

# **your *North Coast Orchard Notes***

University of California Cooperative Extension  
883 Lakeport Blvd., Lakeport, CA 95453

**JULY 2001**

## **!!! MARK CALENDARS!!!**

- JULY 10**     **North Coast Pear Research Field Day - *Spanish Session***  
9:30 A.M. – 12:00 noon  
Quercus Ranch Labor Camp, Kelseyville  
***Refreshments and lunch provided; see page 7***
- JULY 17**     **North Coast Pear Research Field Day - *English Session***  
8:30 a.m. – 1:00 p.m.  
Oswald Ranch, Talmage  
***Refreshments and post-meeting BBQ provided; see page 8***
- AUGUST 8**    **Walnut Breeding Program Field Meeting**  
9:00 – 11:30 a.m.  
U.C. Davis  
(register by phone with our office by **July 18**)

### ***NORTH COAST PEAR RESEARCH FIELD DAY***

It is difficult to believe that the North Coast harvest will begin in just a little over one month. The major hope this season is that when Mendocino does start the last week of July, the Delta and Upper Sacramento Valley fruit will have been moving swiftly and smoothly through the market channels.

There will be both English and Spanish field days this year. Sponsors and pest management product suppliers will host lunch following each meeting. These field days are an important venue to learn and share experiences with each other.

Growers and ranch personnel are welcome to attend BOTH sessions! Pre-registration is required in order to plan for lunches; fill out the registration forms on page \_\_\_\_\_ and return them via fax or mail to our office by the deadline given; you may also phone in your registration.

## ***WALNUT BREEDING PROGRAM FIELD MEETING***

A field day is being held to familiarize interested growers and nursery representatives with the UC walnut breeding program and to facilitate distribution of some of the more promising advanced selections into grower field trials.

The field meeting is an outgrowth of the Walnut Breeding Program Crack-out held March 15. Data sheets containing all the information from the previous growing season (leafing, flowering, and harvest dates, blight incidence, and yield) and crack out evaluations (shell and kernel characteristics including size, color and percent kernel) were provided to teams of two. Each team evaluated and discussed the 520 selections that were displayed (out of the 2298 seedling under evaluation this year). In a group discussion, 27 new selections were identified and it was felt that several of these should be put on a fast track for earlier release than was originally planned.

The meeting will begin at 8:00 a.m. at the Pomology Field Headquarters on the UC Davis campus. Invitations have been sent out to all walnut nurseries in the state. North Coast growers interested in attending should contact the Lake County UCCE office **BY JULY 18** to register in order to plan appropriately. Maps and directions will be given to those who register.

## ***PREPARE FOR WALNUT HUSK FLY (WHF) SEASON***

The following are keys to a successful control program:

**1) TRAPPING** – Unbaited yellow sticky traps can be purchased locally. They should be “supercharged” with ammonium carbonate (you may buy them pre-charged or do it yourself – contact me for instructions). Place traps as high as possible on the north side of the tree; very shady areas should have an extra trap. Place at least one per five acres (small orchard) or five per 100 acres (large orchard). **CHECK TRAPS AT LEAST EVERY THREE DAYS** to time the first spray accurately. Write down the catch each time. **TRAPS SHOULD BE HUNG BY JULY 15.**

## **2) TIME TREATMENTS CAREFULLY BASED ON MONITORING**

There are three options to choose from; they are presented in descending order of accuracy:

**a. Monitor for eggs** - As soon as flies are caught, begin to look for eggs. Remove the flies from the trap and place them on a dark-colored surface, which makes it easier to see the white eggs. Using a hand lens, identify the female flies (light-colored first leg segment, pointed abdomen and slightly larger in size) and use a pointed object to press on the abdomen and squeeze out the contents. If eggs are present, they are pearly white and resemble small grains of rice. When eggs are found, there is one week to spray before egg laying occurs. Because walnut husk fly development is not driven by temperature, each orchard must be monitored separately and treatment timing based on the monitoring for that orchard.

