University of California **Cooperative Extension**

Contra Costa & Alameda Counties

CROP CURRENTS

From: Janet Caprile, Farm Advisor
jlcaprile@ucdavis.edu

MAIN OFFICE:
75 Santa Barbara Rd., 2nd floor
Pleasant Hill, CA 94523
(925) 646-6540 Phone
(925) 646-6708 FAX

KNIGHTSEN OFFICE:
Delta Rd. & 2nd St.
Knightsen, CA
(925) 427-8532
Office Hours: Mondays 1:30-4:30

FEBRUARY 2007

University of California Cooperative Extension

37th Annual TRI-COUNTY WALNUT INSTITUTE

Thursday, March 8, 2007

Harvest Hall
Stanislaus County Ag Center
3800 Cornucopia Way
Modesto, CA 95358
Corner of Crows Landing & Service Roads

8:00 am - Noon

This meeting is organized every year by UC Cooperative Extension Farm Advisors to update local walnut growers and others involved in the walnut industry on the latest walnut research and developments. The meeting is free and

Directions from downtown Brentwood:

Take Hwy 4 East
Take the Byron Hwy (J4) South
Take Hwy 205 East toward Stockton
Take Hwy 120 East toward Manteca/Sonora
Take Hwy 99 South toward Modesto/Fresno
Take the Crows Landing Rd exit
Go South on Crows Landing Rd for 2.5 miles
Turn Left into the Ag Center at Cornucopia Way
Continue to Harvest Hall – the building closest to the road on the south side.

Travel time: about 1 hour

2 hours of DPR and 2.5 hours of CCA continuing education credits pending

8:00 **Registration and Refreshments**
(courtesy of Valent USA)

8:30 **New Developments in Walnut Aphid Biocontrol**
Dr. Nick Mills, UC Berkeley

9:00 **Retain® for Improving Set in Serr and other Varieties**
Kathy Kelley-Anderson, UCCE Farm Advisor, Stanislaus & Merced Counties

9:30 **California Walnut Marketing Board & Walnut Commission Activities**
Dennis Balint, CEO CA Walnut Commission and Executive Director Walnut Marketing Board

10:00 **Break**

10:20 **Mating Disruption Advances in Walnuts**
Joe Grant, UCCE Farm Advisor, San Joaquin Co.

10:50 **In Search of a "Super Paradox" Rootstock**
Bob Beede, UCCE Farm Advisor, Kings & Tulare Co

11:20 **Rootstocks for Use in Walnut Blackline Areas**
Janet Caprile, UCCE Farm Advisor, Contra Costa County.

WEATHER UPDATE

Chill Accumulation: The chill units as of February 20 are listed below. We've had excellent chill this year so the stage is set for an early and compact tree fruit bloom and a good set if the weather continues to cooperate. If rain threatens during bloom, be sure to protect susceptible crops with disease prevention sprays. Refer to the Fungicide Efficacy and Timing charts elsewhere in this newsletter for appropriate materials.

Brentwood	899
Concord	952
Moraga	1104
Pleasanton	960
Union City	827

Rainfall: We have only received 60% of our normal rainfall to date. The forecast for the rest of February predicts only a couple of days of significant rain. While this has given us a dry period to prune and plant, irrigation may be needed for germinating seeds and refilling the soil profile for trees and vines.

SPRING TEMPERATURES INFLUENCE THINNING AND HARVEST DATE

Excerpted from articles by Dr. Ted DeJong, Fruit Tree Physiologist, UC Davis

Research by Dr. DeJong has established that the rate of fruit development is closely related to temperatures during the first 30 days after bloom for peaches, nectarines, plums and prunes. The warmer the temperatures in those first 30 days, the faster the fruit will develop and the earlier the harvest will be. The exact relationship will depend on bloom date and variety.

If you keep records of your bloom dates and have harvest dates from previous years you can estimate this year's harvest date by using the Harvest Prediction Model on the Fruit and Nut Research and Information Center website. Thirty days after bloom go to http://fruitsandnuts.ucdavis.edu. Click on Weather Services and then on Harvest Prediction Model. Select the Brentwood weather station and fill in this years' full bloom date. This will generate a chart that shows the accumulated Growing Degree Hours (GDH)) for the 30 days after bloom for this year and estimates for the last 5 years. (If you have full bloom dates for the last 5 years you can fill them in and get a more exact estimate.) Look for a previous year with a similar GDH accumulation and expect that the number of days from bloom to harvest will be about the same as that year.

