UNIVERSITY OF CALIFORNIA
SUTTER/YUBA COUNTIES ~ COOPERATIVE EXTENSION
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ORCHARD NOTES

JUNE/JULY 2000

JUNE FIELD MEETINGS

PLEASE PLAN TO ATTEND

AGENDA ENCLOSED

JUNE 28 . . . . . CSUC & UCCE ORCHARD FIELD DAY, CHICO UNIVERSITY FARM

JUNE 30 . . . . . PEACH PEST MANAGEMENT FIELD MEETING, SIMPSON LANE, MARYSVILLE

Agendas are enclosed for these two meetings. I hope you will be able to attend.

JANINE HASEY
UC Farm Advisor
jkhasey@ucdavis.edu

UNITED STATES DEPARTMENT OF AGRICULTURE, UNIVERSITY OF CALIFORNIA, AND COUNTIES SUTTER OF YUBA COOPERATI

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Please call our office if there is a need for special accommodations.

PEACH PEST MANAGEMENT FIELD MEETING

FRIDAY, JUNE 30, 2000
9:30 A.M. - 11:00 A.M.
QUINCO RANCH, 1563 SIMPSON LANE, MARYSVILLE

THIS IS THE SECOND HANDS-ON FIELD MEETING COVERING REDUCED RISK APPROACHES TO PEACH PEST MANAGEMENT AND MONITORING TECHNIQUES. COME AND LEARN HOW TO INTEGRATE REDUCED RICK PEST MANAGEMENT TECHNIQUES IN YOUR ORCHARD.

JANINE HASEY, UC FARM ADVISOR, SUTTER AND YUBA COUNTIES

UPDATE ON THE PEACH PEST MANAGEMENT ALLIANCE,
SHOOT STRIKE MONITORING FOR
ORIENTAL FRUIT MOTH AND PEACH TWIG BORER
AND
PHEROMONE UPDATE

CAROLYN PICKEL, UC IPM AREA ADVISOR, SACRAMENTO VALLEY

OBLIQUE BANDED LEAF ROLLER
UPDATE - BIOLOGY AND SPRAY TIMING
AND
BENEFICIAL INSECTS IN YOUR ORCHARD

SPONSORS

UC COOPERATIVE EXTENSION, SUTTER AND YUBA COUNTIES
UC STATEWIDE INTEGRATED PEST MANAGEMENT PROGRAM
DEPARTMENT OF PESTICIDE REGULATION
CALIFORNIA CLING PEACH GROWERS ADVISORY BOARD
CALIFORNIA TREE FRUIT AGREEMENT

EARN 1.5 HOURS OF PCA OR PRIVATE APPLICATORS CREDIT

PLEASE CALL OUR OFFICE AT 822-7515, IF THERE IS A NEED FOR SPECIAL ACCOMMODATIONS.

CALIFORNIA STATE UNIVERSITY - CHICO (CSUC)
AND
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION (UCCE)
ORCHARD FIELD DAY

June 28, 2000
8:00 a.m. to 1:30 p.m.
Chico State University, Chico Paul Bryne Memorial University Farm

AGENDA

8:00 A.M. TO 12:30 P.M.

WELCOME AND REGISTRATION
Charlie Crabb, CSU - Chico
Bill Olson, Butte County
Dick Jacobs, CSU - Chico
IRRIGATION SCHEDULING TOOLS AND TECHNIQUES
Ken Shackel, UC Davis
Rich Rosecrance, CSU - Chico
USE OF COVER CROPS IN ORCHARDS
Fred Thomas, CERUS Consulting
Lee Altier, CSU - Chico
PRUNE PEST MANAGEMENT ALLIANCE OVERVIEW AND OBJECTIVES
Bill Krueger, UCCE - Glenn County
WALNUT BREEDING PROGRAM
Chuck Leslie, UC Davis
CLONAL WALNUT TREES AND ROOTSTOCK EVALUATION
Janine Hasey, UCCE - Sutter/Yuba Counties
EFFECT OF CROWN GALL AND ITS CORRECTION
Bill Olson, UCCE - Butte County
Rick Buchner, UCCE - Tehama County

