

February-March 1999

Volume 3 Issue 2

**COOPERATIVE EXTENSION
UNIVERSITY OF CALIFORNIA
TREE AND VINE NOTES
MERCED COUNTY**

UPCOMING EVENTS

IPM UPDATE BREAKFAST
Beginning March 3, 1999 at 7:00 am
Pine Cone Bar & Grill
V St./Gustine Exit
Merced

GRAPE GROWER'S MAGAZINE FARM SHOW
March 2, 1999
Caruthers Fairgrounds

SAN JOAQUIN VALLEY TECHNICAL GROUP
March 3, 1999
DiCicco's Restaurant/Madera

**HERBICIDE INJURY SYMPTOM DIAGNOSIS IN ORCHARDS VINEYARDS
AND LANDSCAPES WORKSHOP**
March 4, 1999
Stanislaus County Ag Center

ALMOND BUD DROP FIELD DAY
March 5, 1999
Information enclosed

NUT GROWER FARM SHOW
Almond Production Seminars & Tri-County Walnut Day
March 17, 1999
Stanislaus County Fairgrounds/Turlock
Home Arts Building

THE FROST SEASON IS HERE! (Hendricks)

Dry winters often precede cold springs. If the weather remains fairly dry and clear, frost will be a real danger this year. Nonpareil almonds will tolerate **26°F for 30 minutes** or less at full bloom. Once the jackets are off the nuts, they will tolerate only **30°F for 30 minutes**. Other varieties such as Carmel, Mission, and Ne Plus Ultra may be slightly less tolerant of freezing temperatures during full bloom (28°F for 30 minutes), but they are all very sensitive at the small nut stage in March.

What can be done to avoid damage? Sprinkler or flood irrigation before and during a frost will help protect blossoms and small nuts. Even micro-sprinklers can give a modest amount of protection. A moderate cover crop 4" to 6" tall should not be detrimental if water is available during the frost season. If no water is available for frost protection, a clean, moist orchard floor will be the best condition to avoid damage. **Never disk** before the danger of frost is over. Freshly disked soil provides the most dangerous situation.

PREPARE NOW FOR FROST IN VINEYARDS

Norton

It has been several years since we have had serious frost damage to grapes. This could be the year it happens again. Vineyards need to be ready for frost by the time bud break occurs some time in March. Since some of our worst damage has occurred in April, I would remain diligent until May.

Cover crops should be mowed closely prior to bud break so they can begin to decompose. You don't want a six inch thatch insulating the soil from the valuable solar radiation. The sun needs to hit the soil for heat to be absorbed and stored. Cultivated blocks should be bare and firm (not fluffy) in order to conduct the heat. Recently cultivated soil can be firmed with a light irrigation. With drip irrigated vineyards that are cultivated, you may have to firm the soil with a roller of some type. With all systems, the strip under the vine should be clean.

If you have the ability to do so, get the soil moist prior to forecasted freezing temperatures.

Run the drip system to wet as much soil under the vine as possible.

After bud break, be prepared to irrigate when frost is predicted. With furrow irrigation, even if you only cover part of the vineyard it is still worth while protecting part of the crop. Frost damage often means less tonnage statewide and better prices so it always pays to try to protect whatever you can because it will be more valuable. If you can, irrigate the coldest areas first.

Your local Cooperative Extension office has a couple bulletins on frost protection in vineyards. Drop by to pick one up.

BEST WINTER IN YEARS - Norton

The counts are in and we have had an excellent winter in terms of chill hours accumulated. Here are the number of hours at or below 45F for November 1 through February 15 for the following areas:

Year:	98-9	97-8	96-7	95-6	94-5	93-4
Livingston-Cressey:	1344	850	922	600	1044	1397
Los Banos:	1228	717	734	545	988	1349
Kesterson-Gustine:	1300	819	780	650	1015	1434
Planada:	1296	N/A	N/A	N/A	N/A	N/A

Just for fun here are the number of hours below three other thresholds for the Livingston-Cressey station:

45F	1344
40F	935
32F	283
28F	101

A special thanks to our long-time weather observer Stan Fidel for collecting the data for Livingston-Cressey area. In the IMPACT system this is the "Cressey" touch-tone station. Kesterson and Los Banos are automated C.I.M.I.S. stations operated by Department of Water Resources. The Planada data was collected with a portable data-logger mounted in a prune orchard.

If you want to check data from around the state go to the following Cooperative Extension website:

<http://fruitsandnuts.ucdavis.edu>

NEW PUBLICATIONS

“*THE WALNUT HEDGEROW PLANTING SYSTEM*” Publication #21467 Cost: \$1.50

Currently out of stock; will be restocking in the immediate future.