If the GDH accumulation shows the spring to be relatively warm, expect the fruit to develop more quickly and plan to thin earlier than usual. If there is a heavy crop set you also need to thin earlier to reduce competition for resources. Early and mid season varieties should be thinned within about 50 days of bloom to both increase fruit size and maximize yields. The most heavily set and earliest maturing varieties should be thinned first. Move across the orchard as quickly as possible. If needed, you can do a rough thin first and a touch up later to get through more quickly.

GRAPE RESOURCES ON-LINE

The National Grape Registry is a new online resource that lists all grape plant material available within the United States. The site was developed and is maintained at UC Davis to help growers and researchers find the varieties they need and to identify material which has been tested and certified as clean in regard to certain grapevine diseases.

The site maintains profiles for 650 varieties which include pedigree, origin, use and nursery sources. It also has a synonym search feature and a comprehensive list of public and private nursery sources. Clonal information will be added shortly. Explore this site at http://ngr.ucdavis.edu.

UC Integrated Viticulture Online is a new website which was designed to increase public accessibility to the work of UC researchers, including faculty, Cooperative Extension (CE) specialists, CE advisors, and staff. This website has information on nearly all aspects of grape production in the "Viticulture Information" section. You can find information on cultural practices, pest management, varieties, rootstocks, irrigation, nutrition, economics, cover crops and more. The site also links to UC researchers, publications, and grower meetings throughout the state. It was created by the University of California Integrated Grape Production Work-

YEAR ROUND IPM PROGRAMS

The University of California has recently launched a series of Year Round IPM Programs for a number of commodities. The crops completed to date include **alfalfa, tomato, grape, peach, nectarine, plum, pear, almond, avocado, cotton, and prune**. The advantage of these new programs is that they are organized seasonally by plant growth stage. At each stage there is information about which pests to be looking for and a link to the UC IPM Guideline for each pest. The Guidelines contain detailed information on controlling the pest including material selection and rates.

In addition to pest management information, the Year Round IPM Programs also include information on a variety of seasonal crop production practices such as variety selection, irrigation, fertilization, soil & leaf sampling, etc. This gives a more comprehensive view of production considerations as the season progresses.

The Natural Resources Conservation Service (NRCS) is offering a cost share program for growers that follow these Year Round IPM Programs. Contact the NRCS Concord Service Center at (925) 672-4577 to find out more about the cost share aspects.

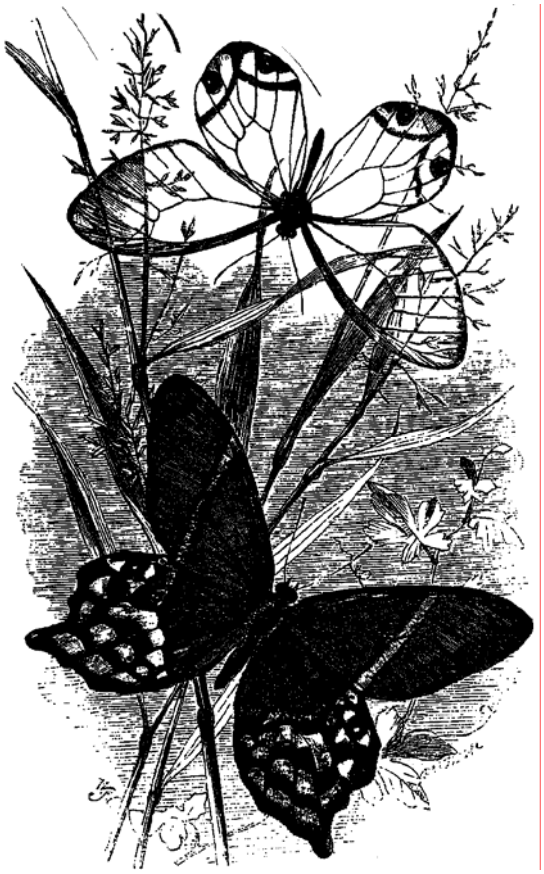
You can access the Year Round IPM Programs online at http://ucipm.ucdavis.edu. Click on Pest Management Guidelines. Then click on any of the crops in the Year Round IPM Program box to the left. Take a look to see if this is something that could help your operation and consider applying for a NRCS cost share next season (2008). By then we should also have a few more crops added to the list.

NEW UC FIG VARIETIES

Two new varieties have recently been released by the University of California, Department of Plant Sciences.

