

CROP CURRENTS

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MAIN OFFICE:

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KNIGHTSEN OFFICE:

Diablo Valley Farm Center
Delta Road & 2nd St.
Knightsen, CA
(925) 634-3012

Office Hours: Mondays 1:30-4:30

MARCH 2004

- NEW OFFICE LOCATION
- PESTICIDE SAFETY TRAINING CORRECTION
- SJV COOL SEASON CROP PRODUCTION MEETING
- OLIVE FRUIT FLY MEETING
- WEATHER UPDATE: Another low chill year
- DO YOU IRRIGATE? Conditional Waiver Information
- FUNGICIDE EFFICACY GUIDELINES
- SPRAY THINNING GUIDELINES FOR APPLES
- WHEAT STRIPE RUST UPDATE
- BRENTWOOD AGENTERPRISE COMMITTEE
- CALENDAR: Classes/Meetings/Events

NEW OFFICE LOCATION

The Contra Costa Department of Agriculture and the University of California Cooperative Extension will be moving their offices from downtown Brentwood to the Knightsen Farm Center this spring. The move is currently scheduled to take place March 30th. The new offices are located on the corner of Delta Ave and 2nd St, east of Sellers Ave. and just west of Knightsen Ave. in Knightsen.

PESTICIDE SAFETY TRAINING CORRECTION

There are 2 classes remaining in our Pesticide Safety Training Series for Farm Workers. *Note: that the next class is on April 15th (not April 8th as was printed in the February announcement)*

If your employee(s) cannot attend one of these scheduled classes, any certified commercial applicator (PCA, PCO, QAC, QAL) or private applicator may legally provide the training.

Sponsored By:

University of California Cooperative Extension
Contra Costa County Agriculture Department

Classes for Field Workers

Field Workers are employees who work in fields or nurseries where pesticides have been applied but do not handle pesticides themselves. Employers must provide a pesticide safety training every 5 years for their field workers. Each participant will receive a blue EPA Worker Training Verification Card.

BRENTWOOD CLASSES

Delta Community Center
730 3rd St., Brentwood
8:00-10:00 am

- Thursday, **April 15**, 2004
- Thursday, **May 6**, 2004

To Register: Call UC Cooperative Extension at 646-6540 before the class to provide the number of people from your operation who will be attending so we can prepare materials for participants. The class is FREE and open to all who wish to attend.

SAN JOAQUIN VALLEY COOL-SEASON CROP PRODUCTION MEETING

WEDNESDAY - MARCH 31, 2004
Stanislaus County Agricultural Center, Harvest Hall
NE corner of Crows Landing Rd. & Service Rd., Modesto, CA
1.5 Continuing Education Credits Pending

ENTIRELY **FREE** OF CHARGE – ANYONE WELCOME
TRI-TIP LUNCH CATERED BY SAN JOAQUIN STANISLAUS CATTLEWOMEN

RESERVATION AND NUMBER ATTENDING REQUIRED –
Call (209) 525-6800 or email cjmickler@ucdavis.edu

- 9:30 Welcome and Introductions
- 9:35 **Diseases of Celery and Related Crops**
Dr. Steve Koike, Plant Pathology Farm Advisor, Monterey County
- 9:55 **Use of Shark, Chateau, and Goal for the Control of Fallow-bed Weeds**
Dr. Steve Fennimore, Weed Management Extension Specialist, UC Davis
- 10:15 **New Weed Control Developments for Cole Crops**
Richard Smith, Vegetable Crop and Weed Science Farm Advisor, Monterey, Santa Cruz, and San Benito Counties
- 10:35 **Improving the Uniformity of Sprinkler Irrigation**
Mike Cahn, Irrigation Resources and Water Management Farm Advisor, Monterey County
- 11:10 **Developments in Diamondback Moth Management**
Dr. Jan Mickler, Vegetable Crops Farm Advisor, Stanislaus County
- 11:30 **Nematode Management in Carrots and Cole Crops**
Dr. Becky Westerdahl, Nematology Extension Specialist, UC Davis
- 11:50 **The IR-4 Program and Cool-Season Crop Projects**
Becky Sisco, Regional Field Coordinator, Western Region IR-4 Program, UC Davis
- 12:10 **FREE TRI-TIP LUNCH**
- 1:10 **Biofumigation Potential of Cruciferous Crops**
Dr. Jim Stapleton, Regional IPM Advisor and Plant Pathologist, Kearney Agricultural Center
- 1:30 **Cole Crop Fertilization**
Michelle Le Strange, Vegetable Crops Farm Advisor, Tulare and Kings Counties
- 1:50 **Use of the ethylene inhibitor 1-MCP on Cool-Season Leafy Vegetables**
Dr. Marita Cantwell, Vegetable Crops Extension Specialist, UC Davis
- 2:10 Final Comments and Meeting Adjournmen

