your *Lake County* HORTICULTURAL NOTES

APRIL 1993

! ! ! REMINDER ! ! !
(contact us for details)

HORT NOTES RENEWAL FORMS DUE! (See page 5)

April 9	**1993 WALNUT UPDATE** (agenda in March **HORT NOTES**
April 22	Sustainable Soil Management Symposium - UC Davis
May 15	Registration Deadline - 6th Int'l Pear Symposium Medford

GRAPE PHYLLOXERA REPLANTING OPTIONS

In 1992, Biotype B phylloxera was found in the Middletown area of Lake County. For those unfamiliar, 'Biotype B' is now known to be any strain which readily feeds and reproduces on AXR#1 rootstock. Since most Lake County vineyards are own-rooted, Biotype A has been, and will continue to be, the main concern. The vineyard affected by Biotype B is near Napa County and almost entirely planted on AXR#1.

Biotype B aside, the question of replanting applies to all vineyards on susceptible rootstock. There are now many resistant rootstock choices available and growers should have at least some knowledge of how they may perform. The key point to remember is: STAY AWAY FROM VINIFERA PARENTAGE! (Contact me for a copy of **Grape Rootstock Characteristics** if you are still unsure of safe options.)

The big question now is, "What type of re-planting program should I be on?" This is a complex question and each grower must consider their own vineyard condition, economics and other related factors, i.e. varietal changeover, rootstock availability, labor, etc.

The most recent written UC recommendations are to replant in solid blocks and avoid interplanting. This was based on 1) the fear that new strains may develop over time and 2) difficulty of managing old and young vines in the same block. However, since these recommendations were made, new research has prompted a change of view among researchers.

883 LAKEPORT BLVD. • LAKEPORT, CA 95453 • (707) 263-2281 • FAX 707-263-2399 • TDD 1-800-698-4544
U. S. Department of Agriculture, University of California and County of Lake Cooperating

Wheelchair Accessible

In 1992, UC Davis Professor Andy Walker subjected strains of Biotype B from Lodi, Santa Clara and Napa to the 'polymerase chain reaction' (PCR) DNA test. Simply, this test determines whether two pieces of genetic material are alike or different. All the strains were <u>different</u>, indicating that Biotype B was actually multiple strains that had developed independently over time, reflecting wide natural field variability. Since phylloxera reproduce asexually, this is somewhat of a mystery and is being explored (although some aphids, a similar insect, apparently undergo asexual recombination). Based on Dr. Walker's research, UC now refers to "<u>functional</u> Biotype B", which differ genetically but react the same on AXR#1.

How does the above relate to replanting options? Since inherent variability of field populations exists, researchers are much less concerned that chance mutations will occur on the "new" resistant rootstocks. Indeed, Europe has used these stocks for over 100 years, with the same natural variability. Thus, <u>interplanting</u>, until recently highly discouraged due to fear of mutation, is a viable option, with certain attendant precautions.

Remember, the second stated concern about interplanting, i.e. managing uneven age vines with different needs, STILL HOLDS. Generally, it is thought best to interplant <u>before</u> a (known) phylloxera infestation occurs. Phylloxera can feed on new white roots of even resistant stock, causing "nodosities". <u>Theoretically</u> - since no field examples have actually been seen - this <u>could</u> slow vine growth until larger, resistant roots establish. Replanting a "clean" vineyard would thus improve young vines' ability to compete, and likewise reduce the level of care to older vines until removal. Based on the above, Napa County Farm Advisor Ed Weber has been recommending that growers pull old vines no more than two years after interplanting. This gives enough time to train the new vines while avoiding sudden cash flow loss.

I am available to discuss replant options with interested growers, and am also interested in your ideas and experiences. As many of you learned in 1992, rather than <u>if</u>, replanting is now a matter of <u>when</u> and <u>how</u>.

<u>NEW GRAPE COST STUDIES AVAILABLE</u>

Three new North Coast wine grape cost studies were published in 1992. All are available from our office and are included in the publication **Information for Prospective Lake County Grape Growers** ($4.50):

- 1992 Sample Costs to Produce Organic Wine Grapes in the North Coast with Resident Vegetation
- 1992 Sample Costs to Produce Organic Wine Grapes in the North Coast with an Annually Sown Cover Crop

both by Karen Klonsky, Extension Economist, UC Davis and Lake/Mendocino/Napa/Sonoma Farm Advisors and growers

- Sample Costs to Establish a Vineyard and Produce Wine Grapes in Sonoma County, 1992

  by Rhonda Smith, UCCE, Sonoma County and Karen Klonsky

6TH INTERNATIONAL SYMPOSIUM ON PEAR GROWING
July 12-14, 1993 Medford, Oregon

A very exciting and unique opportunity for West Coast pear growers will take place this summer in Medford, Oregon. The Symposium is sponsored by the International Society of Horticultural Science and Oregon State University. The coordinator is Dr. David Sugar of the Southern Oregon Experiment Station at Medford. Talks will be given in English.