Sierra was released in March of 2005. It is a medium to large size fig of the common type and needs no caprification in order to set fruit. The fruit has yellow-green skin with amber pulp. The first or Breba crop is usually very light and so far has been of little commercial significance. The second crop is abundant, flavorful, attractive, and high quality and holds fruit size well into the fall. It has a tight eye that restricts unwanted insect entry into the interior. The dried product has amber pulp, is meaty, rich, flavorful and of very good quality. Fruit ripens approximately 7-10 days after Calimyrna. This fig was originally developed as a high quality fig for drying but is also suitable for fresh market.

Sequoia is the newest cultivar which has been developed for the fresh market. The skin is yellow-green with reddish-amber pulp. It is a common type which needs no caprification. The Breba crop ranges from light to medium in volume and this first fruit is large in size with very good quality. The production of a saleable Breba crop gives this variety an advantage over Calimyrna, Brown Turkey, and Sierra that have few or no Brebas. The second crop of Sequoia is abundant with a large to medium size and it maintains fruit size well into the fall (unlike Mission, Kadota and Calimyrna). The eye is very tight preventing unwanted insects from entering the fruit. The fruit flavor and quality is as good as or better than all other fresh market figs except perhaps Calimyrna (one of Sequoia's parents).



NEW CODLING MOTH INSECTICIDES

Several new insecticides have recently been registered for codling moth (CM) control on apples. Others are pending registration in the near future. Many of the new materials are "reduced risk" products that the EPA considers safer for people. These new materials also have different chemistries than our traditional organophosphate (OP) materials (Guthion and Imidan). This means that they should be helpful in preventing or slowing the development of OP resistant codling moth populations. One of the keys to preventing the development of resistance to any material is to alternate it with materials of different chemistries. We also need to understand how these new chemistries work against codling moth so we can use them most effectively.

Over the past few years, Dr. Bob Van Steenwyk, Extension Entomologist at UCB, and I have been conducting small scale field trials of unregistered and newly registered codling moth materials to see how they perform on apples in Brentwood. Most of these trials have been conducted with the cooperation of Richard Chavez and Ron Nunn. The following is a summary of the more promising materials.

Neonicotinyls

These are reduced risk, contact materials that have a narrower spectrum of activity than OPs. Assail, Calypso, and Clutch have recently been registered for CM control. In order to prevent the development of resistant populations, it would be wise to limit your application of all neonicotinyls to a single generation/season. This includes Provado which is also a neonicotinyl used for aphid and leafhopper control but isn't effective against CM.

⇒ **Assail** was registered in California in 2003. It is a lower toxicity material (Category III) with a 12 hour re-entry interval (REI) and a 7 day pre-harvest interval (PHI). It is toxic to both CM eggs and larva and is similar in effectiveness to Imidan. It should be applied at the traditional 250 DD timing (early egg hatch) just like the OPs and reapplied in 14 days if the flight is prolonged. There is a limit of 4 applications per season. This material can be hard on mite predators. The addition of oil (1% v/v) will boost CM effectiveness and help to reduce mite flare-ups. This material is also effective against leafhoppers and the green apple aphid complex. It has less activity against wooly and rosy apple aphids and is not effective against leafrollers.

⇒ **Calypso** was registered in California in September of 2005. Our tests have shown this to be similar to Assail in effectiveness against CM. Like Assail, it is toxic to both the eggs and larva and should be applied at the traditional 250 DD timing (early egg hatch) and reapplied in 14 days if the flight is prolonged. There is a 12 hour REI like Assail but the Calypso label is more restrictive in other areas – it is a Category II material with a 30 day PHI, a 100 foot buffer restriction for aerial applications near waterways, and a maximum of 2 applications/season. The addition of 1% oil will improve CM efficacy and reduce the likelihood of mite flare-ups. This material is more effective against rosy apple aphid than Assail and similarly effective against leafhoppers and green apple aphids. It is not effective against wooly apple aphids or leafrollers.

Insect Growth Regulators

These materials do not kill on contact but must be absorbed through the egg or eaten by the larva and they eventually kill the pest by preventing normal development. Feeding usually stops pretty quickly even if it takes awhile to kill the pest.

⇒ **Intrepid** was registered in California in May of 2003. This material is active against the larval stage and should be applied just prior to the beginning of egg hatch (100-200 DD). It is toxic to both eggs and larva. Thorough spray coverage is critical for good control. It should be re-applied in 10-18 days if the flight continues. It is only moderately effective against CM in the field and is best used in a low pressure site or in conjunction with mating disruption. It is a low toxicity product (Category III) with a 4 hour REI and a 14 day PHI. No more than 64 oz (4 applications) can be applied per season. It also has some activity against leafroller pests but has little known effect on other secondary insects or beneficials. Be aware that if you have a Guthion resistant codling moth population, they may be resistant to this material too (even though it is in a different chemical classification).