MANAGING THE OLIVE FRUIT FLY IN ORCHARD AND LANDSCAPE

APRIL 6, 2004
4-6 PM
CEDAR MOUNTAIN WINERY
7000 TESLA RD, LIVERMORE

The Olive Fruit Fly (OLFF) has become a serious pest in local orchards and landscapes. This meeting will provide an update on new research to help manage this pest. It is intended for both commercial growers as well as any one who manages olives in a landscape setting. It will address pest identification, local life cycle, varietal susceptibility, control strategies and timing including traps, sprays and fruit prevention approaches for landscape trees.

Sponsored by:

Livermore Valley Wine Growers Association
Cedar Mountain Winery
UC Cooperative Extension

Speaker: Janet Caprile, Farm Advisor,
UC Cooperative Extension, Alameda-Contra Costa Co.

RSVP: The meeting is free and open to anyone who wishes to attend. Please call to let us know you are coming so we may prepare materials.

LVWA: 925-447-9463
UCCE: 925-646-6540

Directions:

From Brentwood: Take Vasco Road south to Livermore, cross over Hwy 680, and continue to Tesla Rd. (about 20 miles). Turn LEFT onto Tesla Rd and go about a ½ mile to Cedar Mountain Winery (on your left).

From Hwy 680: take the Vasco Rd exit. Head south on Vasco Rd, turn LEFT onto Tesla and go about a ½ mile to Cedar Mountain Winery (on your left).

WEATHER UPDATE

We are a little above our normal rainfall as of February 29th. This has gotten this season off to a good start by leaching salts out of the root zone and filling the soil profile.

Unfortunately, we have ended this winter with only 728 hours of accumulated chill. This is similar to the chill accumulation for the last two years, so we may again expect to see the effects of lower chill in those high chill requiring crops like cherries, apples and some varieties of apricots and peaches. These effects typically include delayed and prolonged bloom, reduced bloom, and/or dropped buds. All these can lead to reduced pollination, set, yields and harvest uniformity. Fortunately, the warm and dry weather we have seen during bloom may serve to offset some of the negative effects of low chill by compacting the bloom, reducing disease, and providing ideal conditions for pollination and set.

RAINFALL (inches)			
MONTH	2003- 2004	2002- 2003	AVG
October	.1	0.0	0.7
November	1.2	2.4	1.1
December	3.9	6.2	1.7
January	1.9	.8	3.0
February	3.9	1.5	2.8
Mar		1.5	1.5
April		1.8	0.7
May		.7	0.7
June		.0	0.3
July		.0	0.1
August		.6	0.1
September		.0	0.3
TOTAL	11.02	15.5	13.0

ACCUMULATED CHILL HOURS												
MONTH	2003- 2004	2002- 2003	2001- 2002	2000- 2001	1999- 2000	1998- 1999	1997- 1998	1996- 1997	1995- 1996	1994- 1995	1993- 1994	AVG
November	113	125	74	281	101	123	41	128	96	277	212	148
December	324	368	240	631	451	589	422	376	309	753	655	492
January	584	589	596	1013	640	1007	652	691	579	879	995	807
February	728	759	777	1226	715	1209	756	821	688	966+	1215+	903

DO YOU IRRIGATE?

If you irrigate, you may be subject to new regulations if *irrigation or storm water ever runs off (or could run off) your property into natural or man-made surface waters*. There could be pesticides, nutrients, sediments and other materials in this runoff that may degrade water quality.