Botryosphaeria Identification and Control Manual - California Pistachio Commission.

Call (559) 221-8294

FUNGICIDE EFFICACY AND TIMING for Fruits, Nuts and Grapes. B. Teviotdale, J. Adaskaveg, T. Michailides, and D. Gubler. UCCE. A photocopy is available from our office for \$2, or we can send as an attached file to e-mail at no cost.

COVER CROPPING IN VINEYARDS– A GROWER’S HANDBOOK – Publication #3338 Cost \$20.00

WEBSITE INFORMATION

You are able to access the newsletter on line at: <http://fruitsandnuts.ucdavis.edu>. This website also offers other information such as; new research, crop information, weather and what’s new in the Department of Pomology at Davis. Also you will be able to get winter chilling hours from the Kesterson and Los Banos weather sites.

Other Tree and Vine Website:

California Canning Peach Association: <http://calpeach.com/>

and CA Cling Peach Growers Advisory Board: <http://ccpgab.com>.

Y2K Website:

Oregon Cooperative Extension has developed a web page full of information about avoiding Y2K problems with home and farm computers. You are encouraged to explore it at:

<http://osu.orst.edu/extension/y2k/y2kpublic.html>

ANTHRACNOSE IN ALMOND FOR 1999- (HENDRICKS)

Anthracnose fungus has been a widespread disease problem in almonds since at least 1995. It can be a severe nut and shoot killer in wet years such as 1998, yet it will nearly disappear in dry springs such as 1997. All varieties are susceptible to this fungus, *Colletotrichum acutatum*, but Merced, Monterey, Ne Plus, Carmel, Price, Butte, and Thompson are highly susceptible. Fritz, Harvey, Mission, and Padre can also be badly infected. Nonpareil can show some infection, but is probably the least affected variety.

Anthracnose can infect blossoms, nuts, leaves, and shoots, but it usually kills small nuts about 2 to 3 weeks after petal fall. Anthracnose activity begins when daytime temperatures begin to reach about 65°F, and this often coincides with the small almond nut stage of growth. This fungus penetrates deeply into the hull and shell, and finally into the kernel. The infected and dead nuts have characteristic orangish-brown fungus spores in the lesions on the surface of the nuts. It is sometimes possible to see the orange spores in the kernel itself. Half-grown and larger nuts gum profusely. After harvest, very gummy, shrunken nuts are easy to find tightly sticking to branches of the very susceptible varieties such as Merced.

The almond industry is beginning to get a few new fungicides to control Anthracnose. The older fungicides such as captan and Rally® are just moderately effective, but still useful in a rotation. Break®, (propiconazole) has been very effective and has been available under a Section 18 emergency exemption, but hopefully a full registration will be available for 1999. Elite® (tebuconazole) is very similar to Break®, and we are still waiting for a Section 18 emergency exemption or full registration for Elite®. Abound® (azoxystrobin) is a new material which has been very effective in test plots, and a full registration for almonds is expected by spring 1999.

Control measures should begin at or before daytime temperatures reach about 65°F and continued as long as we have wet weather. Materials should be rotated between classes of fungicides to avoid or delay resistance.

<u>Fungicide Class</u>	<u>Resistance Potential</u>
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captan Phthalamide	low
Rally® DMI-Triazole	high
Break® DMI-Triazole	high
Elite® DMI-Triazole	high
Abound®Strobilurin	high

Don't forget that brown rot, jacket rot, shot hole, scab and other diseases are also still out there.

BOTRYOSPHAERIA IS A BIG THREAT TO PISTACHIO (HENDRICKS)

Botryosphaeria blight strikes terror in the hearts of pistachio growers! And well it should. *Botryosphaeria dothidea* fungus has struck the pistachio industry a hefty blow in recent years, and we have very few effective remedies. *Botryosphaeria* blight was recognized in the Sacramento Valley in the late 1980s but has since moved to the central and northern San Joaquin Valley. If April is warm and wet, blight will begin killing shoot tips, nuts and nut rachises (the nut stems). Later in the spring and summer, infections will continue on the nuts and rachises. The large true bugs such as the Leaf-footed plant bug also spread disease when they feed on the nuts. As harvest approaches in the late summer infections can kill rachises, causing nut shrivel and loss. Parts of the orchard, which tend to be more humid, will show more infection. In fall and winter the dead rachises will stick to the limbs and indicate where infections have occurred.

There are many unknowns with *Botryosphaeria* and research is continuing at a feverish pace to find more answers. But there are some things based on preliminary research and field experience that we think growers can do now to reduce the impact of this disease.