⇒ **Rimon** is not yet registered on apples in California. However our small scale field trials here have shown this to be a very good CM material. It is a benzoyl urea material like Dimlin but it is more active than Dimlin against CM. It is only effective against the egg stage and it must be applied at the very beginning of the egg laying period (50-75DD) so that the eggs are laid on top of the residue. The label recommends reapplication at 14-17 day intervals if flight continues although tests in Washington and California have indicted that it may be effective for up to 1 month. It can sometimes be difficult to get an application on before the flight starts due to weather and the inherent inaccuracies of degree day calculations, but it can be mixed with a *low rate* of a good contact material (ie. Assail, Warrior, Battalion) for application after the flight has begun. Be aware that

if you have a Guthion resistant codling moth population, they may be resistant to Rimon too (even though it is in a different chemical classification). It has no known effects on secondary pests or beneficial insects.

Spinosyns are a new class of insecticides derived from a naturally occurring soil micro-organism. These materials are not contact materials and need to be eaten by the larva to be effective.

⇒ **Success** and **Entrust** are low toxicity materials (Category III) with a 4 hour REI and a 7 day PHI. Entrust received a CA registration in the spring of 2006 and is the organic formulation of Success which received a CA registration in the fall of 2004. Both can be expected to perform similarly. Both are only mild codling moth materials best used in low pressure sites or in conjunction with mating disruption. They should be re-applied at 10 day intervals if flights are prolonged. Efficacy can be improved with the addition of 1% oil. Entrust can be an important component of an organic production system but there are better CM options available for conventional growers. They are both very effective against leafrollers and can have good activity against leafminers and thrips. As thrips can be good mite predators (as well as an apple pest itself) you may see an increase in mites if the thrips have been helping to control them in your orchard. To prevent the development of resistance, only 3-4 applications (depending on your rate) can be applied per season.

⇒ **Delegate** is a new Dow AgroScineces material that is not yet registered but it is hoped that it will have a US registration by the 2008 season. California registration may take a little longer. It is a reduced risk material that is closely related to Success/Entrust but is much more active against CM than either of these two. In small scale CA field trials this material has performed as well as our Guthion/Imidan standard. It is not quite as long lived as Guthion but it looks to be one of the best reduced risk materials for codling moth control coming down the road.

Pyrethroids are traditional, broad spectrum, contact materials. As a class they tend to have lower mammalian toxicities than organophosphates but can be hard on beneficial insects which can result in secondary pest outbreaks. They also have the potential to contaminate waterways through sediments in orchard runoff or through drift. These are not considered the most environmentally friendly products but they can be very useful if used selectively when softer materials won't do the job.

⇒ **Warrior** has been registered on a number of crops in CA since April of 2002. It is a Category II material with a 24 hour REI and a 21 day PHI. In our CA field trials it has performed as well as Imidan to control CM. It also has activity against a wide range of other pests including leafrollers, leaf miner, leaf hoppers, apple maggot, plant bugs, green and rosy apple aphids, and San Jose scale. However, to prevent the development of resistance, don't use this material on all these pests in one season – alternate with non-pyrethroid materials. There is a seasonal limit of 20.5 oz/A which is 4 - 8 applications (depending on your rate). Watch for mites and other secondary pests. The addition of oil can help to reduce mite problems.

⇒ **Battalion** received a California registration in August of 2006. This is a restricted material with a category I rating due to acute mammalian and aquatic organism toxicity. It has a 12 hour REI and a 21 day PHI. In our CA field trials it performed even a little bit better than Warrior or Imidan. The label also lists control for leafrollers, leafminers, apple maggot, leafhoppers, plantbugs, and San Jose scale crawlers. There is a seasonal limit of 2 high rate applications per season. Save this for when you have a problem CM population. Watch for secondary pest outbreaks. The addition of oil can help to reduce mite problems.

Other Classifications

⇒ **Cyd-X** received a California registration in April of 2006. This is one of 3 microbial insecticides using codling moth granulosis virus as the active ingredient. The other two materials (Carpovirosine and Virosoft) have been shown to be equally virulent but they are not yet registered in California. Cyd-X is an organically approved product with a very low toxicity rating (Category IV), a 4 hour REI, and no PHI. It must be eaten by the young larva to be effective. It can take a few (to several) days for the larva to die so damage may be evident in the fruit. However, the NEXT generation flight and damage should be reduced. It is a short lived product and needs to be reapplied at least weekly beginning at hatch (160-200 degree days) and continuing as long as significant flight has occurred the week before. The addition of oil may improve efficacy and allow the reapplication interval to be stretched a bit. Because of the slow kill and short field life this is considered a mild codling moth material that is best used in low pressure sites or as a supplement to mating disruption. It is an important component in an organic program and may be used with other insecticides in a conventional program to reduce subsequent generations. The concentrate should be stored in the refrigerator or freezer to extend shelf life and mixed with non-chlorinated water with a neutral pH (7.0) in the spray tank. It is only effective against CM and has no known effects on beneficial insects or other pests.

