

Contra Costa & Alameda Counties

CROP CURRENTS

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JANUARY 2006

- **WEATHER REPORT**
- **LOCAL MEETINGS:**
 - Pesticide Safety Training In Spanish
 - Intro to Organic Farming
 - Cherry Research Review
- **TREES:** Cherry Buckskin Disease Update
- **TREES:** Timing Rest Breaking Sprays for Cherries
- **TREES:** Dormant Spray Alternative
- **RESOURCES:** Publications
- **CALENDAR:** Classes/Meetings/Events

WEATHER REPORT

The copious December rainfall has certainly made up for the dry October and November. We are now 1.4" above the Oct.-Dec. average in Brentwood. The east Alameda County stations have not been operating long enough to calculate a meaningful average but as one would expect, Livermore has received about the same amount of rainfall as Brentwood and Pleasanton has gotten a little more. So we are off to a good start in refilling our soil profiles and leaching salts.

However, it looks like this may be another low chill year. Brentwood, Livermore, and Pleasanton have accumulated 298, 372, and 373 chill hours, respectively as of 1/5/06. We'd like to see about 500 chill hours by this time in order for apricots, cherries, and apples to mature their buds and set a good crop with a compact bloom.

If you have internet access, you can update these records at your convenience through the Fruit and Nut Research and Information Center web site (<http://fruitsandnuts.ucdavis.edu>). Just click on the "Weather Services" button.

RAINFALL
(inches)

MONTH	Brentwood		Pleasanton	Livermore
	2005	Aver.	2005	2005
January	2.4	3.0	3.8	2.5
February	3.1	2.9	3.3	2.8
Mar	1.8	1.6	3.3	3.9
April	1.2	0.7	2.0	2.1
May	0.8	0.6	1.7	1.0
June	0.1	0.2	0.0	0.7
July	0.0	0.0	0.0	0.0
August	0.1	0.0	0.0	0.0
September	0.0	0.3	0.0	.4
October	0.0	0.7	0.1	.1
November	0.3	1.2	.43	.6
December	5.1	2.1	8.0	5.4
TOTAL	18.2	13.1	26.0	19.7

BRENTWOOD CHILL HOURS

MONTH	2005-2006	2004-2005	2003-2004	2002-2003	2001-2002	2000-2001	1999-2000	1998-1999	1997-1998	1996-1997	1995-1996	AVG
November	87	127	113	125	74	281	101	123	41	128	96	148
December	287	420	324	368	240	631	451	589	422	376	309	492
January	(298)*	809	584	589	596	1013	640	1007	652	691	579	807
February		887	728	759	777	1226	715	1209	756	821	688	903

* January 1 through January 5

PESTICIDE SAFETY TRAINING IN SPANISH

All farmworkers are required to have a pesticide safety training before they begin work for the season. *Pesticide Handlers* (anyone who applies, mixes, loads, flags, or otherwise handles pesticides) need this training every year. *Fieldworkers* (who work in areas where pesticides have been applied but do not handle pesticides themselves) need to be trained on pesticide safety at least every 5 years.

UC Cooperative Extension and the Contra Costa County Department of Agriculture are again offering free classes that meet these training requirements. All classes are in given Spanish.

Classes will be held at:

Knightsen Farm Center
Delta Rd & 2nd St
Knightsen, CA

Classes for Pesticide Handlers

- Thursday, **March 2**
8:00 – 11:00 am
- Wednesday, **March 22**
8:00 – 11:00 am

Classes for Fieldworkers

- Thursday, **April 13**
8:00 – 10:00 am
- Thursday, **May 18**
8:00 – 10:00 am

Richmond classes for the nursery industry will be arranged upon request.

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

To Register:

Call UC Cooperative Extension at 925-646-6540 by the Monday before the class to let us know how many people from your operation will be attending. This assures that we can prepare sufficient materials for all attendees.

INTRODUCTION TO ORGANIC FARMING

Friday, January 13, 2006
UC Cooperative Extension (UCCE) Offices
420 So. Wilson Way, Stockton

Sponsored by: UCCE & San Joaquin Co. Ag. Dept.