Background. The Water Quality Control Board (through its 9 Regional Boards) is charged with regulating any “discharges” that may adversely affect water quality. They have determined that irrigation and storm water runoff from agricultural lands may pose a threat to water quality in the Central Valley Region. So, in July of 2003, after much deliberation, the Central Valley Regional Water Quality Control Board (CV RWQCB) adopted a new resolution to monitor and regulate this runoff. You may hear this referred to as the Conditional Waiver, the Irrigation Waiver or the Ag Waiver.

This affects growers in Contra Costa County who are east of Mt. Diablo. It does NOT yet affect those in the central or western part of Contra Costa County or in Alameda County (including Livermore and Pleasanton) as these are governed by the a different RWQCB.

What do you need to do? If you are a grower in East Contra Costa County who irrigates and has runoff (even if it is only from winter storms), you need to comply with these new water quality regulations. You can do so in 1 of 3 ways:

1. Obtain a **Waste Water Discharge Permit** from the CV RWQCB. This is what industrial dischargers need to do. There are high fees and stringent reporting requirements associated with this option which may make it an unpalatable option for growers.
2. Submit a **Notice of Intent (NOI)** to register with the CV RWQCB as an **Individual Discharger** covered under the Conditional Waiver. This has monitoring and reporting requirements which are less expensive and stringent than the first option but may still cost \$5000 to \$15,000 per site, annually!

3. Join an approved **Coalition** group and work cooperatively toward meeting the conditional waiver requirements. The Coalition will submit the reports and do the monitoring on a watershed basis so it will be less expensive than if individual growers were to conduct their own program.

The San Joaquin County and Delta Water Quality Coalition is currently the only approved Coalition group that covers East Contra Costa County. The Resource Conservation District in San Joaquin County has taken the lead in setting up this Coalition. The Byron Bethany and East Contra Costa Irrigation Districts have joined this group and will serve as the intermediary for their members. However, **belonging to an irrigation district does not automatically mean you are a member of the Coalition and off the hook. Every landowner must individually enroll as a member of the Coalition.** If you have not already enrolled by sending in “Form B”, do so as soon as possible if you wish to participate. Landowners may obtain an enrollment form and enroll with their irrigation district or go directly to the Coalition. For more information contact:

Byron Bethany Irrigation District
925-634-3534

East Contra Costa Irrigation District
925-634-3544

SJC & Delta WQ Coalition
209-472-7127

Members of the Coalition will be charged a fee to cover the costs of monitoring, reporting and administering the program to comply with the conditional waiver requirements. The exact fee has not yet been set but a \$1-\$3/A fee has been discussed. The more people who join the group, the lower the cost will be.

For more information on the conditional waiver program, contact the CV RWQCB at 916-464-3291 or visit their website at:

www.swrcb.ca.gov/rwqcb5/programs/irrigated_lands .

FUNGICIDE EFFICACY GUIDELINES

I have included the 2004 Fungicide Efficacy Guidelines for Fruit Trees and Grape Vines on the following 2 pages. These are updated every year by UC plant pathologists based on their field research. Dr. Jim Adaskaveg (UCR), Dr. Brent Holtz (Madera Co.), Dr. Themis Michailides (UCD/KAC), and Dr. Doug Gubler (UCD) all contributed to this update. They have also compiled Efficacy and Timing information for individual crops including almond, apple & pear, apricot, cherry, grape, peach, pistachio, plum, and prune. Call my office for a copy or view them at www.uckac.edu/plantpath/2004EFFICACY-TIMING.pdf

SPRAY THINNING GUIDELINES FOR APPLES

Maximizing quality and obtaining larger fruit sizes are critical to maintaining market share and price in today's economy. Chemical thinning of apples is one of the most economical ways to increase fruit size and quality. Fruit thinning also helps to offset the natural tendency of apples to alternate bear if it is done within about 1 month of bloom. The chart below represents standard chemical thinning treatments and timing for common varieties.

Keep in mind that the performance of these materials will vary with variety, weather, and tree condition. Cool wet weather before, during, and after application tends to increase thinning.

Sudden high temperatures after application (especially following cool periods) can cause mild tree stress and may also lead to increased thinning activity. In fact, stress from any source (low nitrogen, lack of water, root damage, heavy crop in previous years, shading within the canopy, etc) tends to increase the thinning response. Young, vigorous trees are also easier to thin than older, less vigorous trees.

