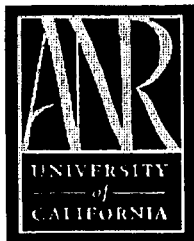
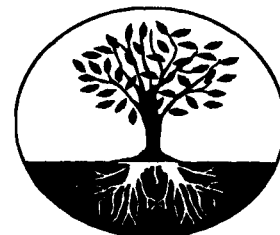


# University of California Cooperative Extension



## your *North Coast* Orchard Notes



APRIL – MAY 2004

↓↓ MARK YOUR CALENDARS ↓↓

**APRIL 28    2004 LAKE COUNTY WALNUT UPDATE**

Odd Fellows Hall, Upper Lake  
(agenda on page 5 )

**APRIL 30    2004 LAKE AND MENDOCINO OLIVE TREE GROWER MEETING**

American Legion Hall, Kelseyville  
(agenda on page 6 )

*Vol. 6 No. 1*

**May 15-16    Getting Started in the Specialty Food Business**

Contact: UNEX, 1-800-752-0881  
(description on page 4 )

### ***WALNUT BLIGHT OUTLOOK***

March was unseasonably warm and many walnut trees, even later varieties, are already in bloom and/or leafing out. Growers, however, should be prepared to treat for blight if conditions turn rainy during bloom, leafing, and early fruit set. This is especially critical if you grow susceptible varieties such as Payne, Serr and Tehema. Chandler, Hartley, and Franquette trees, though usually less susceptible due to their later bloom and leafing are early this year and will also be susceptible. Even some late-leafing orchards may still require one copper spray if 1) there was blight last year and 2) it rains.

The latest UC treatment guidelines for walnut blight are on the next page. Fortunately, testing has shown that the walnut blight pathogen is still susceptible to copper in Lake County. Thus, there is no need to supplement copper with Manex<sup>®</sup>, as they are doing in the Sacramento and San Joaquin Valleys. The section 18 for Manex<sup>®</sup> DOES NOT apply to Lake County. Please contact me to discuss your particular situation.

## Diseases

### WALNUT BLIGHT

Pathogen: *Xanthomonas campestris* p.v. *juglandis*  
(Updated 7/00)

#### SYMPTOMS

One to several black lesions may appear on catkins. Fruits develop black, slightly sunken lesions at the stigma end when young; more lesions will develop on the sides of fruit as it matures. Shoots develop black lesions and leaves show irregular lesions on blade. All leaflets of a leaf usually show signs of infection.

#### COMMENTS ON THE DISEASE

The bacteria that causes walnut blight survives on and in dormant buds and catkins, and also in twig lesions. Rain or prolonged sprinkler irrigation is important for spreading bacteria and aiding infection. Early leafing varieties are most severely affected, and the disease tends to be more severe in northern California.

#### WHEN TO TREAT

Control of this disease depends on the application of protective sprays on newly developing nuts to prevent infections. In orchards with histories of heavy infections and high overwintering bacterial populations, protective treatments at 7- to 10-day intervals must be applied during prolonged wet springs for adequate protection. In areas or years of less intensive rainfall, a 10- to 14-day schedule maintained until the rainy season is over is important.

The first application should be made no later than first pistillate bloom, followed by additional treatments made as discussed above. Walnuts are susceptible to blight infections well beyond the pistillate bloom period whenever free moisture occurs. Additional sprays are often necessary, but they must be applied before rain for maximum benefit. The total number of sprays required depends on the judgement of the grower based on disease history and climatic conditions. The success of alternate row spraying during early bloom and leafing depends upon the ability of the machinery to deliver sufficient copper material with good coverage to trees of both target rows.

#### TREATMENT

Pesticide (commercial name)	Amount/ Acre
<hr/>	
A. BORDEAUX#	
8-5-100 Label rates	Label rates
COMMENTS: Adding 0.5 gal summer oil emulsion can reduce phototoxicity. If 100 gal/acre or less are used, the Bordeaux mixture should include at least 16 lb copper sulfate. The objective is to apply 4 lb metallic copper/acre/application. Four lb of copper sulfate contain 1 lb of metallic copper.	
B. FIXED COPPER#	
COMMENTS: Resistance to copper (in both Bordeaux and fixed copper sprays) is not uncommon in Sacramento Valley orchards and has been found in a few San Joaquin Valley orchards. A Section 18 registration for some areas of the Sacramento and San Joaquin valleys (check with your county agricultural commissioner) allows the addition of Manex to copper. This combination improves control, especially where resistant strains occur. If Manex is used, it must be added to every copper treatment to be economically effective. The use of surfactants does not increase the efficacy of copper materials. <b>Wettable powders</b> with 50% metallic copper (Kocide 101, Champion, etc.): rates equivalent to 4 lb metallic copper/acre are most effective. <b>Dry flowable</b> formulations with less than 50% metallic copper (Kocide D.F., etc.) or liquid formulations (Copper-Count N, Champ, etc.): use label rates. Some liquid formulations of copper require less than 4 lb metallic copper/acre. When used at recommended label rates, these formulations provide the same control as that of wettable powders with 4 lb metallic copper.	