- b. Monitor for stings** – As soon as flies are being caught, check 10 nuts on the north side of 20 trees, a total of 200 nuts. Females prefer the stem end, but may oviposit (lay eggs) anywhere on the nut. Dark juice flows from the puncture, leaving a tear-drop shaped stain. **WHEN STINGS ARE FOUND, TREAT IMMEDIATELY.**
- c. Using traps to time sprays** – This is the easiest, but least reliable method. Once flies are being caught, write down the catch each time traps are checked. When a sharp increase occurs, prepare to spray in 7 to 10 days (use the earlier timing if populations were heavy last year).
- 3) USE BAIT WITH INSECTICIDE** – Specific label directions should be followed, however, traditionally when using bait, only about 25% of each tree will need to be treated since bait attracts the flies. A low volume wand sprayer should be sufficient. **However**, in cases with a heavy damage history, increase the treated surface area on each tree. Full coverage should be unnecessary if bait is included and timing is good.
- 4) CONTINUE MONITORING AND PREPARE TO TREAT AGAIN** – Though there is only one generation per season, adults emerge from the soil over an extended period. Currently registered materials will last no more than 10 days; egg development allows another two week delay treating. If flies continue to be caught in traps and eggs are present in trapped females, treat three to four weeks after the first spray. Nuts should be protected until husk split. Growers with previous severe late WHF damage may wish to consider applying the PGR Ethephon (Ethrel®) to hasten maturity and husk split. Contact UCCE or your PCA for details.

See page 4 for current UC guidelines for treating WHF.

Current UC treatment recommendations:

Pesticide (commercial name)	Amount to Use** (conc.) (dilute)		PHI+ (days)
<b><i>BEFORE EGG HATCH</i></b>			
A. NU-LURE BAIT	1-3 pt.	1 pt.	
COMMENTS: Baited sprays are the preferred treatment and are aimed at killing adults before eggs are laid. Nu-Lure bait attracts flies to spray material and enhances control. If significant egg laying has occurred before treatments, however, adequate control will not be attained.			
...PLUS...			
MALATHION 8EC	1.5-3 pt.	0.4-0.75 pt.	0
COMMENTS: Malathion can increase mite problems			
...OR...			
ESFENVALERATE* (Asana XL)	1 pt.	4 oz.	
...OR...			
CHLORPYRIFOS (Lorsban) 4EC	4 pt.	1 pt.	

\*\* For concentrate application, use the amount given in 80-100 gal water/acre, or lower if the label allows; for dilute application, amount is per 100 gal water to be applied in 300-500 gal water/acre, according to label.

+ Preharvest interval. Do not apply within this many days of harvest.

\* Permit required from county agricultural commissioner for purchase or use.

Contact me for assistance with individual situations.

The following useful publications are available from our office:

<i>Calendar of Operations for Backyard Walnut Trees in Lake County</i>	2 pgs.	free
<i>Integrated Pest Management for Walnuts, 2nd ed.</i> UCDANR Pub. #3270. rev. 1993. (currently unavailable while under revision)	96 pgs.	\$22.00
<i>UCIPM Pest Management Guidelines: Walnut, May 1999</i>	48 pgs.	\$ 4.80
<i>Walnut Husk Fly</i> UCDANR Pest Notes #31, February 1996	2 pgs.	free
<i>Walnut Production Manual</i> UCDANR Pub. #3373, 1998	318 pgs.	\$35.00

Also available is an excellent video with a section on how to monitor trapped female flies for eggs. It is available to purchase **OR LOAN** from our office:

*Walnut Husk Fly: Biology, Monitoring and Control Strategies*  
DANR Video #V96-C, 22 minutes, \$20.00

## LEAF ANALYSIS FOR ORCHARD CROPS

July is the optimal time to sample trees for nutritional status. At this time, levels of most nutrients are stable in the leaf tissue. It is also the period for which critical values have been established. These are the levels below or above which deficiency or excess occur. Results should always be used in conjunction with **visual symptoms**. Leaf levels are poorly correlated with iron chlorosis, which is diagnosed by visual symptoms. Key points when taking samples (your commercial lab will also have guidelines):

- ✓ sample typical, fully-expanded, healthy, mature leaves
- ✓ location of leaf is important
  - **apple** – 50 mature leaves from non-fruiting spurs
  - **olive** – 80-100 mature leaves from the middle of non-bearing, current season shoots
  - **pear** – 60-80 mature leaves from non-fruiting spurs
  - **walnut** – 50 mature terminal leaflets about 6' up
- ✓ sample 10-acre blocks or at least different growing conditions, separately (soil type, tree age, rootstocks, etc.)
- ✓ sample problem blocks or areas separately and compare results with “normal” blocks
- ✓ avoid atypical trees – replants, odd varieties, etc.