TREE CROPS - FUNGICIDE EFFICACY: Spring Disease Control

Fungicide	FRAC Number or Chemical Class	Resistance Risk [h]	STONE FRUIT			APPLE/PEAR			WALNUT
			Brown Rot [j]	Jacket Rot (Botrytis)	Powdery Mildew [j]	Scab	Powdery Mildew (apple)	Fireblight	Blight
Abound [a]	11	High	++	----	++	NR			
Agrimycin [f]	Antibiotic	High						++++	
Blight Ban [f]	Biological	Low						++	
Bordeaux [f]	Inorganic	Low							+++
Botran	14	High	++	+++		NR			
Bravo/Echo [i]	M5	Low	++	++	---	NR			
Cabrio [b]	11	High	++	---	++	NR			
Captan [i]	M4	Low	++	++	---	++	---		
Copper [f]	M1	Low	+	+	---	++ [g]	---	+++ [g]	+++ [g]
Elevate	17	High	+++	+++	++				
Elite	3	High	++++	++	+++	NR			
Flint	11	High	++	----	++	++++	++++		
Indar	3	High	++++	----	+++	---			
Kaligreen [f]	Inorganic	Low	---	---	++	---			
Laredo	3	High	+++	---	++++	NR			
Lime Sulfur [f]	M2	Low				++++	+++		
Maneb	M3	Low	+	+	---	++ [b]	---		
Manex	M3	Low	+	+	---	++ [b]			
Mycoshield [b,f]	Antibiotic	High						+++	
Orbit (Bumper)	3	High	++++	----	+++	NR			
Pristine [e]	11&7	M. low	++++	+++	+++				
Procure	3	High	++	---	+++	++++	++++		
Quintec [b]	13	Medium	---	---	++++	---			
Rally	3	High	+++	---	++++	++++ [b]	++++		
Rovral	2	Low	+++	+++	---	NR			
Rovral + Oil	2	Low	++++	++++	+	NR			
Rubigan	3	High	+++	---	++++	++++	++++		
Saf-T-Side [f]	oil	Low	++	---	++	---			
Serenade & Sonata [f]	Biological	Low	+/-	+	++				+
Sovran	11	High			+++	+++	+++		
Scala [b, d, e]	9	High	++++ [k]	+++		+++	+		
Sulfur [f,i]	M2	Low	+	+	+++	++	++++		
Thiram	M3	Low	+	+	---	++ [b]	---		
Topsin M	1	V. high	++++ [c]	++++	+++	+++ [b]	+++		
Vangard [d,e]	9	High	++++	+++		+++	+++		
Zinc-Copper Bordeaux [f]	Inorganic	Low							+++
Ziram	M3	Low	+	+	---	++	---		

Rating: ++++ = excellent & consistent, +++ = good & reliable, ++ = moderate & variable, + = limited &/or erratic, --- = ineffective, NR = not registered

[a] Causes severe phytotoxicity on some apple cultivars

[b] Scala registered on pome fruit and all stone fruit except cherry. Cabrio & Quintec registered only on cherry. Mycoshield registered on pear, not apple. Manex, Maneb, Topsin, Thiram & Rally are registered on apple, not pear.

[c] Resistant populations of target organisms occur in California.

[d] High summer temperatures and relative humidities reduce effficacy.

[e] Phytotoxicity reported on cherry

[f] Acceptable for organic production

[g] May cause phytotoxicity under some conditions; check the label.

[h] Do not use materials with the same FRAC number and high resistance risk more than twice during a season.

[i] Do not use with or before or after oil.

[J] Seldom occurs on plums and does not usually require treatment.

[K] Postharvest use only

TREE CROPS - TREATMENT TIMING: Spring Disease Control

STONE FRUIT		Brown Rot	Jacket Rot (Botrytis)	Powdery Mildew
Apricot	red bud	+++	---	---
	popcorn	+++	---	---
	Full Bloom	+++	+++	+++
	until pit hardening	---	---	+++

Notes:

Brown Rot: begin sprays at red bud and add 1-2 more sprays at popcorn and full bloom if rainy.