Rates should be adjusted within the recommended ranges below based on the amount of bloom, weather conditions during pollination/fruit set and tree age/vigor. Use the lower rate when weather and tree condition are favorable for thinning and/or bloom is moderate. Use the higher rate when bloom is heavy and/or weather conditions are less favorable for thinning.

CAUTIONS: If you have a mixed block of hard to thin (Fuji) and easier to thin (Pink Lady, Granny Smith, or Gala) varieties, take care to avoid drift to the non target variety which may cause over thinning. Also, *Sevin (carbaryl) is toxic to bees!* The Sevin XLR is a safer formulation but it should still be applied during the night (when bees are in their hives) or ideally, after hives have been removed from the orchard. Mowing flowering cover crops before spraying can also help to avoid accidental bee poisonings.

More detailed information on thinning can be found in "Apple Thinning Sprays", UC IPM APPLE Pest Management Guidelines. Contact my office for a copy or get it online at: www.ipm.ucdavis.edu.

Variety	# of sprays	Material	Rate/A ¹	Timing	Notes
Granny Smith	1	Sevin XLR Plus	1.5-4 pts.	King fruit: 3/8 - 9/16"	Relatively easy to thin
Gala	1	Sevin XLR Plus & Amid-Thin W	3-4 pts & 25 ppm	Petal fall	Follow up hand thinning <u>may</u> be required
Fuji	2	1. Sevin XLR Plus & Amid-Thin W	6 pts & 50 ppm	Petal fall	Difficult to thin. Follow up hand thinning usually required
		2. Sevin XLR Plus	6 pts.	King fruit: 3/8 - 9/16"	
Pink Lady	1	Sevin XLR Plus	2-4 pts.	Early petal fall	Relatively easy to thin

¹ in 150-250 gallons of water per acre – enough to thoroughly wet trees without runoff

EFFICACY: TREE CROPS

Fungicide	Brown rot	Jacket rot (Botrytis)	Shot hole	Powdery mildew	Rust	Scab		Anthracnose	Alternaria
						Almond	Apple/pear		
Abound ^a	++	----	+++	++	+++	+++	+++	++++	+++
Benlate ^b	+++ ^e	+++	----	+++	++	+++	+++	----	----
Botran	++	+++	?	?	?	?	?	?	?
Bravo/Echo	++	++	+++	----	++	+++		++++	++
Cabrio									
Captan	++	++	+++	----	+	+++	++	++	----
Copper	+	+	++	----	----	+/-	----	----	+
Elevate	+++	++++	+	+	ND	ND	ND	ND	ND
Elite	++++	++	+/-	+++	+++	+/-	+++	+++	++
Eminent	++	----	ND	ND	ND	ND	ND	+	ND
Flint	++	----	+++	++	ID	+++	+++	++++	+++
Funginex ^c	+++	----	----	++	+	----	+++	ND	ND
Indar	+++	----	+	ND	ND	+++	----	+	----
Laredo	+++	----	++	++++	++	----	++++	++	----
Maneb	+	+	++	----	+++	++	++	++	+
Orbit (Break)	+++	----	+/-	+++	+++	NR	NR	+++	----
Pristine	++++	+++	++++	+++	ND ^d	+++	ND	+++	++
Procure	++	----	+/-	+++	ND	ND	++++	ND	ND
Quintec (NR) ^e	----	----	----	++++	----	----	----	----	----
Rally	++	----	+/-	++++	++	----	++++	++	----
Rovral	+++	+++	+++	----	----	----	NR	----	+++
Rovral + oil	++++	++++	+++	+	++	----	NR	----	+++
Rubigan	+++	----	----	++++	++	NR	++++	ND	ND
Scala (NR) ^e	++	+++	ND	ND	ND	ND	ND	ND	ND
Scholar ^f	++++	++++	----	----	----	----	----	----	----
Sulfur	+	+	----	+++	+++	++	++	+	----
Thiram	+	+	ND	----	----	NR	++	ND	ND
Topsin M	+++ ^g	+++	----	+++	++	+++	+++	----	----
Vanguard	++++ ^h	++++	++	ND	ND	----	++++	ND	+++
Ziram	+	+	+++	----	----	+++	++	+++	+

++++ = excellent; +++ = very good; ++ = good; + = fair; +/- = slight; - = ineffective; ID = incomplete data, NR = not registered, ND = no data

- a Causes severe phytotoxicity on some apple cultivars.
- b Label withdrawn.
- c No active label for tree or vine crops.
- d Strobilurin fungicides generally have very good to excellent efficacy against rust diseases
- e Registration expected in spring 2004
- f Postharvest use only.
- g Resistant populations of target organisms occur in California.
- h High summer temperatures and relative humidity reduce efficacy.

