trees decline due to blackline, the orchard is removed and replanted.

Walnut Blackline Disease is more prevalent in the Northern San Joaquin and Southern Sacramento Valleys. One form of mitigation is to plant own rooted English clones such as Chandler, or graft onto English seedlings. This practice requires good, well-drained, loamy soil and low soil born pest and disease pressure without salt problems. Additionally, vigor and fruitfulness may be delayed. Some growers have had success with this.

The Walnut Improvement Program at UC Davis is diligently working on tolerant rootstocks and resistant cultivars for future orchards. Additionally, Dr. Mysore Sudarshana with UC Davis and the USDA is looking into alternative methods to blackline. These projects are funded by the California Walnut Board. If you think you may have blackline in your orchard, please call Kari Arnold at 209-525-6821.

Fallen Nuts in Howards

Nuts dropped unexpectedly from numerous Howard orchards across Stanislaus County and other walnut growing regions of CA, often without any sign of blight infections. Although the cause is not fully understood, the wet spring and large temperature fluctuations may be involved. In 2003, 2011, and 2013 this same thing occurred, again only in Howards and again with wet springs. Environmental stress is difficult to test for, and Howards may be more susceptible to stress than other walnut varieties. Beyond this assumption, the cause remains a mystery.



Grapes

Vine mealybugs are becoming an issue in many vineyards due to their ability to damage grape clusters and spread certain leafroll viruses. Although some species of mealybugs are native to California, vine mealybug was introduced in the 1990s, likely on infested, illegally imported budwood. Vine mealybug can grow into large populations because the insect has overlapping generations. This means that multiple life stages can be present on the same plant, and in warmer climates like the San Joaquin Valley, vine mealybug can produce 6 to 8 or more generations a year.

Mealybugs in general can be hard to find on the vine because they are small and tend to reside under the bark and in crevices. By the time vine mealybug is found on the fruit, populations can be difficult to control. Often times vines that appear “wet” are actually covered in honeydew, which is excreted by the mealybug and farmed by ants. There are various forms of control for vine mealybug, including insecticides and effective mating disruption options. Please contact Kari Arnold for further information or to schedule a farm call. (209) 525-6821

Cherries

The California Cherry Research Board is currently funding various projects ranging in irrigation and nutrient management, as well as pest and disease management. Projects include the following:

1. The management and epidemiology of pre- and postharvest diseases
2. Improved management of fungal canker diseases
3. The development of a nutrient budget and an early spring nutrient prediction model for nutrient management
4. Measuring cherry evapotranspiration and deriving crop coefficient (Kc) values for use in irrigation scheduling
5. Spotted Wing Drosophila suppression and elimination

Dr. Florent Trouillas, Assistant Cooperative Extension Specialist of the University of California, and his lab recently found fungal canker diseases of sweet cherry can be spread through pruning shears when cutting into fruiting bodies. Cleaning tools with Deccosan 321 reduced the spread. Further research is needed to provide management recommendations. Please contact Kari Arnold if you see issues in your orchard. (209) 525-6821

Apricots

Apricots carried a big crop this year, yet spring rains brought issues such as shot hole disease and fog spot. Shot hole is caused by the fungus *Wilsonomyces carpophilus* and lesions (light brown, with dark purple margins) tend to occur clustered on the upper side of the fruit and on leaves. Fruit infection is favored by rainy spring weather. Fog spot on the other hand is believed to be an environmentally induced condition. For more information please visit <http://ipm.ucanr.edu/PMG/r5100311.html>, or contact Kari Arnold at (209) 525-6821.



University of California Cooperative Extension

Walnut News & *Fruit for Thought*

Informing Stanislaus County
Summer 2019



Kari

Kari Arnold, Farm Advisor
UCCE Stanislaus County

The University of California, Division of Agriculture and Natural Resources (UC ANR) prohibits discrimination against or harassment of any person in any of its programs or activities on the basis of race, color, national origin, religion, sex, gender, gender expression, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, status as a protected veteran or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994 [USERRA]), as well as state military and naval service. UC ANR policy prohibits retaliation against any employee or person in any of its programs or activities for bringing a complaint of discrimination or harassment. UC ANR policy also prohibits retaliation against a person who assists someone with a complaint of discrimination or harassment, or participates in any manner in an investigation or resolution of a complaint of discrimination or harassment. Retaliation includes threats, intimidation, reprisals, and/or adverse actions related to any of its programs or activities. UC ANR is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment and/or participation in any of its programs or activities without regard to race, color, religion, sex, national origin, disability, age or protected veteran status. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's equal employment opportunity policies may be directed to: John I. Sims, Affirmative Action Compliance Officer and Title IX Officer, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750- 1397. Email: jsims@ucanr.edu. Website: http://ucanr.edu/sites/anrstaff/Diversity/Affirmative_Action/.

Current resident or:

NON PROFIT ORG.
US POSTAGE PAID
PERMIT NO. 400

University of California
Cooperative Extension
3800 Cornucopia Way, Suite A
Modesto, CA 95358