Powdery Mildew: Early applications are most effective. Begin sprays at full bloom with a material that is effective against all 3 diseases. Repeat at 7-14 day intervals until pit hardening if needed.

Cherry	Late bud break	---	---	++
	popcorn	+++	+++	++
	full bloom	+++	+++	++
	petal fall	++	++	+++
	2-3 weeks later	---	---	+++

Notes:

Brown Rot: Begin application at popcorn and repeat every 10-14 days if rainy.

Powdery Mildew: Use sulfur at late budbreak. Follow up with other fungicides if later treatment is needed. Treat immediately if mildew is found on inner leaves/shoots.

Peach/ Nectarine	20-40% bloom	++		++
	80-100% bloom	+++		+++
	until pit hardening			+++

Notes:

Brown Rot: Bloom sprays help to reduce ripe fruit rot at harvest. Begin treatment at early bloom and re-treat at full bloom if weather is rainy.

Powdery Mildew: Begin at full bloom. Reapply until pit hardening if needed. Cool, moist nights and warm days favor disease; some varieties are more susceptible.

Plum	green bud	+		
	popcorn	++		
	full bloom	+++		+++
	until pit hardening	---		+++

Notes: Brown rot and powdery mildew are not common problems on plums. A single treatment or no treatment may be needed.

POME FRUIT		Scab	Powdery Mildew (apple)	Fire- blight
Apple/ Pear	green tip	+++		
	pink bud	+++	+++	+++
	spring, if weather favorable	+++	+++	+++

Notes:

Scab: protect tissue early; retreat with wet conditions.

Mildew: early applications most effective; retreat if mildew continues.

Fireblight: Begin treatment at early bloom and continue through entire bloom if rain and temperatures are favorable.

NUTS		Blight
Walnut	catkin emergence	++
	terminal bud break	+++
	1 wk after bud break	++
	7-10 day intervals	++
	May	+

Notes: Timing will depend on orchard history and weather conditions. Begin application at terminal budbreak. Reapply if rain is forecast. Late spring rains are less favorable for disease development.

Rating: +++ = most effective, ++ = moderately effective, + = least effective, --- = ineffective

GRAPEVINES – FUNGICIDE EFFICACY: Disease Control

Fungicide	FRAC Number or Chemical Class	Resist-ance Risk	Powdery mildew	Bunch Rot		Phomopsis	Eutypa
				Botrytis	Summer		
CONVENTIONAL FUNGICIDES							
Abound	11	High	++++	+	---	+++	---
Bayleton	3	High	++	---	---	---	---
Captan	4	Low	---	+++	+++	+++	---
Elevate	17	High	++	++++	++	---	---
Elite	3	High	++++	++	++	---	---
Flint [a]	11	High	++++	++	++	++	--
Maneb	M3	Low	---	++	---	+++	---
Pristine	7 & 11	Med.	++++	++++	+++	+++	---
Procure	3	High	++++	---	---	---	---
Quintec	13	High	++++	---	---	---	---
Rally	3	High	++++	---	---	---	---
Rovral	2	Low	---	+++	---	---	---
Rovral + Oil [b]	2	Low	+++	++++	---	---	---
Rubigan	3	High	++++	---	---	---	---
Scala	9	High	++	++++	++	---	---
Sovran	11	High	++++	++	++	++++	---
Vangard	9	High	++	++++	++	---	---
Topsin-M	1	High	+++	++	+++	+	++++
BIOLOGICALS, NATURAL COMPOUNDS, SARS							
Armicarb	inorganic	Low	+++	---	---	---	---
Cinnacure	natural	Low	+++	---	---	---	---
Copper [c]	Inorganic	Low	++	++	+++	+	---
JMS Stylet Oil [b,c]	oil	Low	++++	---	---	---	---
Kaligreen [c]	inorganic	Low	+++	---	---	---	---
Messenger	SAR-protein	Low	+++	---	---	---	---
Milstop[c]	inorganic	Low	+++	---	---	---	---
Purespray[c]	oil	Low	+++	---	---	---	---
Serenade [c]	Biological	Low	+++	+	+	---	---
Sonata [c]	biological	Low	+++	++	+	---	---
Sulfur [c]	Inorganic	Low	++++	---	---	---	---

Rating: ++++ = excellent & consistent, +++ = good & reliable, ++ = moderate & variable, + = limited &/or erratic, --- = ineffective

Notes:

[a] Causes severe phytotoxicity on Concord grapevines

[b] Phytotoxic is used within 2 weeks of captan or sulfur

[c] Acceptable for organic production

[d] Apply only if rain is forcast

[e] Use 10 gal Lime Sulfur per acre in at least 100 gal water

f Apply budbreak & full bloom treatments every year; later treatments only as needed