- 8:00 Introduction
8:10 Co. Information on Registered Organic Growers
Benny Fouche, Farm Advisor
8:30 Soil Solarization.
Jim Stapleton, UCCE Specialist
9:30 Going Organic Project
Fred Thomas
9:45 Registration for Organic Farmers
Tom Reed, SJC Ag Dept.
10:30 Organic Certification Requirements
Rex DuFour, NCAT
11:00 Farmer's Panel
Wally Condon, Small Potatoes
Greg Ferarri, Ferarri Farms
11:30 Covercrops for Central Valley Organic Farms
Fred Thomas
Noon Adjourn

CA CHERRY RESEARCH REVIEW

Tuesday, January 17, 2006
Hutchins Street Square

Kirst Hall

Corner of Oak and Hutchins Streets, Lodi

Sponsored by: CA Cherry Advisory Board & UCCE

- 9:00 Welcome
Jim Culbertson, CA Cherry Advisory Board
9:10 Fall Leaf Removal to Enhance Dormancy
Kitren Glozer, UC Davis
9:30 Management of Cherry Diseases
Jim Adaskaveg, UC Riverside
9:55 Reducing Stem Loss in Bing Cherries
Kitren Glozer, UC Davis
10:50 Using Surfactants to Remove Surface Pests
Beth Mitcham, UC Davis
11:10 Calculating Chill Hours by the Dynamic Model
Kitren Glozer, UC Davis
11:40 Environmental & Genetic Influences on Fruit Size
Jim Culbertson, CA Cherry Advisory Board
Noon Adjourn

1 hour continuing education credit pending

CHERRY BUCKSKIN DISEASE UPDATE

Where is it? In 2002 we found 2 orchards infected with Cherry Buckskin Disease in the vicinity of Walnut Blvd and Eureka Ave. These were the first finds in many years. One orchard was completely removed and the second orchard initiated an aggressive eradication program. It was sprayed throughout the season to control the leafhopper (which spreads the disease) and all symptomatic trees were removed. Protective leafhopper sprays were recommended for adjacent orchards.

In 2003, we surveyed all bearing cherry orchards and found more infected trees in this same orchard and also in a neighboring orchard that had not applied protective sprays the season before. As it can take more than a year for symptoms to develop in some trees, these new infections may have been infected the previous season before control actions were taken. So both orchards proceeded with the eradication program of season long leafhopper sprays and removal of any symptomatic trees. Protective sprays were recommended for orchards within about ½ mile of Walnut and Eureka.

In 2004, infected trees were again found in both infected orchards and an adjacent orchard that *had* been applying protective sprays. The decision was made to remove the originally infected orchard. Both other orchards began or continued with the spray and cut eradication program. Protective sprays were recommended for orchards within about 1 mile of Walnut and Eureka.

In 2005, we found new infections in both the remaining orchards and single infected trees in 3 new orchards. Two of these new orchards were nearby, along Eureka Ave, and next to one of the infected orchards. But the third new orchard was down Walnut Blvd. at Marsh Creek Road, a mile away from any known infection site.

Why is it spreading even though the infected orchards are sprayed? One reason is that we have a LOT of the leafhoppers that spread the disease and there are always a few escapes from the spray. This is especially true in very tall or dense orchards where coverage may not be optimal. It only takes 1 infected leafhopper feeding a few moments to transmit the disease to a new tree. Even if the orchard has been sprayed, the leafhopper may be able to transmit the disease before it dies, especially if it is at the end of the residue window or at the very top of a tall tree. So it is really just a numbers game – the more leafhoppers there

are and the more trees that are infected, the more likely potential escapes can transmit the disease.

What Can You Do? The more cherry orchards that are applying preventative leafhopper sprays, the smaller the areawide leafhopper population and the lower the likelihood of disease spread. A preventative spray program should include a **dormant spray** consisting of a narrow range oil (4-6gal/A) *and* an insecticide (Lorsban at 2qt/A or Asana at 8-14 oz/A). It can be applied anytime from December to February.

You'll also need 3-4 **in-season sprays**. The first should go on shortly after harvest (mid June) and be reapplied every 4-6 weeks depending on the material you choose:

Asana at 10 oz/A lasts 4 weeks
Asana at 14 oz/A lasts 6 weeks
Actara at 5.5 oz/A lasts 4 weeks

These materials may lead to mite flare-ups later in the season. Lower rates cause fewer problems but need to be applied more frequently. Including a preventative miticide with the spray, especially in the early applications, can help to reduce later mite problems.

Look for the disease in your own orchard. The symptoms will vary depending on your rootstock.

On most cherry rootstocks (*Colt, Mazzard, Giesla, Stockton Morello*) infected trees look fairly normal except that the fruit on one or more branches doesn't color up and ripen fully. So the only time to find infected trees is just before harvest.