~~REFRESHMENTS~~

ALMOND VARIETY UPDATE
Joe Connell, UCCE - Butte County
Tom Gradziel, UC Davis
ALMOND UNION MILD ETCH
Jerry Uyemoto, USDA-ARS, UC Davis
VERTEBRATE PEST MANAGEMENT
Charlie Crabb, CSU - Chico

12:30 TO 1:30 P.M. **PRE-PAID LUNCH (BBQ TRI-TIP OR VEGETARIAN LASAGNA)**

2 HOURS OF CONTINUING EDUCATION CREDIT REQUESTED.

IF YOU PLAN TO HAVE LUNCH WITH US YOU MUST COMPLETE AND SEND IN THE FOLLOWING LUNCH RESERVATION FORM WITH YOUR CHECK BY JUNE 21, 2000, PAYABLE TO ***CSUC FARM.***

PLEASE RESERVE ____TRI-TIP AND/OR _____VEGETARIAN LASAGNA LUNCH(S) FOR ME AT A COST OF **$10.00** PER PERSON. I HAVE ENCLOSED MY CHECK FOR_$_____ PAYABLE TO CSUC FARM.

NAME_____

ADDRESS_____

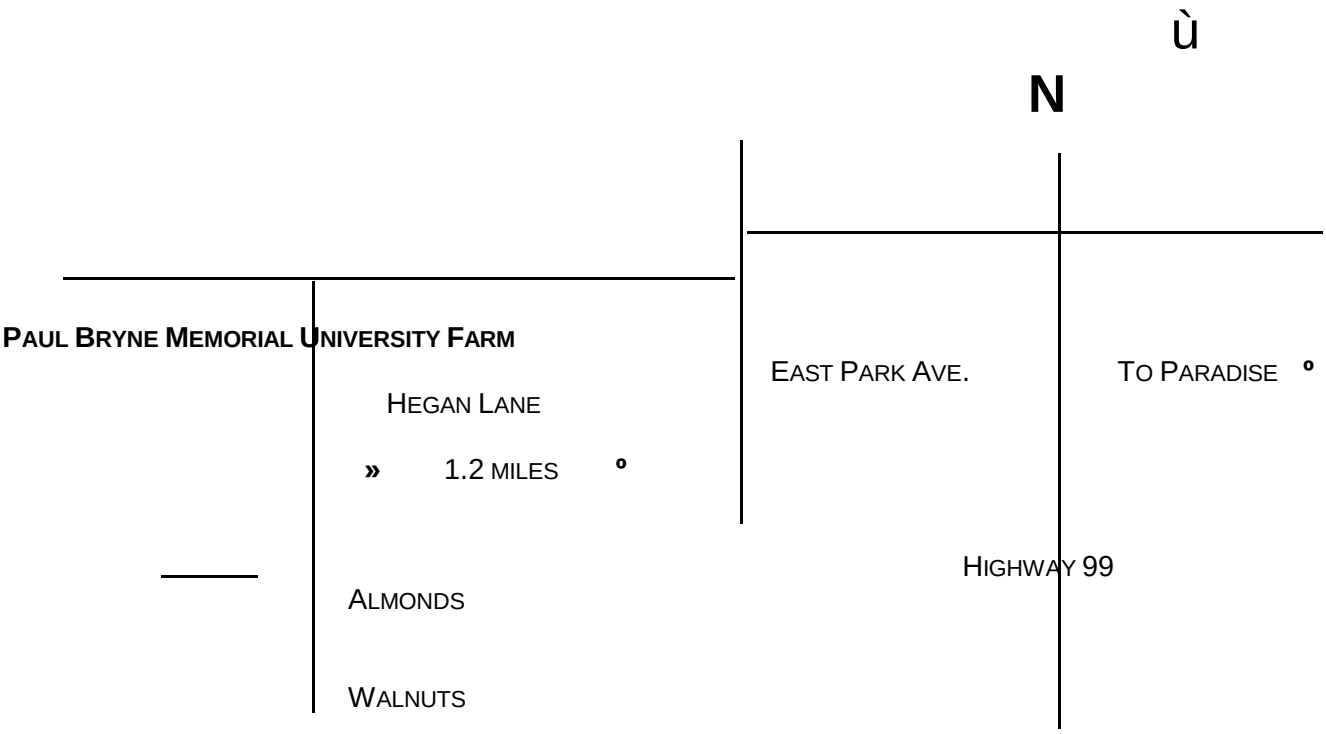
NAME OF OTHERS COVERED BY CHECK_____

_____

MAIL TO: CSUC FARM ORCHARD FIELD DAY
311 NICHOLAS C. SCHOUTEN LANE
CHICO CA 95928

PLEASE RETURN BY JUNE 21, 2000

NOTE: LUNCH REGISTRATION AT THE DOOR IS **$15.00**, SPACE AVAILABLE.