# Acceptable for use on organically grown crops.

## ***FOCUS ON SUMMER CARE OF YOUNG TREES***

**Irrigation** - it is April 8th following a very warm March. It may be necessary to irrigate young trees in the near future. This is because:

- 1) limited root systems draw moisture from a limited area; any damage caused by sustained waterlogging further reduces the effective root zone and uptake;
- 2) heavy weed growth easily out-competes tree roots for moisture (and nutrients);
- 3) less stored reserves in bark and roots necessitates more dependence on the soil for early nutrient uptake, which requires adequate moisture on a constant basis, which takes us back to 1); and
- 4) unlike mature tree root systems, root systems are constantly expanding in area and density, which must be encouraged.

Growers should begin to comparatively monitor soil moisture around mature versus young plants and make sure the needs of young trees are met. It is crucial that young tree root systems be kept moist but not waterlogged.

Unfortunately, there is little good information on actual water use of young trees. Irrigation amount/timing is usually “seat of the pants”, based on experience and convenience. UC Extension Specialist Dr. Scott Johnson developed actual water use data using a weighing lysimeter (a scale that measures subtle weight changes in plants). The following table has been adapted for Lake County from evapotranspiration (ET) data from the Kearney Ag Center at Reedley, where the experiment was done. Although the data was developed for stone fruit, there is likely to be little difference for *young* deciduous trees of most species. Mendocino County growers can adjust the following table for their use. Ukiah’s year-round ET is typically 95% of Lake County’s. In coastal locations such as Point Arena, water use is 95% of Lake County’s ET October through March, and 60% of Lake County’s water use in the warmer months.

Other factors to consider are:

*soil type* – heavy soils hold more moisture and are more prone to waterlogging. Lighter soils drain faster. In either case, lighter, more frequent irrigations may be in order.

*weather* – obviously, cooler conditions reduce ET and warmer weather increases it; make adjustments accordingly.

*weeds/covercrop* – the table assumes *no competition*. Competing vegetation can add up to 30% additional water use.

Although the table is **only a guide**, it provides a clear picture of changing irrigation needs through the season.

**Estimated Water Use of Young Trees in Gallons/Week  
Lake County, California**

<b>Tree Volume</b>	<b>March*</b>	<b>April*</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>Sept.**</b>	<b>Oct.**</b>
10	7	10	19	23	38	28	20	8
25	7	10.5	19	28	39	29	20	9
50	8	12	22	31	42	31.5	22	9.5
100	10	14	25	35	46	36	25	11
200	14	19.5	32	44	58	45	33	15
300	18	25	37	49	62	49	37	20
400	21	30	44.5	58	72	57	44.5	24
500	25	36	49	64	77	63	49	28
600	28	40.5	56	72	87	71	56	33

\* In years of normal rainfall, irrigating in March and April may actually inhibit roots.

\*\* These values for late September or October would only be applied in years when temperatures stay high. Once the weather cools down, irrigation should be stopped to reduce the potential for root and crown rot.

In the table, tree volume refers to height x length x width of an average tree. Also, the data was developed from trees irrigated by drip using multiple emitters, thus application efficiency was high. In descending order, drip efficiency > microsprinkler > undertree sprinklers > flood/basin, so actual amount applied must be adjusted accordingly.

**Nitrogen fertilization** – Recently-retired Yolo-Solano Farm Advisor Wilbur Reil suggests applying 1 oz. actual N per year of tree growth (below). He says some growers in his area apply this amount at each irrigation to keep trees growing vigorously all summer. It is important, however, to cease in time to promote hardening off, since fall frost can cause considerable damage to young trees.

<b>Tree Age (years)</b>	<b>Actual N per Season (split into spring plus summer applications)</b>
1	3 oz. (1.5 oz. each spring and summer)
2	4 oz. (2 oz. per application)
3	6.5 oz. (3.25 oz. per application)
4	9 oz. (4.5 oz. per application)
5	same as mature trees

**UC DAVIS EXTENSION COURSE OFFERED:  
GETTING STARTED IN THE SPECIALTY FOOD BUSINESS**

Do you make a salsa that wows your friends? Or do you bake a biscotti that your family says should be sold in stores? Learn the realities of getting your product from the kitchen to the marketplace in this course. Learn about establishing and financing a business, processing your product, determining consumer demand, pricing and promotion, brokers and distributors, sourcing ingredients, and packaging and product testing. One special feature of the course is a panel of experienced California specialty food producers who talk frankly about their successes as well as the situations they wish they'd handled differently. Students may ask questions that relate to specific products and goals.