Infected trees on *Mahaleb* rootstock do not show fruit symptoms but will show yellowing leaves and look sick within a few months of infection. We won't find infected Mahaleb rooted trees during our annual survey so growers need to be on the lookout in their own orchards.

Cut down any infected trees as soon as possible after you find them but only *after you have applied a leafhopper spray*.

Beware other hosts. Asian plums (not European plums or prunes), some ornamental plums, clovers and dandelions can also harbor the disease where it can spread to cherry orchards. It is best to keep these plants out of the orchard and surrounding area.

Don't hesitate to call if you need assistance diagnosing suspicious trees or have questions about the disease or control strategies.

TIMING REST BREAKING SPRAYS FOR CHERRY

In recent years there has been much experimentation by researchers, growers, and PCAs in using rest breaking sprays to compact and advance bloom and harvest in sweet cherry. Dormex and CAN 17 are the two most commonly used materials. The effectiveness of these materials can be quite variable depending on rate, timing, weather, orchard conditions, adjuvants and perhaps variety. Under favorable conditions they can advance bloom by 10-14 days and harvest by 7-10 days. Under poor conditions they may have minimal effect on advancing bloom and may reduce fruit set and/or kill buds or branches. This is a summary of what we know to date.

Dormex (hydrogen cyanamide) can be effective when applied at 1-4% (volume/volume) spray solution. The 4% rate is the most commonly used. It should not be applied within 7 days of an oil spray due to potential phytotoxicity. It needs to be applied after a certain amount of chill has occurred but not within a month of bloom. Earlier work used the number of chill hours below 45°F to time applications. Sprays that went on at about 550-600 chill hours gave better but still quite variable results. For the last few years Dr. Steve Southwick has been looking at the Dynamic Chill Model which calculates chilling accumulation as Chill Portions. This seems to give a better estimate of true bud maturity and tree response to these materials. Applications made between **49 to 54 Chill Portions** have been able to consistently advance bloom by 10-14 days and harvest by 7-10 days. This has been true in both Stockton and Brentwood locations.

However, in Brentwood, we have also seen a significant reduction in fruit set in some locations even with optimum Chill Portion timing. In 2005, we also saw a considerable amount of bud and limb death with later (after 54 Chill Portions) Dormex applications in both Stockton and Brentwood. This may have been related to cold temperatures and/or high humidity during the application period.

So Dormex is the most powerful rest breaking agent but also runs a greater risk of phytotoxicity and is still a bit unpredictable. It is also quite an expensive application

(about \$200/A) which requires a restricted materials permit and a closed cab application.

CAN 17 (calcium ammonium nitrate) + surfactant.

Tank mixes of 5-45% (v/v) CAN17 and 0.5-4% surfactant have also been effective at advancing bloom and harvest. Applications of 25% CAN17 and 2-3% Entry are most common in Brentwood orchards. The treatments can go on a bit later than Dormex but should not be applied within 3 weeks of bud break as there is a risk of phytotoxicity. Sprays applied after 650-750 chill hours below 45°F have accumulated have been most promising but results have been pretty variable. The Chill Portions method has been a much better estimate of bloom response. Applications made between **49 to 60 Chill Portions** have consistently advanced bloom by 5-7 days and harvest by 3-5 days.

So although CAN 17 is not quite as powerful a rest breaking agent as Dormex, it seems to be safer and more predictable. We have not seen fruit set reductions with this material. It does not require a special permit or application equipment and it only costs about \$25/A.

Spray oils can also serve to compact the bloom period although they are less effective than these other materials. They are most effective later in the winter after 700-800 chill hours have accumulated. So the 6% oil used in a delayed dormant Cherry Leafhopper spray may also help to compact a prolonged bloom due to low chill!

Chill Portions from the Brentwood CIMIS station for last year and this year (to date) are listed in the chart below. Check my website for Chill Accumulation Updates as the season progresses at:

<http://cecontracosta.ucdavis.edu/Agriculture/>

BRENTWOOD CHILL ACCUMULATION				
	2004-2005		2005-2006	
Month	Chill Hours	Chill Portions	Chill Hours	Chill Portions
Oct	NA	6	NA	0
Nov	127	24	87	7
Dec	420	47	287	23
Jan	809	72	321*	30*
Feb	887	87		

* Through January 9, 2006

DORMANT SPRAY CONSIDERATIONS

Dormant sprays have traditionally been considered one of the most efficient and economical pest control options for tree fruit and nut growers. They control a multitude of pests with a minimum of risk to trees, people, and beneficial insects. There is also a conveniently wide window for application, a broad range of usable materials, and the advantage of excellent unobstructed spray coverage.