Dead shoots and nut clusters should be pruned out during the dormant period. Make cuts at least 4" to 6" below any discolored wood. Prunings should be pushed and burned or well shredded so they will rapidly decompose. We think that infected wood can release spores for 4 to 5 years, so it should be pruned out and destroyed.

Reducing humidity in the orchard will help reduce *Botryosphaeria* infections. Drip and underground drip can reduce humidity compared to sprinklers or flood irrigation. Mechanical tree hedging can help air circulation and drying and hedging will remove some infected shoots.

Infected shoots in the spring and summer should also be removed and destroyed, and immediately after harvest prune out any infected shoots and nuts clusters. All of this pruning may cost \$400 or more per acre the first year, but as *Botryosphaeria* control is achieved the pruning costs should rapidly diminish. The key threat is that infected wood can release spores for 4 to 5 years if they are left on the trees.

Follow the best fungicide program available. At the time of this writing we have Benlate® as a bloomtime treatment. Elite® is expected to again have a Section 18 emergency exemption and Abound® is expected to have either a Section 18 emergency exemption or a full registration by May. Postbloom sprays should begin in late May to early June alternating Elite® and Abound® at 2 to 3 week intervals depending on weather and disease pressure. Plan your spray sequence carefully since Abound® currently has a 45-day preharvest interval and Elite® is 20 days.

Every pistachio grower should have the new *Botryosphaeria Identification and Control Manual* which has just been printed by the California Pistachio Commission. This excellent manual can be obtained by calling (559) 221-8294.

MARK YOUR CALENDARS

IPM UPDATE BREAKFASTS

Everyone is invited to the IPM Update breakfasts sponsored by the Merced office of UC Cooperative Extension. Each meeting includes a discussion of current events in orchard and vineyard crops with emphasis on integrated pest management. All meetings are held at the Pine Cone Bar & Grill, V St./Gustine exit in Merced and run from 7:00 to 8:30 AM.

3 March	19 May
17 March	2 June
7 April	16 June
21 April	7 July
5 May	21 July

Continuing education credit is offered. There is no charge to attend – breakfast is no-host. Handicapped accessible. Growers are urged to ask any questions relating to tree and vine production, pest management or otherwise. **For more information contact Maxwell Norton at mnorton@ucdavis.edu or Lonnie Hendricks at lhendricks@ucdavis.edu or call the UC Cooperative Extension office: 385-7403.**

SAN JOAQUIN VALLEY TECHNICAL GROUP

The next meeting of the San Joaquin Valley Technical Group will be Wednesday March 3 at DiCicco's Restaurant in Madera. The program begins promptly at 10:00 and concludes with a no-host lunch.

Mechanized Production Systems for Winegrapes in the “SJV”

Agenda:

Main Speaker:	Dr. Keith Striegler
	Panel Discussion with 2 or 3 talks of 5 to 10 minutes
Keith Striegler	Researcher
Gary Wilson	Custom Operator
Phil Scott	Ag Right; harvester manufacturer
Blake Cuadros	formerly w/ Allied Grape Growers; winery perspective
Ron Metzler	Grower

For more information contact: Ron Braze at 599-275-8095 or email to: RonBraze@CalAgQuest.com

GRAPE GROWER MAGAZINE FARM SHOW

Caruthers Fairgrounds

March 2

Cooperative Extension will have a New Vineyard Workshop starting at 8:00 followed at 9:45 with a Fresno State Total Vineyard Workshop. At 1:00 George Leavitt will give a talk on Phomopsis prevention.

For more information please call 559-252-7000.

ALMOND BUD DROP FIELD DAY
Friday, March 5th, 9:30 a.m. – 11:00 a.m.

Roger Duncan, Farm Advisor in Modesto will hold this field meeting to see the bud drop phenomenon and to report on research and discuss management strategies. Address is 5100 Washington Rd, Keyes. Take Keyes Road east off Highway 99. After ¼ mile turn left on Nunes Road, then right on Washington.

More information: Contact Stanislaus County Ag Center at 209-525-6800.

NUT GROWER FARM SHOW
ALMOND PRODUCTION SEMINARS
MARCH 17TH, STANISLAUS COUNTY FAIRGROUNDS, TURLOCK

- 8:00 a.m. **Almond Bud Drop**
Roger Duncan, Farm Advisor Stanislaus County
- 8:30 **How to Retain Workers in a Tight Labor Market**
Gregory Billikopf, Farm Advisor Stanislaus County
- 9:00 **New Materials and Strategies for Ant Management in Almonds**
Walt Bentley, Area IPM Advisor, KAC
- 9:30 **Break**
- 10:30 **Deficit Irrigation in Almonds**
Dave Goldhamer, Irrigation Specialist, KAC
- 11:00 **San Jose Scale Treatment and Timing**
Lonnie Hendricks, Farm Advisor Merced County
- 11:30 **Pest Management Alliance for Almonds**
Chris Heintz, Research Director, Almond Board of California

HERBICIDE INJURY SYMPTOM DIAGNOSIS IN ORCHARDS VINEYARDS AND LANDSCAPES
WORKSHOP

STANISLAUS COUNTY AG CENTER

THURSDAY, MARCH 4, 1999

1: 00 P.M. – 5:00 P. M.