GRAPEVINES - TREATMENT TIMING

Disease	Dormant	Bud break	Full bloom	Pre-close	Veraison	Pre-harvest
Powdery Mildew	+++ [e]	+++ [f]	+++ [f]	+++	+++	---
Botytis	---	---	+++ [d]	+++ [d]	++ [d]	+++ [d]
Summer rot	---	---	+++ [d]	+++ [d]	++ [d]	+++ [d]

Rating: +++ = most effective, ++ = moderately effective, + = least effective, --- = ineffective

PUBLICATIONS

The following new UC publications are free and can be downloaded directly from our Online catalog at http://anrcatalog.ucdavis.edu. Type the publication number or title into the search box. If you don't have internet access, call or stop by my office and I'll be happy to print you a copy.

Citrus Bacterial Canker Disease and Huanglongbing (Citrus Greening)
Publication 8218

Pears: An Alternataive Feed
Publication 7266

Raising Game Birds
Publication 8155

Reducing Runoff from Irrigated Land Series:

Causes and Management of Runoff from Surface Irrigation in Orchards
Publication 8214

Managing Existing Sprinkler Irrigation Systems
Publication 8215

Measuring Irrigation Flows in a Pipeline
Publication 8213

Soil Intake Rates and Application Rates in Sprinkler-Irrigated Orchards
Publication 8216

Storing Runoff from Winter Rains
Publication 8211

Understanding Your Orchard's Water Requirements
Publication 8212

UC Pest Management Guidelines

These on-line guidelines offer pest lifecycle, monitoring, and control information for all major California commodities. The following Guidelines have been recently updated and are available at no charge from the UC IPM Website: www.ipm.ucdavis.edu

Alfalfa	Apple
Apricot	Artichoke
Avocado	Caneberries
Cherry	Citrus
Fig	Garlic
Grape	Nectarine
Onion	Peach
Pecan	Plum
Prune	Small Grains
Tomato	

CALENDAR

FEBRUARY

27
WINE ANALYSIS & SENSORY CHEMISTRY: QUEST FOR EXCELLENCE QUALITY WINEGROWING EDUCATIONAL SERIES
Robert Livermore Community Center
Cresta Blanca North Room
4444 East Avenue, Livermore
Fee: $10 to help cover costs
Sponsors: Tri-Valley Conservancy and Livermore Valley Winegrowers Association
Contact: (925) 447-9463

MARCH

3-8
UCD WINE EXECUTIVE PROGRAM
Sacramento, CA
Fee: $3600.00-4800.00
Sponsors: UCD Graduate School of Management, School of Viticulture & Enology, Wine Business Monthly, Wines & Vines, Vino Farms Inc., Seguin Moreau, American AgrCredit, BMO, Comerica, Rabobank, SVB, Tranchero Family Estates and others
Contact: (530) 754-6450; http://www.wineexecutiveprogram.com/

8
37TH ANNUAL TRI COUNTY WALNUT INSTITUTE
Harvest Hall
Stanislaus County Ag Center
3800 Cornucopia Way, Modesto, CA
8:30—Noon
Free
Sponsors: UCCE Contra Costa, San Joaquin-Stanislaus Co
Contact: (209) 525-6800
Janet Caprile (925) 646-6540

13
OUR COMMON VISION: A BRIGHT FUTURE FOR HEALTHY COMMUNITIES, FARMS & FOOD IN CALIFORNIA
UC Davis
1:00 – 4:00 pm
RSVP by March 6
Sponsors: Roots of Change (ROC), Great Valley Center, UC Sustainable Agriculture Research and Education Program, UC Davis Agriculture Sustainability Institute
Contact: Nicole Mason (415) 391-0545, Nicole@rocfund.org
Visit www.ROCFund.org for more information.

19-22

JUICE PROCESSING WORKSHOP
UC Davis
Fee:$250/day
Sponsors: UC Cooperative Extension, Tech Committee for Juice & Juice Products, Int'l Federation of Fruit Juice Producers
Contact: Penny Stockdale, (530) 752-6941, http://postharvest.ucdavis.edu/Announce/juice.shtml

22

RECENT ADVANCES IN VITICULTURE AND ENOLOGY
UC Davis
9:00–5:00 pm
Fee:$220
Sponsors: UC Davis Dept. of Viticulture & Enology, The Trellis Alliance
Contact: (800) 752-0881, www.extension.ucdavis.edu

