



# tree and vine notes

## UC COOPERATIVE EXTENSION MERCED COUNTY

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### **BE READY FOR ANTHRACNOSE IN 1998 (Hendricks)**

Anthracnose in almonds was widespread in '95 and '96, but in '97 anthracnose almost disappeared. With El Nino, the 1998 bloom could be wet. In November I spent two weeks looking at almonds in Australia. Anthracnose is very severe in the coastal area near Adelaide, and quite easy to spot inland along the Murray River.

[Dr. Jim Adaskaveg](#) at UC Riverside has identified *Colletotrichum acutatum* as the fungus which causes anthracnose in California and the same species is found in Australia. Our older, standard fungicide programs are not able to control this disease.

Anthracnose infects blossoms, nuts, leaves, and stems. It usually kills small nuts about 2 to 3 weeks after petal fall and then infects and kills spurs and small branches. In 1996 it killed blossoms giving much the same appearance as blossoms blighted by brown rot, *Monolinia laxa*. This fungus penetrates deeply into the hull and shell, and finally into the kernel. The infected and dead nuts have characteristic orange-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.

Infections in young fruit rarely exude gum, but half-grown and larger nuts gum profusely, and clusters of nuts can be glued together. Infected leaves show a marginal and blotchy necrosis. Wood 1" in diameter and larger can be killed by anthracnose. The fungus overwinters in the shrunken nuts and in the peduncles, or nut stems. After harvest, very gummy, shrunken nuts are easy to find tightly sticking to branches of the very susceptible varieties such as Merced.

Merced, Monterey, Price, Butte, Thompson, and Ne Plus are the most susceptible varieties, but Fritz, Harvey, Mission, Padre, and Carmel can be badly infected. Nonpareil will show some infection in very wet springs, but is probably the least affected variety. In Australia the Fritz is one of the most diseased varieties, with Peerless, Carmel and Ne Plus very close behind.

Research by Dr. Jim Adaskaveg and others have given us some good tools and guidelines. Not all of the following fungicides have registrations or special exemptions on almond. Be sure to check with your pest control adviser before applying any pesticide.

Some fungicides prevent the spores from germinating, and must be in place early to prevent spore growth. The spores are most sensitive to chlorothalonil (Bravo®) and fluazinam. They are moderately sensitive to captan, and least sensitive to tebuconazole (Elite®) and propiconazole (Break®).

The second group of fungicides inhibit the growth of the anthracnose fungus. Tebuconazole (Elite®), propiconazole (Break®), and fluazinam are the most effective for fungus control. Myclobutanil and maneb are moderately effective and benomyl, chlorothalonil (Bravo®), and captan are the least effective on the fungus.

Chlorothalonil (Bravo®), has a residual of several weeks to months. Tebuconazole (Elite®) and propiconazole (Break®) have a short residual of about 14 days. If the bloom period in 1998 is wet, control should begin at popcorn and continue as long as rain persists. Don't forget that brown rot, jacket rot, shot hole, scab and other diseases are also still out there.

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### **WINTER SANITATION TO CONTROL NOW (Hendricks)**

Remember, SANITATION is the number one priority in NOW management! And it is most effective if all of your neighbors practice sanitation as well! Wet, windy winter weather will knock many nuts out of the trees and help control NOW. Dry weather will allow mummy nuts to stick on the trees with their NOWs inside. Sanitation may be more important than ever this winter, so watch the weather and make plans to shake and pole trees as needed before bud swell.

Growers with well established bio-control programs have concerns that cleaning the trees will starve the Goniozus. To avoid this, collect mummies after shaking and save the nuts as Goniozus habitat. Cage these in screened boxes or screen pouches which are protected from the rains so the Goniozus can escape in spring to new sites while the NOWs are left trapped in the cages. Fresh releases of Goniozus should be made in spring and summer to coincide with the NOW worm activity.

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### **MORE ON DORMANT SPRAYS (Norton)**

I was recently asked a couple questions about dormant sprays on apples and prunes. First, do we recommend adding copper to dormant and delayed-dormant sprays in apples. The answer is no. While nurseries use multiple applications of copper to reduce shoot infections of fire blight, there is no data to support multiple applications in mature trees.

Copper applied from pink bud on, while providing some fire blight control can cause rusting on fruit.

The second, do I recommend adding copper to dormant sprays in prunes and again the answer is no. The only disease you possibly might influence would be bacterial canker and that would probably require 5-6 sprays through the winter. In California we have done some trials with dormant copper and have never been able to see a benefit. We commonly apply copper to peaches and nectarines to control shot hole and peach leaf curl, but these are not diseases of prunes.