Collect leaves from each 10-20 acre block, only one leaf per tree randomly distributed. If nutrients (N, K, Zn, Mn, Mg, Ca) have been applied to foliage, the analyses will mask “real” levels. The exception **may** be if heavy rainfall (half-inch or so) washes surface amounts off prior to submission to the lab.

If you would like help sampling, or need more information, give me a call. Here are established July critical levels for BEARING trees:

ELEMENT	<i>Walnut</i>	<i>Pear</i>	<i>Apple</i>	<i>Olive</i>
Nitrogen (N)				
Deficient below	2.1%	2.2%	1.9%	1.4%
Adequate	2.2 - 3.2%	2.3 - 2.8%	2.0 - 2.4%	1.5 – 2.0%
Excess over			2.4%	
Phosphorous (P)				
Adequate	0.1 – 0.3%	0.1 – 0.3%	0.1 – 0.3%	0.1 – 0.3%
Potassium (K)				
Deficient below	0.9%	0.7%	1.0%	0.4%
Adequate over	1.2%	1.0%	1.2%	0.8%
Calcium (Ca)				
Adequate over	1.0%	1.0%	1.0%	1.0%
Magnesium (Mg)				
Adequate over	0.3%	0.25%	0.25%	0.1%
Sodium (Na)				
Excess over	0.1%	0.25%	--	0.2%
Chlorine (Cl)				
Excess over	0.3%	0.3%	0.3%	0.5%
Boron (B)				
Deficient below	20 ppm	15 ppm	20 ppm	18 ppm
Adequate	36- 200 ppm	21 – 70 ppm	25 – 70 ppm	19 – 150 ppm
Excess over	300 ppm	80 ppm	100 ppm	185 ppm
Copper (Cu)				
Adequate over	4 ppm	4 ppm	4 ppm	4 ppm
Manganese (Mn)				
Adequate over	20 ppm	20 ppm	20 ppm	20 ppm
Zinc (Zn)				
Adequate over	18 ppm	18 ppm	18 ppm	unknown

Contact us for Publication #3024 (\$2.50) which lists commercial laboratories that will analyze tissue samples.

Again, REMEMBER, tissue analyses should always be accompanied by carefully observing trees for symptoms of nutrient deficiency or excess. Correction of nutritional problems must be carefully timed for each element. Feel free to contact me for assistance with individual problems or needs.

***JULY CHECKLIST*** (contact me for further details)

**Apples and Pears**

- ✓ watch pears carefully for any sign of premature ripening about one month prior to harvest. This can be a problem if late July and early August temperatures are abnormally cool, i.e. minimums drop below 45°F.
- ✓ if bitter pit has been a problem, apply multiple foliar calcium chloride sprays. Follow product label instructions to avoid fruit injury.
- ✓ watch for signs of tree dieback and/or collapse as fruit matures. Check for underground problems such as oak root fungus and gophers (rampant these past several years).

**Walnuts**

- ✓ OBTAIN AND PLACE WALNUT HUSK FLY TRAPS BY MID-JULY.
- ✓ continue to encourage one central leader on young trees; pinch back strong competing branches.

**All Young Trees**

- ✓ protect from sunburn with white flat latex paint on south and west-facing scaffolds and trunk.
- ✓ CONTROL WEEDS!
- ✓ keep soil moist but not sopping wet with frequent, light irrigations. You may safely apply 1 oz. of actual N per year of growth with each irrigation.

As of this writing (June 18), those Lake and Mendocino pears, walnuts and apples that survived the disastrous frost season are sizing beautifully.