MEET HERE 8 A.M.

9 **FARM PAVILION** FROM GRIDLEY

L PARK AVE. MIDWAY NICHOLAS C. SCHOUTEN LANE

Glassy-Winged Sharpshooter Update

The glassy-winged sharpshooter is a carrier of Pierce's disease, which infects and kills grapevines and other plants such as almonds. Counties known to be infested with the sharpshooter include San Diego, San Bernardino, Riverside, Ventura, Orange, Santa Barbara, Los Angeles, Kern and Tulare. Since my last newsletter, this pest has also been found in nurseries in San Joaquin and Alameda Counties, and in a garden in Madera County. Our local Agricultural Commissioners have begun mass trapping for glassy-winged sharpshooter in peaches, prunes and the urban areas. Enclosed is a brochure for your reference. If you should find this pest or suspect that you have, please call the Agricultural Commissioner's or our office immediately.

Visit **www.efarm.org** to view a slide show on glassy-winged sharpshooter given by UCIPM Advisor Phil Phillips, or CDFA's web page at **www.cdfa.ca.gov/gwss** for more information on this pest.

Leaf Analysis

Every year at this time I discuss leaf analysis because it is a great tool for assessing tree nutrition and for helping guide your fertilizer program. It is a relatively inexpensive way to determine nutrient deficiencies, toxicities or excesses. For those reasons, sampling guidelines and a table of critical nutrient levels are included for your reference. If you haven't used leaf analysis before, consider trying it this year to get baseline nutritional information or to pinpoint a nutritional problem in your orchard.

Points to remember when sampling

- Sample in July (August for pistachio) when nutrient levels in leaves are relatively stable
- Test annually for nitrogen, potassium and zinc
- Check for any other suspected deficiencies or toxicities
- Each sample should be of the same variety, age, rootstock and soil
- Take comparison samples between poor vs. good trees
- **Peach** - select 60-80 mid-shoot leaves from moderately vigorous fruiting shoots.
- **Walnut** - select 25-30 terminal leaflets from spurs or from the middle of moderately growing shoots.
- **Apples** - select 60-80 fully expanded, mature leaves from non-fruiting spurs.
- **Kiwifruit** - select 25-30 mature leaves, just past the fruit on the shoot.
- Put leaves in paper bags and keep them cool until they are delivered to the lab.

CRITICAL NUTRIENT LEVELS

Based on July leaf samples

	Cling Peach	Apple	Walnut	Kiwifruit
% Nitrogen (N) Deficient below Adequate	 2.4 2.6-3.5 [1]	 1.9 2.0-2.4	 2.3 2.4-3.2	 1.6 2.2-2.8 [2]
% Potassium (K) [3] Deficient below Adequate over	 1.0 1.2	 1.0 1.2	 0.9 1.2	 1.0 1.5
% Magnesium (Mg) Adequate over	 0.25	 0.25	 0.3	 0.3
% Calcium (Ca) Adequate over	 1.0	 1.0	 1.0	 2.0
% PPM zinc (Zn) Adequate over	 20	 18	 18	 15
% Chloride (Cl) [4] Excess over	 0.3	 0.3	 0.3	 1.1
% Sodium (Na) [4] Excess over	 0.2	 --	 0.1	 (?)

Adequate levels for all orchard crops:
Phosphorus (P) 0.1- 0.3%; Copper (Cu), over 4 ppm; Magnesium (Mn), over 20 ppm.
[1] Best to keep around 3.0%
[2] 2.5% or lower is recommended to maximize storage potential
[3] K levels between deficient and adequate are considered 'low' and may cause reduced fruit sizes in some years.
[4] Excess Na or Cl cause reduced growth at the levels shown, leaf burn may or may not occur when levels are higher. Confirm salinity problem with soil or root samples.