EFFICACY: GRAPEVINES

Fungicide	Powdery mildew	Downy mildew	Bunch rot		Phomopsis	Eutypa
			Botrytis	Summer		
Abound	++++	++++	+	---	+++	---
AQ10 ^a	++	---	---	---	---	---
Bayleton	++	---	---	---	---	---
Captan	---	+	+++	+++	+++	---
Copper	++	+++	++	+++	+	---
Elevate	++	---	++++	+++	---	---
Elite	++++	---	++	++	---	---
Flint ^b	++++	+++	++	++	++	---
JMS Stylet oil ^c	++++	---	+++	++	---	---
Maneb	---	---	++	---	+++	---
Pristine	++++	++++	++++	+++	+++	---
Procure	++++	---	---	---	---	---
Quintec	++++	---	---	---	---	---
Rally	++++	---	---	---	---	---
Ridomil Gold	---	++++	---	---	---	---
Rovral	---	---	++++	---	---	---
Rovral + oil	+++	---	++++	++	---	---
Messenger	+++					
Rubigan	++++	---	---	---	---	---
Serenade	+++	---	+	+	---	---
Kaligreen	+++					
Armicarb	+++					
Sovran	++++	++++	++	++	++++	---
Sulfur	++++	---	---	---	---	---
Thiram (NR)	---	---	+++	---	---	---
Valero	+++	---	---	---	---	---
Vanguard	++	---	++++	++	---	---
Ziram	---	---	++	---	++	---

++++ = excellent; +++ = very good; ++ = good; + = fair; +/- = slight; - = ineffective; NR = not registered

- a Effective early in the season when disease pressure is low. Should be used only in an integrated program with other chemistries. Is compatible with DMI fungicides, Vanguard, Rovral and all insecticides. Do not tank mix with Abound or sulfur.
- b Causes severe phytotoxicity on Concord grapevines.
- c Phytotoxic if used within 2 weeks of Captan or sulfur.

Fungicide Tables for Fruit and Nut Crops and Grapevines—Edited in 2004
University of California -- 4

WHEAT STRIPE RUST UPDATE

In 2003, wheat growers saw a wheat stripe rust epidemic throughout California which greatly reduced quality and yields. This was due in large part to very favorable weather conditions for disease development – a mild winter and an extended cool, wet spring. But as 12 separate strains of the rust were identified last season, it may also be due to the evolution of new, more pathogenic strains.

The first line of defense against this disease should be the planting of resistant varieties. UC Cooperative Extension has conducted wheat variety trials throughout the state for years. These trials have identified the degree of susceptibility of the following commonly planted varieties:

Highly Susceptible: Dirkwin, Bonus, Brooks, Cavalier

Susceptible: Yecora Rojo, Klasic, Anza, Eldon, Yolo, Kern, Serra,

Moderately Susceptible: Express

Moderately Resistant: Stander

Resistant: Summit, Blanca Grande, Plata

Dirkwin is a commonly planted forage variety in this area which was previously thought to be relatively resistant to our old strains of wheat stripe rust. Last year showed this variety to be highly susceptible to the new strains.

Keep a close watch for the early signs of wheat stripe rust – yellow blotches on a lower leaf surrounded by a few small pustules. It may look more like nitrogen deficiency than rust disease at this stage (but look for those few pustules). It will not appear on the upper leaves until later in the season.

Early infections were first noted in the UC trials in the Delta in mid February by Dr. Lee Jackson, Agronomy Specialist with UC Cooperative Extension. The disease continued to progress into early March. Disease development is most rapid at temperatures of 50^o-60^oF with intermittent rain and dew. Warm temperatures above 80^oF halt the progression of the disease and our warm, dry weather in mid March has provided some relief.