PESTICIDE SAFETY TRAINING FOR HANDLERS IN SPANISH
Diablo Valley Farm Center
Delta Rd & 2nd St, Knightsen
Free
Sponsors: UCCE Contra Costa & CCC Ag Dept
Contact: (925) 646-6540 to register

QUEST FOR EXCELLENCE QUALITY WINEGROWING EDUCATIONAL SERIES
Livermore
Sponsors: Tri Valley Conservancy & Livermore Valley Wine Growers Association
Contact: LVWA (925) 447-WINE for topic, time, location

26

FUNDAMENTALS OF GIS FOR VINEYARD MANAGEMENT
UC Davis
8:00 am–5:00 pm
Fee $275
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

27

INTERMEDIATE GIS FOR VINEYARD MANAGEMENT
UC Davis
8:00–5:00 pm
Fee:$275
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

39th CALIFORNIA NEMATOLOGY WORKSHOP
Kearney Agricultural Center
9240 S Riverbend Ave, Parlier, CA 93648
7:30 AM – Afternoon tour
Fee: Free; must be one of the first 100 to register in order to receive a lunch.
Sponsor: University of California
Contact: Lois Strole (559) 646-6500

30-31

SENSORY EVALUATIION OF OLIVE OIL
UC Davis
Fee:$595, includes two lunches and all tastings
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

APRIL

17-18

AGRICULTURAL HEALTH & SAFETY
Sacramento
8:30 am – 5 pm
Fee: $470
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

19

PESTICIDE SAFETY TRAINING FOR FIELDWORKERS IN SPANISH
Diablo Valley Farm Center
Delta Rd & 2nd St, Knightsen
Free
Sponsors: UCCE Contra Costa & CCC Ag Dept
Contact: (925) 646-6540 to register

21

HIGH QUALITY WINE FROM WARM & SUNNY PLACES
UC Davis
9:00 am – 4:00 pm
Fee: $210
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

24

QUEST FOR EXCELLENCE QUALITY WINEGROWING EDUCATIONAL SERIES
Livermore
Sponsors: Tri Valley Conservancy & Livermore Valley Wine Growers Association
Contact: LVWA (925) 447-WINE for topic, time, location

28

SUCCESSFUL SMALL SCALE WINEMAKING
UC Davis
Fee: $160
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

MAY

5-6

INTRODUCTION TO SENSORY EVALUATION OF WINE
UC Davis
9:00 am – 4:30 pm
Fee:$525
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

12

MANAGING THE SMALL VINEYARD II
UC Davis
9:00 am – 4:00 pm
Fee:$175
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu
: (800) 752-0881 www.extension.ucdavis.edu

19

INTRODUCTIO TO WINE ANALYSIS FOR HOME WINEMAKERS
UC Davis
8:00 am – 6:00 pm
Fee: $235
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

19-20

GETTING STARTED IN THE SPECIALTY FOOD BUSINESS
UC Davis
Fee: $540
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

22

QUEST FOR EXCELLENCE QUALITY WINEGROWING EDUCATIONAL SERIES
Livermore
Sponsor: Tri Valley Conservancy & Livermore Valley Wine Growers Association
Contact: LVWA (925) 447-WINE for topic, time, location

24

EVERYDAY COMPLIANCE FOR WINERY AND BRAND OWNERS
UC Davis
9:00 am – 4:00 pm
Fee:$200
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

31

VARIETY FOCUS: ZINFANDEL
UC Davis
8:30 am – 4:30 pm
Fee: $210
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

JUNE

2

INTRODUCTION TO WINE ANALYSIS FOR PROFESSIONAL WINEMAKERS AND WINERY LAB WORKERS
UC Davis
8:00 am – 6:00 pm
Fee: $235
Sponsor: UC Davis Extension
Contact: (800) 752-0881 www.extension.ucdavis.edu

15

PESTICIDE SAFETY TRAINING FOR FIELDWORKERS IN SPANISH
Diablo Valley Farm Center
Delta Rd & 2nd St, Knightsen
Free
Sponsors: UCCE Contra Costa & CCC Ag Dept
Contact: (925) 646-6540 to register

19-30

POST HARVEST TECHNOLOGY SHORT COURSE
UC Davis
Fee:$1000 1-week course; $2000 2-week course
Sponsors: Postharvest Technology Research & Information Center, UC Davis
Contact: (530) 752-6941
http://postharvest.ucdavis.edu/announce/Shortcourse.shtml

Crop Currents Newsletter is now Online

Would you like to get this newsletter faster? You can subscribe to receive an email notification the instant the newsletter is posted on my website. Go to http://cecontracosta.ucdavis.edu, click on *Publications* then *Newsletters* then *Crop Currents.*