The program will include sessions on breeding, production (domestic and world), economics, rootstocks, pest management, quality improvement and postharvest management. There will be a field tour of the Medford district and an optional post-symposium tour July 14-16 to the National Clonal Germplasm Repository for Pyrus in Corvallis and the Hood River district.

Key speakers from around the world will address topics including improving early growth, designing and managing very high tonnage orchards, U.S. industry research needs, North and South American production trends and optimum training and pruning.

Registration fee is $180.00 and includes opening reception, scientific program, abstracts of papers, published proceedings, field tour transportation, lunches July 12-14, dinners July 12-13 and refreshments. Accompanying person fee is $90.00 and includes reception, meals and the local tour. The Post-Symposium tour fee is $295.00 single and $215.00 double occupancy.

Contact me for further information or mail the registration form on page 6 by May 15.

WALNUT BLIGHT - A PROBLEM WITH LATE SPRING RAINS

Walnut blight has been more of a problem than usual the past several years. Besides the normally-susceptible early-blooming varieties such as Payne and Tehama, even some Hartley and Franquette samples have been affected. This increased infection may be attributed to the unusually late and substantial amounts of spring rain in 1990 through 1992. We have had, fortunately for the dryland walnut orchards, not only "Miracle March" but Miracle May and even June. The blight bacteria has thus had ideal conditions to germinate, infect and spread, as well as successive years to build inoculum.

Several growers, weary of treating blight, have grafted over early-blooming varieties to Chandler, Hartley or Franquette. I wholeheartedly support this since this will, in most years, solve the problem.

If blight has increased in your orchard, it will be necessary to treat this spring, especially if the late spring rain pattern persists. The keys to successful blight control are given in the UC Pest Management Guidelines on this page.

WALNUT BLIGHT (6/89)

Pathogen: *Xanthomonas campestris p.v. juglandis*

SYMPTOMS: One to several black lesions may appear on catkins. Fruits develop black, slighty 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 to Use	Comment
A. BORDEAUX# 8-5-100	Label rates	Adding 0.5 gallon summer oil emulsion can reduce phototoxicity. If 100 gal/acre or less are used, the Bordeaux mixture should include at least 16 lbs copper sulfate. The objective is to apply 4 lbs metallic copper/acre/application. Four lbs of copper sulfate contain 1 lb of metallic copper.
B. FIXED COPPER#		Rates equivalent to 4 lbs metallic copper per acre are most effective. See label for percentage of metallic copper present.

* Acceptable for organically grown produce.

UNIVERSITY OF CALIFORNIA
883 Lakeport Blvd.

COOPERATIVE EXTENSION
Lakeport, CA 95453

COUNTY OF LAKE
(707) 263-2281
TDD 1-800-698-4544

YOUR LAKE COUNTY HORT NOTES SUBSCRIPTION FORM

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Mailing Address _____

In order to help cover the cost of producing newsletters, it is necessary to charge a fee to those subscribers who DO NOT OWN PROPERTY NOR RESIDE IN LAKE COUNTY. Annual subscription fee is $5.00 - please make check payable to U.C. REGENTS. However, if you do own property in Lake County, please sign below and indicate the address of the property (not your mailing address). Thank you.

YES, I do own property in Lake County.

Signature _____ Address _____

Please indicate commodities you are interested in:

☐ Pears ☐ Grapes ☐ Walnuts ☐ Kiwi ☐ Backyard Fruit

☐ Vegetables ☐ Berries ☐ Ornamentals ☐ Other _____

The following Affirmative Action information is required by federal law. It is, however, kept confidential, as is all other information on this form.

☐ Male ☐ White ☐ Black ☐ Asian ☐ Hispanic

☐ Female ☐ American Indian ☐ Other _____

Thank you for your cooperation.

Sincerely,

Rachel B. Elkins

Rachel Elkins
Farm Advisor

REGISTRATION FORM

Mail To: Dr. David Sugar
Southern Oregon Experiment Station
569 Hanley Road
Medford, Oregon 97502 USA
(503) 772-5165/FAX (503) 772-5110

Name _____
(please type or print clearly as you want your name to appear on your name tag)

Affiliation _____

Address _____

_____

_____

_____

Telephone _____ FAX _____

Name(s) of accompanying person(s): _____

REGISTRATION FEE

	Number of Persons	Cost	Total
Symposium Participant	_____	$180	$_____
Accompanying Person	_____	$ 90	$_____

Total Registration Fee $_____

LODGING DEPOSIT (Ashland Hills Inn)

_____ Single occupancy

_____ Double occupancy with _____

_____ Double occupancy with another participant (to be selected by the Secretariat)

Number of rooms	Cost	
_____	$ 78	Total Lodging Deposit $_____

POST-SYMPOSIUM TOUR RESERVATION

_____ Single occupancy

_____ Double occupancy with _____

_____ Double occupancy with another participant (to be selected by the Secretariat)

	Number of Persons	Cost	Total
Single occupancy	_____	$295	$_____
Double occupancy	_____	$215	$_____

Total Post-Symposium Fee $_____

TOTAL FEES ENCLOSED $_____

All fees must be paid in U. S. currency as a check or money order drawn on a U. S. bank. payable to: International Pear Symposium.