However with the increasing concern and regulation regarding pesticides in surface water, it is time to review how the spray is applied and the need for the addition of organophosphate (OP) or pyrethroid (PY) insecticides to the dormant spray. The basic dormant spray program consists of a dormant oil and may also include an insecticide or a fungicide. Dormant oil alone is all that is needed to control mites, scale, and aphids and it is less of an environmental concern.

An insecticide addition is needed to control Peach Twig Borer, Cherry Leafhopper, or high populations of San Jose Scale. Recent research has identified effective replacements for some of the standard dormant OP or PY insecticides that are less likely to impact our waterways.

For **Peach Twig Borer** some effective alternatives to OPs and PYs include:

MATERIAL	APPLICATION TIMING
BT	2 bloom sprays (brown rot timing)
Success	delayed dormant <u>or</u> a petal fall (avoid bees)
Dimlin	dormant <u>or</u> delayed dormant <u>or</u> 20-30% bloom
Intrepid	delayed dormant <u>or</u> 20-70% bloom

For **San Jose Scale** an OP alternative is:

MATERIAL	APPLICATION TIMING
Sieze	Delayed dormant with 2 gal oil/A

UC has developed a Dormant Spray Alternatives Calculator Tool that can help you more accurately evaluate the options and calculate their costs. It is an interactive program that you can access from the UC IPM website:

<http://www.ipm.ucdavis.edu/WATER/OPCALC/>

If you do need to apply a dormant insecticide, keep the following tips in mind to minimize the likelihood of offsite movement:

- Don't apply any spray within 48 hours of a
- predicted rain or when soil moisture is at field capacity
- Don't mix or load near waterways
- Use the lowest effective rate
- Shut off spray rigs at the end of the row, especially near canals and streams
- Let the weeds grow in the middles or along the edges to reduce erosion and water runoff.
- Select an alternative material like Success, Seize, BT, Esteem, mating disruption, etc. that has less potential to impact waterways than our traditional OPs and PYs.



Agritourism and Nature Tourism in California

168 pp. \$25.00. Publication #3484

This new UC Workbook can help growers assess, plan, develop, and evaluate the potential of their farm or ranch for a tourism enterprise. Agritourism can include U-pick orchards, bird watching, trail rides, farm tours and many other opportunities. The publication can be ordered directly from our on line catalog at: <http://anrcatalog.ucdavis.edu>

Olive Oil: A “Rediscovered” California Crop

This article in the May/June 2005 issue of UC’s Agriculture and Resource Economics Update newsletter discusses the proliferation of small scale olive oil producers in California and analyzes future market size and trends. You can call my office for a copy or download a copy directly from the internet at:

[http://rics.ucdavis.edu/fnric2/crops/olive_oil_08_05\[1\].PDF](http://rics.ucdavis.edu/fnric2/crops/olive_oil_08_05[1].PDF)

Cultivar Diversity as a Risk Management Strategy for Tree Crop Growers

This is another article from UC’s Agricultural and Resource Economics Update newsletter. You can view or download a copy directly from the UC Fruit and Nut Research and Information Center:

http://fruitsandnuts.ucdavis.edu/crops/peach_cling.shtml and click on link.

Sample Costs to Establish and Produce Sweet Cherries in the Northern San Joaquin Valley

This publications has just been updated to reflect current costs. It can be downloaded directly from the Agriculture and Resource Economics website at UC Davis. You have the option of downloading it as an Excel spreadsheet that you can customize for your own operation. <http://coststudies.ucdavis.edu/>

UC Pest Management Guidelines

These on-line guidelines offer pest lifecycle, monitoring, and control (cultural, biological, organic, chemical) information for all major CA commodities. They are updated frequently and can be viewed at the UC IPM Website: www.ipm.ucdavis.edu

JANUARY**12****DEMYSTIFYING OLIVE OIL**

Artisanal olive oil tasting; speakers; the olive oil production process and its variations; history of the artisanal olive oil industry in California; local grower production experiences

The Rec Pool Lodge, UC Davis Campus
4:30-6:30 pm

Free to public

Sponsor: UC Davis Small Farm Center

Contact: 530-752-8136

13**INTRODUCTION TO ORGANIC FARMING**

UC Cooperative Extension,
420 South Wilson Way, Stockton
8 am - Noon

Free

Sponsors: UCCE & San Joaquin County Ag. Dept.

