

**TREE AND VINE NOTES****SEPTEMBER 2002****ORCHARD REPLANT FIELD DAY****Thursday 26 September****9:00 to 11:00**

**Location:** North Modesto on Patterson Road, .25 mile east of McHenry Blvd.

This field day will offer an opportunity to observe several pre-plant fumigation treatments and post-plant soil treatments in a replanted peach orchard. Presentations will focus on the benefits and drawback of various treatments as well as helpful hints for a successful application.

**Preplant fumigation treatments include:**

Methyl bromide

Vapam

Telone II

Unfumigated

**Post-plant treatments include:**Enzone<sup>®</sup>

Nemacur 3

DiTera<sup>®</sup>

Foliar and fertigation-applied calcium

Composted green waste + microbiological soil amendments

Composted green waste + kelp extract &amp; humic acid

Black polyethylene mulch

Combination of nitrogen, calcium, foliar micronutrients & Enzone<sup>®</sup>**Speakers:**

Dr. Mike McKenry, Cooperative Extension Nematologist, UC Kearney Ag Center

Roger Duncan, Farm Advisor, UC Cooperative Extension, Stanislaus County

2.0 hours continuing education credit applied for.

**CA SMALL FARM CONFERENCE**

17-19 November at the Ventura Beach Hotel

Short courses: Adding value to farm products – getting started or expanding your business

New ideas for direct marketing of farm produce

Drip irrigation design and maintenance

Tours: Local on-farm soil conservation practices

Specialty perennial crops of the region  
36 other workshops on a wide variety of topics

For the whole program go to: [www.californiafarmconference.com](http://www.californiafarmconference.com)

**Small farmers can apply for scholarships to attend. The deadline is September 20, 2002 - Call Benny Fouche in our Stockton office at 209/468-9491**

**PRE-HARVEST DROP IN CLING PEACHES** by Maxwell Norton

This year we witnessed some significant pre-harvest drop in late variety clings. Particularly affected were Halford, Sullivan & Starn. In some cases the drop occurred when the fruit was still green but most of it occurred in the two weeks just prior to harvest. It appears to be due to the stems being shorter than usual and large fruit sizes. Looking at the ground, most of the fruit dropped was big fruit. This leads me to believe that the problem is more due to the above cause than to some physiological disorder. The situation was exacerbated by the processor adopting a more mature color disc. The fruit, while close to being physiologically mature just did not have enough color and while the grower waited for color to develop, the fruit pushed itself (or each other) off the stem. If light intensity in the center of the tree is low and color is slow developing the problem can be even worse. The problem will be worse in blocks with a wide range of maturity. The most mature fruit drops before the crew makes it through to pick the rest of the crop.

We don't know why pre-harvest drop is worse in some years than others. If fruit drops early in the season it may be fruit that was pollinated but not fertilized, or if it was fertilized, the ovary did not continue developing. In some cases the ovary develops for a while and then aborts in late spring. I have seen examples of all types. Pre-harvest drop is often worse in young orchards and in orchards that are vigorous.

There is no specific weather event that causes pre-harvest drop but we assume seasonal temperature trends have influence on all growth and development of the trees and the fruit. It has been observed that rain just prior to harvest can cause fruit to drop but I have observed this to be less common in drip irrigated orchards than flood irrigated orchards.

Probably the best strategy for dealing with the problem is to adopt practices that favor good color development. High nitrogen levels can cause excess vigor and delay maturity. Reduce nitrogen applications to help control vigor. Use spring pruning to open up the tops of the tree to increase light exposure to lower fruit. Lower the height of the trees to improve light distribution in the tree and to adjacent trees. Topping after harvest is a cheap way to reduce tree height but it is too late to help this season's fruit color or fruit bud development for the next season. Summer pruning needs to be done at least a month prior to harvest. We know of no nutritional or plant growth regulator sprays that will help this problem.

There is a short discussion of this topic on page 35 of *Peaches, Plums and Nectarines – Growing and Handling for Fresh Market* #3331 available at most Cooperative Extension offices.

## **CONTROLLING PRUNE APHIDS WITH ZINC**

*Bill Olson, Butte County Cooperative Extension Farm Advisor*

Each fall the female aphids of both Mealy Plum Aphid and Leaf Curl Plum Aphid return from their alternate summer host to prune trees to produce a sexual form of female. A few weeks later the male aphids arrive and within a few days these two aphid forms mate and the overwintering eggs are laid in cracks in the bark on spur wood. These eggs give rise to the aphid populations in your orchard the following year.

With the concerns over the use of dormant pesticides and consequent reductions in their use the number of orchards with aphid populations has risen as has the research on finding alternative ways of controlling aphids.

Over 40 years ago, it was discovered that aphid control could be achieved by removing the leaves (by hand) from prune trees before the aphids returned to the orchard.

Over the past two years we have achieved very good aphid control results in trials by using Zinc Sulfate to defoliate prune trees in the fall for aphid control. In 2001 our trial achieved 98 percent control and in 2002 our trial achieved 80 percent control of Mealy Plum Aphid. Although these trials were directed at Mealy Plum Aphid there is no known reason why this same technique would not work on Leaf Curl Plum Aphid.

Preliminary indications are that Zinc Sulfate will be an approved product for organic growers. Organic producers should keep following this development.

Other Reasons to consider fall defoliation with zinc:

- Provides the micronutrient zinc which is deficient in many prune orchards.
- Allows for pruning to begin earlier, before winter rains set in.
- Helps prevent trees from blowing over in the fall from high winds.