TOPICS

Mode of Action and Herbicide Injury Symptoms for Fruit and Nut Tree, Vines and Ornamental Crops
Problems that Resemble Herbicide Injury in Almonds, Peaches and Grapes
Problems that Resemble Herbicide Injury in Walnuts, Apricots, Apples and Cherries
Problems that Resemble Herbicide Injury in Ornamentals
Hands on Session

More Information: Call Stanislaus County Ag Center at 209-525-6800

**University of California Cooperative Extension
29th Annual Tri-County Walnut Institute
Wednesday, March 17, 1999**

**Home Arts Building
Stanislaus County Fairgrounds, Turlock
8:30 a.m. - 12:15 p.m.**

8:00 - 8:15

Welcome

Report on the Stanislaus County Ag Center

Phil Osterli, UC Cooperative Extension Director, Stanislaus County

8:15 - 9:00

New Information on Managing Walnut Blight and Crown Gall

*Beth Teviotdale, U.C. Cooperative Extension Plant Pathologist,
Kearney Ag Center, Parlier*

9:00 - 9:30

Pest Management Alliance for Walnuts

Interim Report on Boron Sprays and Nut Set

Kathy Kelley, U.C. Cooperative Extension Farm Advisor, Stanislaus County

9:30 - 10:30 BREAK

10:30 - 11:00

California Walnut Commission and Marketing Board Activities

*Dennis Balint, Chief Executive Officer, California Walnut Commission
Nathan Holleman, Marketing Director, California Walnut Commission*

11:00 - 11:30

Walnut Industry Economic Overview and Outlook

Jerry Siebert, Marketing Economist, U.C. Berkeley

11:30 - 12:15

Walnut Variety Selection Based on Marketing Trends

Sam Keiper, Vice President Member Services, Diamond Walnut Growers, Inc.

One hour of DPR continuing education credit pending
handicapped accessible * no fee * no preregistration

SUNBURN AND OTHER TREE AILMENTS

By Bill Olson, Farm Advisor
Butte/Sutter/Yuba Cooperative Extension

I have had a number of calls about cracks and sometimes gum, in the bark on trunks of young prune trees. Although the growers thought it might be from bacterial canker it has all turned out to be from sunburn with, unfortunately, some infection from *Ceratocystis canker*.

Here is how to tell the difference:

Bacterial canker:

- ◆ Most prevalent in the spring
- ◆ Found anywhere on trunks and scaffolds
- ◆ The canker, under the bark, has straight margins and uniform color – red specks often appear in healthy surrounding tissue.
- ◆ Amber colored gum common
- ◆ Suckering very common
- ◆ Rare on trees 8 years old or older

Sunburn:

- ◆ Dead, hard, sunken, cracked bark on the trunk.
- ◆ Only on the south to westside of trees.
- ◆ More severe on flood than on properly drip or micro-irrigated orchards.
- ◆ More severe on trees leaning toward the north.

Sunburn infected with *ceratocystis canker*:

- ◆ Diseased trunk wood might take on a red appearance.
- ◆ Amber gum may be associated with cracks in bark.
- ◆ Under the bark the canker has zonated margins with various colors of brown, margins of the canker are not straight.
- ◆ Disease will progress around tree and eventually kill it.
- ◆ This disease also gets into the tree though other trunk injuries such as shaker or disc wounds.

WHAT TO DO:

To prevent sunburn use white interior latex paint on the trunk of all prune trees. Most growers do use paint on newly planted trees. This however, is not enough protection. Trees should routinely be repainted until they are in good production. At this time the trees canopy and that of adjoining trees provides enough shade to prevent sunburn. South and west outside rows should continually be protected from sunburn.

The worst thing about sunburn is that the cracks produced provide an entry for the beetles that carry *ceratocystis fungus*. This leads to the development of the canker.

If this has happened and caught early you can surgically cut the canker out and protect the trees with a sealant during the fall and winter. To entirely remove the canker cut at least one inch into good wood entirely around the canker. If the canker is more than 1/3 the way around the trunk surgery is generally considered too late to be of any value.

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TREE AND VINE NOTES

For special assistance, please contact our office 72 hours prior of request.

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