TRAINING NEWLY PLANTED WALNUT TREES

There are many new walnut orchards and it is critical to properly develop the tree trunk the first year after planting. The main objective is to encourage all growth into one main shoot which will form the trunk of the tree. Throughout the summer, tie this main shoot loosely to the stake as it grows and pinch or prune back the growing tips of competing shoots. Sucker shoots below the graft union should be removed entirely. The goal is to have 10 feet or more of growth by the end of the season. The other critical factor with newly planted trees is irrigating properly. Young trees do best with frequent, lighter irrigations ensuring adequate but not excessive moisture. For this reason, newly planted trees thrive on microsprinkler (low volume) irrigation systems.

If developing a hedgerow orchard, the summer pruning to develop the trunk is the same as for conventionally trained trees the first season. The exception is once the shoot is six to seven feet tall, it should be lightly tipped to prevent it from breaking since stakes are often not used.

PEST AND DISEASE UPDATES

For the latest update on insect activity, check the pest tracker in our office or subscribe to the e-mail pest tracker.

WALNUTS

~ Codling Moth ~ Trap catches were low in most orchards for the first flight. During the last week of May, there was a delayed 1B peak at about 800-900 degree-days that required a spray in some orchards. The second flight usually starts at around 1060 degree-days which is predicted to be June 7-12 depending on first flight biofix. Those orchards that were just sprayed may see a delay in the start of second flight. Sprays are applied at 250 degree-days (200 degree-days for Confirm) from the beginning of the flight. Spray timing could occur the week of June 18. Monitor dropped nuts for codling moth damage now through June. If no infested dropped nuts are found and few moths are caught in traps then a second flight treatment is not recommended. If infested dropped nuts are found and trap catches are moderate to high, then a treatment should be applied for the second flight.

~ Webspinning Spider Mites ~ Begin looking for mites in June or early July and continue checking through August. Monitor leaves in dusty areas and look for brown clusters of mite damaged leaves throughout the orchard. Treat the orchard if mite damaged leaves are found on 10% of the trees and no predators are present. If predators are present on half of the leaflets, then the beneficial insects will probably control the mites. Continue monitoring, if mites are building faster than the predators, then a spray will be needed.

~ Aphids ~ Monitor for aphids especially where disruptive codling moth sprays are used.

~ Walnut Husk Fly ~ Hang husk fly traps supercharged with ammonium carbonate by July 1. Continue monitoring until hull split. When females are found with eggs, a spray should be applied within seven days. Multiple sprays may be necessary. The recommended insecticides are Malathion, Lorsban or Asana. Unfortunately there are no effective alternatives to sprays for controlling husk fly. Baits can be added to the insecticide to reduce the amount of pesticide used. However, where populations are high, full coverage pesticide may give better control than partial sprays of insecticide and bait.

PEACHES

It is time to monitor for Oriental fruit moth and peach twig borer shoot strikes to determine damage. This is especially important in orchards where mating disruption is used. If an average of five or more shoot strikes per tree is found, then a spray is needed. Oriental fruit moth and peach twig borer are very attracted to ripening fruit so control is critical before harvest.

~ Oriental fruit moth ~ Look for the third flight to start around June 14. Once the flight begins, sprays should be applied at 500-600 degree-days (DD) or 400-500 degree-days for ripening fruit. The 500 DD timing is projected to occur at the end of June based on 30 year average temperatures.

~ Peach twig borer ~ Look for the second flight to start around June 21 for those orchards that biofixed on April 24. Spray timing is 400-500 DD from the beginning of the flight or 300 DD when fruit is ripening. This could occur in early July.

~ Oblique banded leaf roller (OBLR) ~ OBLR can cause substantial damage to peach fruit which is graded as a defect. After conducting monitoring research for two years, we found it difficult to find the OBLR larvae in peaches. However, when monitoring for OBLR in prunes, the larvae are easy to find. Over a three-year period, we found larvae present in the prunes from mid to late June. If your peach orchard has had damage in the past, calendar spraying in late June may prevent OBLR damage. This may coincide with the Oriental fruit moth spray this season. In orchards with a history of OBLR damage that are using mating disruption, a Bt or Success spray timed for late June should be helpful.

