



ORCHARD FACTS



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FROST DAMAGE OBSERVATIONS

On April 3rd and again on April 8th, we experienced cold morning temperatures which resulted in damage to many area fruit and nut crops. Critical hourly minimum temperatures from our local CIMIS station located on the south side of County Road 25, between Roads N and P are shown in Table 1. Although these temperatures were not extremely low, conditions on those mornings were quite variable and lower temperatures have been reported and damage in some areas is consistent with lower temperatures. Most of the damage occurred on the morning of April 8. Although a killing frost in April is unusual, similar cold temperatures occurred the morning of April 9, 1999, meaning that we have experienced frost damage in April two of the last three years. While we can do nothing about this freeze now, some observations of what occurred may be useful for minimizing future frost events.

Although minimum temperatures and calendar date of the frost event were very similar for 1999 and 2001, damage was more widespread across more commodities in 2001. Crop development was advanced in 2001 compared to 1999 and crops such as citrus, olives, pistachio and late leafing walnuts which were not damaged in 1999 because they had not reached a susceptible stage were damaged in 2001.

Ground cover made a difference. More damage is being seen in orchards which had tall ground cover at the time of the freeze. This ground cover acts like an insulating blanket, reducing heat movement into the soil during the day and reradiation out during the night.

Elevation made a difference. More damage has been observed in some orchards at the bottom of the field. Almonds and prunes with a .2 fall in elevation from the top of the field to the bottom with ½ mile long rows have been observed with complete or near complete loss at the bottom and little or no damage at the top.

Running water made a difference. Orchards with solid set sprinklers with at least 35 gallons per acre minute application rate which were started well in advance of the occurrence of the critical temperatures, for the most part, escaped damage.

Table 1. Air temperatures (°F) at CIMIS station near Orland.

Hour	4/3/01	4/8/01
Midnight		34.47
1:00 a.m.	37.25	32.88
2:00 a.m.	35.24	31.06
3:00 a.m.	33.40	30.16
4:00 a.m.	33.46	30.31
5:00 a.m.	32.76	30.14
6:00 a.m.	31.53	31.03
7:00 a.m.	35.83	34.65
8:00 a.m.	43.62	40.68

EVAPOTRANSPIRATION DATA AVAILABLE

Again this year our office will be making local Evapotranspiration (ET) data available to interested growers. ET data will be sent out for the previous week each Monday, beginning in May through October. This year the ET data will be calculated for specific crops. The information is gathered through local CIMIS weather stations located on the east and west sides of the Sacramento Valley. Evapotranspiration numbers are valuable tools for planning irrigation.

If you have internet capabilities, you may acquire this information through a link at:

<http://cetehama.ucdavis.edu/agriculture>.

If you would like to receive the information each week, please call us at 865-1107.

ELECTRONIC IPM UPDATES AVAILABLE

The following information is an example of a weekly IPM update. If you wish to receive this update via e-mail please contact Bill Krueger at whkrueger@ucdavis.edu.

IPM update 4/30/01

UC Cooperative Extension, Glenn County

Bill Krueger & Zachary Heath

Date	Codling Moth Orland - biofix 4/12/01		Peach Twig Borer Orland - biofix 3/26/01		Peach Twig Borer Hamilton City - biofix 4/16/01	
	Accumulated Degree Days	moths/night	Accumulated Degree Days	moths/night	Accumulated Degree Days	moths/night
4/16/01	40	<1	170	1	5	0.2
4/20/01	44	0	206	9	44	0.3
4/27/01	151	<1	289	39	128	24
4/29/01	175		305		152	
5/7/01			400			
5/9/01	300					
5/13/01			500			
5/16/01					400	
5/21/01					500	
5/26/01	600					
5/31/01	700					

Dates in bold are predictions based on average temperatures. Warmer or cooler temperatures than normal will change these predictions.

The recommended treatment timing for codling moth is at 300 DD. If a second peak in trap catches occurs before the second flight (which starts as soon as 800 DD) another treatment can be applied at 600-700 DD after the biofix. Note the CM biofix in our orchard was later than some. Use traps in your own orchards to determine your biofix.

Treatment timing for peach twig borer is at 400-500 DD after the biofix. Timing for San Jose scale is recommended at 600-700 DD after the biofix. We have not found any SJS in our traps this year.

You are invited to attend the

Glenn County Surface Water Stewardship Project Tour

May 24, 2001

8:30 a.m. to 2:00 p.m.

starting at the Artois Market

Highway 99 - Artois

For the last several years, the Glenn County Surface Water Stewardship Committee (GCSWSC), a group organized by the Glenn County Agricultural Commissioner and consisting of growers, PCA's, and agency people, have been working to maintain surface water quality and valuable pest control tools.

We will take you on a tour of three GCSWSC research and demonstration sites in Glenn County and have lunch at a local seed facility. You will have opportunities to visit with growers, pest control advisors, and other cooperators and sponsors who participate in the GCSWSC project.

8:30 to 9:00 a.m.

Registration

9:00 to 9:30 a.m.

Introduction – Vans depart

9:30 to 10:45 a.m.

Visit Talbot-Vereschagin

-Dormant Spray Runoff Trials and Cover Crop Demonstration

10:45 to 12:00 p.m

Lassen Land - Filter strip planting

12:00 to 1:00 p.m

Hart Farms - Filter strip planting

1:00 to 2:45 p.m

Lohse Mill - Lunch

3:00 p.m

Return to Artois Market

To reserve your space and a lunch at Lohse Mill, RSVP by May 15th. Please fill out and FAX the registration form below to (530) 865-1109, or mail to U.C.C.E., P.O. Box 697, Orland, CA 95963. For further information on this tour, contact Bill Krueger at 865-1107 or Rey Lopez, Agricultural Commissioner's Office, at 934-6501.

Sponsored by GCWSC, Prune IFPF Project, UCCE, Glenn County Ag Commissioner

REGISTRATION FORM

Please register me for the Glenn County Surface Water Stewardship Project Tour on May 24, 2001.

Name: _____

Company/Organization _____

Daytime Phone _____

This tour has limited space, please make your reservations early.

FAX to (530) 865-1109, or mail to U.C.C.E., P.O. Box 697, Orland, CA 95963