**HOPE TO SEE ALL GROWERS AND EMPLOYEES AT THE UPCOMING FIELD DAYS!**

Sincerely,

Rachel Elkins  
Pomology Farm Advisor

**2001 UC NORTH COAST PEAR FIELD DAY**

***Spanish Session***

**Tuesday, July 10, 2001**

**8:30 a.m. – 12:30 p.m.**

**Quercus Ranch Labor Camp; 4150 Soda Bay Road, Kelseyville**

(west of Gaddy Lane; follow signs posted at gate)

**Sponsors:** U.C. Cooperative Extension • California Department of Pesticide Regulation •  
California Pear Advisory Board • Pear Pest Management Research Fund •  
Pear Pest Management Alliance

**PROGRAM**

**8:30 Registration, refreshments**

**9:00 Welcome and introductions**

*Rachel Elkins, UCCE Pomology Farm Advisor, Lake and Mendocino Counties*

*Lucia Varela, UCCE North Coast IPM Advisor*

**9:15 Pear insect and mite identification workshop**

**10:45 Update on new methods to control pear insect pests**

*Rachel Elkins*

*Lucia Varela*

*Belinda Messenger, Project Manager, CA Dept. of Pesticide Regulation*

**11:30 Open session on pear problems and production topics**

**12:00 BOX LUNCH** - hosted by suppliers of pear pest management products

**PRE-REGISTRATION FOR LUNCH REQUIRED BY JULY 3**

**A HAND LENS AND INSECT ID FLASHCARDS WILL BE GIVEN TO EACH  
ATTENDEE**

## 2001 UC NORTH COAST FIELD DAY

### *English Session*

Tuesday, July 17, 2001

8:30 a.m. – 1:00 p.m.

**Oswald Ranch; 3400 Ruddick-Cunningham Road (off Talmage exit, Hwy. 101)**  
signs posted at intersection of Talmage/Ruddick-Cunningham Road

**Sponsors:** U.C. Cooperative Extension • California Department of Pesticide Regulation •  
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### PROGRAM

**8:30 Registration, refreshments**

**9:00 Welcome, introductions, acknowledgements**

*Rachel Elkins, UCCE Pomology Farm Advisor, Lake and Mendocino Counties*

**9:15 Update on pear pest management field trials**

*Rachel Elkins*

*Lucia Varela, UCCE North Coast IPM Advisor*

*Belinda Messenger, Project Manager, CA Dept. of Pesticide Regulation*

**10:00 BREAK**

**10:20 Energy-saving options for irrigation systems and operations**

*Larry Schwankl, Extension Specialist, UC Davis*

**11:00 Update on using a pressure bomb to monitor tree water stress**

*Ken Shackel, Department of Pomology, UC Davis*

*Rachel Elkins*

**11:30 Using the Air-Spade® to non-destructively expose crown and roots affected by oak root fungus and/or water logging**

*Larry Costello, UCCE Environmental Horticulture Advisor, San Mateo Co.*

**12:30 BBQ LUNCH**

*Hosted by suppliers of pear pest management products and prepared by*

*Chris Zanobini, Executive Director, California Pear Advisory Board*

**PRE-REGISTRATION FOR BBQ REQUIRED BY JULY 10**

**2001 UC NORTH COAST PEAR FIELD DAY**

**REGISTRATION FORM**

**SPANISH SESSION - Quercus Ranch, Kelseyville**

**Name(s)** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Return via fax or mail by **JULY 3** to: U.C. Cooperative Extension  
883 Lakeport Blvd.  
Lakeport, CA 95453  
(707) 263-6838 – phone  
(707) 263-3963 – FAX  
celake@ucdavis.edu



**2001 UC NORTH COAST PEAR FIELD DAY  
REGISTRATION FORM  
ENGLISH SESSION - Oswald Ranch, Talmage**

**Name(s)** \_\_\_\_\_,  
\_\_\_\_\_

Return via fax or mail by **JULY 10** to: U.C. Cooperative Extension; 883 Lakeport Blvd.  
Lakeport, CA 95453  
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