If cool, moist temperatures resume and disease is present, it may be worthwhile to consider a fungicide treatment before heading to protect the flag leaf. Research conducted last season by Mick Canevari, Farm Advisor with UC Cooperative Extension in San Joaquin County, showed that a single, pre-heading application of Tilt, Quadris, Stratego, or Headline increased both yields and grain quality. Fungicide treated plots averaged about 1000 lb/A more than untreated plots. Treatments applied AFTER heading were not effective. Irrigation during grain filling is also helpful to avoid grain shrivel and offset the plant stress and moisture loss caused by the rust.

If you do decide a fungicide may be worth the cost, make sure to check the label for application restrictions that are relevant to your situation. For example: Tilt cannot be applied after full flag leaf emergence or on hay, grazing or forage wheat. Quadris can be applied up to late head emergence and can be used for hay but not for forage (grazing). Stratego can not be applied after full flag leaf and has forage & hay restrictions based on rate. Headline may be applied up to late head emergence but cannot be harvested for hay for 14 days after application.

BRENTWOOD AGRICULTURE ENTERPRISE COMMITTEE

The Brentwood Agricultural Land Trust (BALT) was recently established as part of the city's Agriculture Enterprise Program. Kathryn Lyddan was hired to head up that program and she has also initiated an Agricultural Enterprise Committee to explore policies and programs to support local agriculture. The committee has met twice and has discussed a number of ideas including a Brentwood Farmers Market and developing a Brentwood "brand" or identity to promote the sale of local products.

They are looking for input from as many local growers as possible. If you would like to participate contact Kathryn at (925) 516-5426 or KLyddan@ci.brentwood.ca.us so she can make sure you are notified of the next meeting.

CALENDAR

March 24

Pesticide Monitoring in Surface and Groundwater

UC Davis, 9am – 4:30pm, \$260

Sponsor: UCD Extension

Contact: www.extension.ucdavis.edu

800-752-0881

March 31

SJV Cool-Season Crop Production Meeting

Modesto, 9:30am – 2:30pm, FREE (includes lunch)

Sponsor: UC Cooperative Extension

Contact: cjmickler@ucdavis.edu

(209) 525-6800

March 31-April 2

HACCP for Juice Processors

Sacramento, \$550

Sponsor: The Food Processor Institute

Contact: www.fpi-food.org

800-355-0983

April 1-2

Olive Oil Production Short Course

Yuba City, \$475

Sponsor: UCCE & UCD Extension

Contact: www.extension.ucdavis.edu

800-752-0881

April 3

Managing the Small Vineyard II

UC Davis, 9am – 4pm, \$140

Sponsor: UCCE & UCD Extension

Contact: www.extension.ucdavis.edu

800-752-0881

April 6

Managing the Olive Fruit Fly

Livermore, FREE

Sponsor: LVWA & UCCE

Contact: 925-447-0433

Or 925-646-6540

April 7

Clonal Aspects of Winegrape Growing

UC Davis, 9am-4pm, \$180

Sponsor: Foundation Plant Services, UCD

Contact: www.extension.ucdavis.edu

800-752-0881

April 8

UC Pesticide-Water Quality Coordinating Meeting

Woodland, Free

Sponsor: UC Cooperative Extension

Contact: rflong@ucdavis.edu

530-666-8734

April 15

Pesticide Safety Training for Fieldworkers – in Spanish

Brentwood, FREE

Sponsor: UCCE & Ag Dept.

Contact: 925-646-6540

April 19

Workshop for Trainers of Pesticide Handlers and Agricultural Field Workers – in English

UC Davis, \$135

Sponsor: UC IPM Program

Contact: 530-752-5273

April 20

Workshop for Trainers of Agricultural Field Workers – in English or Spanish

UC Davis, \$50

Sponsor: UC IPM Program

Contact: 530-752-5273

April 26

Workshop for Trainers of Pesticide Handlers and Agricultural Field Workers – in Spanish

UC Davis, \$135

Sponsor: UC IPM Program

Contact: 530-752-5273

May 22

Successful Small Scale Winemaking

UC Davis, 9am – 4:30pm, \$120

Sponsor: UCD Extension

Contact: www.extension.ucdavis.edu

800-752-0881