Taught by Shermain Hardesty

2 meetings:

Saturday - May 15 - 9:00 a.m. to 6:00 p.m. and

Sunday - May 16 - 9:00 a.m. to 4:30 p.m.

Location: Davis, CA: Da Vinci Building, 1632 Da Vinci Ct.

\$485 includes two lunches, social and textbook

Enroll in section 034FST300

**SUMMER CHECKLIST FOR YOUNG FRUIT AND NUT TREES**

(contact me for further details about any of the following):

- ❖ WEED CONTROL!!! (but watch herbicide phytotoxicity).
- ❖ Remember, young plants need more frequent, lighter irrigations than established ones, but watch excess moisture which will reduce vital oxygen in the root zone.
- ❖ A little fertilizer to push growth should be applied **after** growth begins.
- ❖ Begin to train the leader in 1-year-old walnuts; stake **up wind** of tree to avoid rubbing trunk and limbs. Pinch back competing laterals.
- ❖ Remove suckers when about 6-12" long. In walnuts, tear out or spray shears with Galltrol between cuts to prevent crown gall infection.
- ❖ Vertebrates can kill young plants in a hurry! Keep the area around trees trash and weed free.

Everything "woke up" with a bang this spring, with some of the earliest bloom and leaf out ever recorded (Broc Zoller declared March 20 full bloom for pears in Kelseyville). Weather since has been ideal for both growth and quality. Barring prolonged cool weather, harvest should be early this year, in stark contrast to 2003.



Rachel Elkins  
County Director/Pomology Farm Advisor

## **2004 LAKE COUNTY WALNUT UPDATE**

**Wednesday, April 28, 2004**

Odd Fellows Hall, 9580 Main Street, Upper Lake

*Sponsored by:*

University of California Cooperative Extension  
Walnut Marketing Board

### **AGENDA**

(2 hours Laws and Regulations CE Credit applied for)

- 8:00 a.m. Registration/Refreshments**
- 8:30 Welcome/announcements/update on UC and county UCCE budget and programs**  
*Rachel Elkins, County Director/Pomology Farm Advisor*
- 8:45 Laws and Regulations Update**  
*Steve Hajik, Agricultural Commissioner*
- 9:30 Overview of statewide walnut research projects**  
*Bruce Lampinen, Extension Integrated Orchard Management Specialist,  
UC Davis*
- 10:00 BREAK**
- 10:20 Status of the UC walnut breeding program**  
*Gale McGranahan, Pomologist, UC Davis*
- 11:00 Agricultural Discharge Waiver: Status and UC Role**  
*Larry Schwankl, Extension Irrigation Specialist, UC Davis*  
*Rachel Elkins*  
*Chuck March, Executive Director, Lake County Farm Bureau*
- 12:00 Walnut Marketing Board/Walnut Commission Marketing Program**  
*Dennis Balint, Walnut Marketing Board*
- 12:30 ADJOURN**



The Odd Fellows Hall is partially accessible. Please call for special accommodations.

## 2004 LAKE AND MENDOCINO OLIVE GROWERS MEETING

**Friday, April 30, 2004**

American Legion Hall, 5005 2<sup>nd</sup> Street, Kelseyville

*Sponsored by:*

University of California Cooperative Extension  
Lake and Mendocino County Department of Agriculture

### AGENDA

(CE credits applied for: 1 hour Laws and Regulations and 1 hour Other)

- 8:00 a.m.**      **Registration and coffee**
- 8:30**            **Welcome and introductions**  
*Rachel Elkins, County Director and Pomology Farm Advisor*  
*U.C. Cooperative Extension, Lake County*
- 8:40**            **Basic tree care considerations with focus on weed control and frost**  
*Rachel Elkins*
- 9:20**            **Existing and potential varieties for olive oil on the North Coast**  
*Paul Vossen, Farm Advisor, U.C. Cooperative Extension, Sonoma County*
- 10:00**          **BREAK**
- 10:20**          **Olive fruit fly biology, control, and local status**  
*Paul Vossen*  
*Nick Oliver, Ag/Masurement Standards Inspector, Mendocino County*  
*Department of Agriculture*  
*Lake County Department of Agriculture staff*
- 11:20**          **Travel to St. Gregory of Sinai Olive Oil processing facility**  
*5625 Gaddy Lane, Kelseyville (follow signs to park)*
- 11:30**          **Tour of facility**
- 12:00 –**  
**12:30**          **ADJOURN**



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