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**New Prune Publication in Office:**

**1997 Sample Costs to Establish a Prune Orchard and Produce Prunes  
*FRENCH VARIETY IN THE SOUTHERN SAN JOAQUIN VALLEY*  
Only \$1.50**

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**Bi-County Extension Peach Meeting**

Wednesday 14 January 1998

Turlock Irrigation District Auditorium

Corner of Canal Drive and Denair Ave in Turlock

**8:30 Coffee and sign-in**

**9:00 Roger Duncan: Pest Management Research update**

**9:30 Maxwell Norton: Summer pruning for better light management**

**10:00 Walt Bentley: Review of 1997 pest problems - why was PTB so bad?**

**10:30 Rick Bostock: Bacterial canker research**

**11:00 Thomas Gradziel: Breeding for the Dixon-Andross period and other problems.**

**11:30 Bob Beede: Zn nutrition in stone fruit.**

**Noon Adjourn**

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**Merced & Stanislaus Almond Growers Meeting**

Wednesday 21 January 1998

UCCE Classroom 2145 Wardrobe Avenue, Merced

**8:15 am COFFEE AND PASTRIES**

*Courtesy of Almond Board of California*

**8:30 UPDATE OF ALMOND BOARD ACTIVITIES**

*Chris Heintz, Research Director, Almond Board of California*

**8:45 REPORT OF LOCAL RESEARCH - 1997**

*Roger Duncan, Farm Advisor, Stanislaus County*

**9:15 THE DORMANT SPRAY ISSUE IN ALMONDS**

*Frank Zalom, IPM Specialist, UC Davis*

**9:45 Break - COFFEE AND PASTRIES**

*Courtesy of Almond Board of California*

**10:00 REPORT OF LOCAL RESEARCH AND ALMONDS IN AUSTRALIA**

*Lonnie Hendricks, Farm Advisor, Merced County*

**10:15 BORON SPRAY APPLICATIONS AND LONG TERM HEDGEROW STUDIES**

*Warren Micke, Extension Pomologist, UC Davis*

**10:45 ANTHRACNOSE - IDENTIFICATION AND CONTROL FOR 1998**

*Jim Adaskaveg, Plant Pathologist, UC Riverside*

**11:15 SPRAY APPLICATIONS OF FOLIAR NUTRIENTS**

*Mario Viveros, Farm Advisor, Kern County*

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**NOTICE OF UPCOMING MEETINGS**

**BI-COUNTY EXTENSION WINEGRAPE MEETING**

Thursday 5 February

TURLOCK IRRIGATION DISTRICT AUDITORIUM  
CORNER OF CANAL AND DENAIR IN TURLOCK

**8:30 Coffee and sign-in**

**9:00-Noon Program**

**Larry Williams: Evapotranspiration calculation for winegrapes**

**Pete Christensen: Mediterranean winegrape varieties**

**Roger Duncan: Pest Management updates**

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**UNIFIED WINE AND GRAPE SYMPOSIUM - A GLOBAL PERSPECTIVE  
(Norton)**

January 21-22, 1998, Sacramento

A variety of workshops, speakers, wine tasting and trade shows highlight this comprehensive industry conference sponsored by American Society of Enology & Viticulture and the CA Association of Wine grape Growers. For a complete program booklet call 530/753-3142.

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**WINE GRAPE SHORT COURSE (Norton)**

An intensive three-day short course, Jan 26-28 in Sacramento, covering all aspects of wine grape vineyard development and production. Topics: physiology, site evaluation, rootstock and cultivar selection, handling and planting, spacing and trellising, training and pruning, canopy management, irrigation, nutrition, grafting and budding, frost protection, pest management. For a complete program and registration form, visit any Cooperative Extension office or call 800/752-0881.

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**ASSOCIATION OF APPLIED INSECT ECOLOGIST 32nd ANNUAL  
CONFERENCE**

18-20 January 1998 Pacific Grove (Asilomar)

This is a group of entomologists, researchers, PCA's and others interested in IPM. This year's theme is "Scents, Cents & Sense - Issues in Modern Pest Management." Contact John Plain at (916) 441-5224.

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**STATEWIDE PISTACHIO DAY**

**Agenda**

20 January 1998, Radisson Hotel, Visalia

Contact Louise Ferguson (louise@uckac.edu or 209-646-6541) or Mark Freeman (mwfreeman@icdavis.edu or 209-456-7265) for information.

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**CHERRY RESEARCH REVIEW**

**Agenda**

26 January 1998, Stockton

This morning meeting is a review for growers of current cherry review funded by the California Cherry Advisory Board. It will be held at the Best Western/Stockton Inn on Waterloo just off Hwy. 99. Contact Joe Grant at UC Cooperative Extension for details 209-468-2085.

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***Farm Advisors***

**Lonnie Hendricks** [lhendricks@ucdavis.edu](mailto:lhendricks@ucdavis.edu)

**Maxwell Norton** [mnorton@ucdavis.edu](mailto:mnorton@ucdavis.edu)

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