**If you are interested in trying this approach to aphid control the UC Farm Advisors listed below are anxious to work with you on how to apply this technique in order to have the most success and for us to gain additional research information on using this technique for aphid control. If you are interested please give the Farm Advisor representing your area a call soon.**

**Merced County Farm Advisor**  
**Maxwell Norton, mnorton@ucdavis.edu**  
**(209) 385-7403 or 209 761-2846**

**Madera County Farm Advisor**  
**Brent Holtz, baholtz@ucdavis.edu**  
**(559) 675-7879 x 209**

## **SJV VITICULTURE TECHNICAL GROUP MEETING**

November 13, 2002

Technical Advances in viticulture

Viticulture and Enology Research Center, CSU Fresno

Meetings begin at 10:00 and conclude with a no-host lunch

Contact: Rob Roy 559-906-3327 rroy@csufresno.edu for reservations

## **VINE MEALYBUG FOUND IN SACRAMENTO COUNTY**

by Chuck Ingels, UC Cooperative Extension, Sacramento County

A serious new pest, vine mealybug (*Planococcus ficus*), has been found in a Sacramento County vineyard. It has spread throughout one block and into an adjacent block. This pest is a serious rival to the glassy-winged sharpshooter in its potential damage and control measures needed to keep it in check. A very small infestation was also found in a Sonoma County vineyard. These infestations are the first that have occurred north of Fresno. The pest was found in one small vineyard block in Santa Barbara and San Luis Obispo Counties in 2000 and 2001 respectively. After aggressive treatments, no further increase has been seen in those Central Coast counties. The vine mealybug (VMB) was first found in a small vineyard in the Coachella Valley in 1994 and within three years, it had spread throughout the entire grape growing region. In 1998 it was found in the southern San Joaquin Valley, where all infestations were associated with Coachella Valley vineyards, which shows that it is easily spread with tractors, equipment, and even clothing.

Whereas grape mealybug (*Pseudococcus maritimus*) is an occasional pest here that rarely reaches high populations, VMB can smother clusters and is found on all parts of the vine, including roots. VMB has 5 to 7 generations per year, compared to half that for grape mealybug. VMB also has more eggs per sac and a tremendous amount of honeydew, resembling melted candle wax. Unlike grape mealybug, all life stages of the VMB can be present year-round on a vine. During winter months, eggs, crawlers, nymphs, and adults are found under bark, within developing buds, and on roots.

Vine mealybug can be distinguished from grape mealybug by observing the V-shaped tail (“caudal filaments”) with a hand lens. The tail of the adult female vine mealybug is much shorter than that of the grape mealybug. Citrus mealybug also has a short tail, but it is rarely found here. Here’s what to look for:

- White bodies of the female adults and nymphs – often clumped in groups.
- White masses of cottony material on trunks and cordons, especially under bark.
- Honeydew excreted by the insects on the leaves and fruit and the black sooty mold that grows on the honeydew.
- Ants on the trunk and cordons.

For positive identification, a sample should be taken to the CDFA Plant Pest Diagnostic Center (3294 Meadowview Rd., Sacramento) or brought to our office or to the Agricultural Commissioner’s office.

There are several methods of control, which are being refined by UC researchers. In-season treatments are timed to mainly kill crawlers, which don’t start moving around the plant until about early June. Treatments that look promising include a late May application of Admire through the drip system, an early summer application of Applaud or dimethoate, and a fall or pre-budbreak spray of Lorsban. Proper timing is critical on each of these. Some parasitic wasps also look promising, although they tend to be active relatively late in the season. Wasp releases will be made as they become available, and they will likely become established in the region. It is unlikely that parasitic wasps alone will sufficiently control VMB populations.

## **JUST PUBLISHED**

The following new ANR publications are now available at your local

Cooperative Extension office:

**Mealybugs in California Vineyards**

This new identification guide covers six mealybug species that are of concern to California vineyard managers. Illustrated with over 30 color photos, the booklet contains detailed descriptions of each species to help you identify the mealybugs found in your vineyard. You'll learn how they cause damage and how to take action with suggested biological, cultural, and chemical controls for each species. 16 pp.

#21612 \$7.00

Free Publication Recently Posted to the Online Catalog

8066 Irrigation Water Salinity and Crop Protection

**<http://anrcatalog.ucdavis.edu/merchant.ihtml?pid=5463&step=4>**

This publication can be accessed for free as an HTML web page or as a downloadable PDF document from **<http://anrcatalog.ucdavis.edu>**.

All of the Pest Management Guidelines are now available as free downloadable HTML and PDF documents on the ANR online catalog. To access the Guidelines, point your browser to <http://anrcatalog.ucdavis.edu>. Under the category "Pest and Disease Management" you'll find a link for "Pest Management Guidelines." I continue to sell paper copies of the Guidelines, with a suggested retail price of \$5.00.

**November 1<sup>st</sup> is time for orchardists to reset weather stations.**

Maxwell Norton, UC Cooperative Extension

If you have a thermograph, day-degree calculator, biophenometer, or some other type of weather recording device, now is the time to re-set for accumulating chill hours. All of our orchard crops and strawberries have chilling requirements. The traditional measure of chilling is the total number of hours at or below 45F from 1 November through 15 February.

Most electronic weather monitoring devices can be set to count the number of chill hours. You will need to set them to zero at or soon after 1 November. If your device measures more than one variable, you can set it to also record the number of hours at or below freezing. Growers who are using the new ADCON weather stations can contact the technical support person for information on how to set the software to report chill hours.

If you have a thermograph, you simply use a ruler to count the number of hours. Thermographs need to be adjusted to be accurate at high temperature in the spring and low temperatures in the fall. Simply take a thermometer you know to be accurate and compare it to the thermograph early on a cold morning and adjust the thermograph to match. In the spring, you repeat the process in the heat of the day.