Contact: 209-468-2085

17**CALIFORNIA CHERRY RESEARCH REVIEW**

Kirst Hall, Hutchins Street Square
Corner of Oak & Hutchins Streets, Lodi
9am-noon

Sponsors: California Cherry Advisory Board & University of California

Contact: Joe Grant, 209-468-2085

19-21**30TH STOCKTON AG EXPO & FARM SHOW**

San Joaquin Fairgrounds,
1658 S Airport Way, Stockton

Sponsors: Ag Alert/California Farm Bureau Federation, Ag Source Magazine, Air Products & Chemicals, American Ag Credit, Aram Solar/Pacific Rim Construction, Community Bank of San Joaquin, JR Simplot, Lionudakis Firewood, Port of Stockton, San Joaquin Delta College and Wells Fargo.

Contact: 209-547-2770

http://www.stocktonchamber.org/agexpo/agexpo_home.htm

21**ANNUAL SCION EXCHANGE**

Exchange grafting wood and cuttings of all types of fruits with other gardeners

UC Mission Center,
1855 Folsom (at 15th Street), San Francisco;

noon – 3 pm
\$3.00 donation

Sponsor: California Rare Fruit Growers
Contact: 510-843-1657;

www.crfg.org/chapters/golden_gate/index.html

24-26

UNIFIED WINE & GRAPE SYMPOSIUM

Sacramento Convention Center

1400 J St, Sacramento

Sponsors: CAWG & ASEV and many others

Contact: (800) 550-1496

www.unifiedsymposium.org

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NORTHERN SAN JOAQUIN VALLEY TOMATO DAY & CALIFORNIA TOMATO GROWERS ASSOCIATION ANNUAL MEETING

Modesto Doubletree Inn

8 am – 2 pm

Free to CTGA members

Non-members: \$35 RSVP by 1/18/06

Sponsor: California Tomato Growers Association, Inc.

Contact: CTGA – (209) 478-1761; www.ctga.org

25-28

26TH ANNUAL ECOLOGICAL FARMING CONFERENCE

Asilomar Conference Grounds,

Pacific Grove, CA

Fees: \$50-200 plus optional lodging and meals

Sponsors: Many and various

Contact: 831-763-2111; www.eco-farm.org

30-Feb 1

EXPO & SHOWCASE OF PROCESSED FOODS

More than 200 exhibits: Machinery, Equipment, Packaging;

Supplies; Workshops, Meetings, All Industry Events

Sacramento Convention Center,

980 9th St, Ste 230, Sacramento, CA

Sponsor: California League of Food Processors

Contact: 916-444-9260; www.clfp.com

FEBRUARY

4

2006 PLACERGROWN FARM CONFERENCE

Lincoln High School,

790 J St, Lincoln, CA;

8 am–4 pm

\$50, includes refreshments, lunch, sessions

Sponsors: UCCE and PlacerGROWN

Contact: 530-889-7398; 530-889-7385

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CHERRY DAY - STOCKTON

Waterloo gun & Bocci Club,

4343 N. Ashley Ln, Stockton, CA

Luncheon fee

Sponsor: California Cherry Advisory Board

Contact: 209-368-0685

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MANAGING THE SMALL VINEYARD I

UC Davis

9 am – 4 pm

\$150 includes box lunch & materials

Sponsor: UCCE & UC Davis Extension

Contact: 800-752-0881; www.extension.ucdavis.edu

28-Mar 2

VARIETAL WINEGRAPE PRODUCTION SHORT COURSE

UC Davis,

Tues 8:30am-5pm, Wed 8:30am-5pm & Thurs 8:30am-4pm

\$625 includes lunches & more

Sponsor: UCCE & UC Davis Extension

Contact: 800-752-0881; www.extension.ucdavis.edu

MARCH

10-11

SENSORY EVALUATION OF OLIVE OIL

UC Davis

\$565

Sponsor: UCCE & UC Davis Extension

Contact: 800-752-0881; www.extension.ucdavis.edu

16

RECENT ADVANCES IN VITICULTURE AND ENOLOGY (RAVE)

UC Davis,

8:30am-4:30pm

\$200 includes box lunch

Sponsor: UCD Plant Sciences Dept & UC Davis Extension

Contact: 800-752-0881; www.extension.ucdavis.edu

24

GEOGRAPHIC INFORMATION SYSTEMS FOR VINEYARD MANAGEMENT

UC Davis,

9am – 4:30pm

\$275

Sponsor: UC Davis Extension

Contact: 800-752-0881; www.extension.ucdavis.edu

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