Why is it so hard to find OBLR larvae in peach orchards? The larvae are unable to survive on peach leaves because the amygdalin in the leaves deters OBLR larvae from feeding

because cyanide is released. From our research, we believe the OBLR larvae can cause substantial damage in low populations in peaches; since they can't survive on leaves,

they are highly mobile and one larva can do damage to many fruit.

~ Powdery Mildew ~ We had a weather pattern of warm days and cool nights that was very conducive to powdery mildew development and some of the more susceptible varieties were hard hit by this fungal disease. For those orchards heavily affected, next year plan to apply sprays at petal fall, two weeks after petal fall and additional sprays as needed up to pit hardening. Once pit hardening occurs, the fruit becomes resistant to infection.

~ Peach Rust ~ We were unable to find any twig cankers where the rust begins the disease cycle in the spring nor any leaf infections. We had very low rust in 1999 and without weather favoring disease development, we escaped rust this year.

APPLES

~ Fire blight ~ This bacterial disease was devastating to the apples this year, not just locally but statewide. Besides weather conducive to disease development, the straggled bloom due to low chilling, allowed a longer time period for flowers to become infected. On June 7 we held a fire blight management meeting for apples and pears where we covered predictive models, control strategies including biological control and cultural controls including proper cutting techniques of diseased areas. For those of you unable to attend, there are copies of all the handouts from the meeting in our office.

KIWIFRUIT

Several vineyards had certain vines or areas that were delayed in leafing. This was most likely due to the low chilling year. Additionally, the bacterial disease called bleeding canker or Pseudomonas canker was found in a few vineyards in mid-April. This was perplexing because this disease is usually seen in years where winter or early spring temperatures are cold enough to cause chilling or freezing injury which was not the case this year.

EUCALYPTUS

~ Redgum Lerp Psyllid ~ I'm including this eucalyptus problem in my newsletter because it is so widespread in our area and many of you grow river redgum (*Eucalyptus camaldulensis*), the primary host. Psyllid nymphs and adults damage plants by sucking plant juices. During the immature stage, this psyllid forms a protective cover called a lerp which is mostly cystallized honeydew. These resemble small, white hemispherical caps about 1/8 inch in diameter. Little is known about controlling this new pest. Biological control is being investigated. Minimizing tree stress is important. We do not have research data verifying the effectiveness of chemical controls. The Pest Notes publication 7460 on the Eucalyptus Redgum Lerp Psyllid is available from our office or on the UCIPM web site. It describes the pest and outlines potential biological, cultural and chemical controls.

HELPFUL SUMMER VIDEOS

All are available on a 2-day checkout from our office.

- Crown Gall in Tree Crops: Biology and Control (English and Spanish versions)
- Walnut Husk Fly: Biology, Monitoring & Control Strategies
- Nitrogen Management in Stone Fruit and Almond Production

NEW CD-ROM

The UC Guide to solving Garden and Landscape Problems is from the University of California in cooperation with Oregon State and Washington State Universities. This interactive CD-Rom will help you:

- Identify pests and disorders on more than 100 plants
- Manage pests with nonchemical methods
- Recognize beneficial insects

- Select the safest control materials
- Prevent problems by promoting plant health

SUBSCRIBE TO "AG-BUSNET"

Steve Sutter, University of California Area Personnel Management Farm Advisor, has recently created a UC Davis e-mail list he will manage from Fresno call ***ag-busnet.*** The electronic network will extend and supplement his printed APMP *Newsletter*, providing more California growers, packers, farm labor contractors, pest control operators and advisers, officials, and others with brief articles, news, and time-sensitive notices in the broad area of agricultural and personnel management.

Ag-busnet topics will include agricultural labor, payroll, tax, and safety compliance, services for employers and farm workers, proposed and enacted legislation, and more. Subscription is free. You'll get an electronic confirmation and instructions. The e-mail addresses on this list are confidential. To join ***ag-busnet*** just e-mail a request that includes your name, firm or organization, city, and state to Steve Sutter at **srsutter@ucdavis.edu.** For further details, call Steve Sutter at (559) 456-7560.

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