your *Lake County* HORTICULTURAL NOTES

JULY 1992

!!! MARK CALENDARS !!!
(contact us for details)

July 10	Mendocino Pear Field Day
July 17	PEAR RESEARCH FIELD DAY Agenda on Yellow Page (Tear out and post)
August 11	Oakville Grape Day (contact us for details)
Nov. 17-19	Apple Short Course, Davis

NEW PHYLLOXERA STRAINS AND ROOTSTOCK CHOICES

John DeBenedictis, Dept. of Entomology, UC Davis

(Note from Rachel: the following article was written in response to reaction to finds of two new but economically undefined phylloxera "strains". At this writing, neither new "strain" affects Lake County).

The detection of new strains of phylloxera has resulted in rumors of rootstock susceptibility based upon hearsay rather than scientific evidence. U.C. Davis Entomologists and Viticulturalists are involved in a wide range of laboratory and field evaluations of rootstocks to provide growers with better information in making their rootstock choices. A problem with all these tests is that none can address all the factors that may affect rootstock resistance.

Resistance is the result of the interactions among the plant, the insect, the environment, and viticultural practices. This makes it difficult to predict rootstock performance at one site from results elsewhere. For example, many growers in California's

Wheelchair Accessible

Central Valley can cultivate ungrafted grapes in the presence of phylloxera for many years, whereas ungrafted vines succumb quickly in most other parts of the State. It is thought that this is due to environmental differences, especially in soils and temperatures.

Many rootstock evaluations do not consider that phylloxera strains may differ in their ability to utilize rootstocks. U.C. Davis entomologists believe that such differences can be great. Consequently, no phylloxera population is representative of all phylloxera populations.

Some researchers reject the concept of phylloxera biotypes. Such is the case with a noted French viticulturalist who, in an editorial originally published more than a year ago and recently translated and excerpted in several industry journals, suggested that U.C. Davis fabricated the existence of biotype B to cover up the University's earlier favorable appraisal of AXR#1 rootstock. He has not examined the scientific evidence of differences between the California biotypes.

U.C. Davis entomologists have shown consistent differences between growth rates of biotypes A and B on AXR#1 roots in the laboratory over many generations. They interpret this as indicative of genetic differences among phylloxera akin to those in humans which enable some people to digest foods which others cannot such as cow's milk and fava beans.

If one accepts that differences among environments and phylloxera populations exist, it follows that resistance must always be in doubt. Not every phylloxera strain will be tested, nor will all conditions be tested.

So that California growers may be more confident of their choices of rootstocks, Davis entomologists will test rootstocks in use in the State against all strains of phylloxera detected in California and some from outside of the State. A conservative approach to choosing rootstocks would be to regard any substantiated report of susceptibility from anywhere in the world as a warning of potential vulnerability, even when the rootstock shows resistance to local phylloxera.

To date, about 30 rootstocks have been screened against biotypes A and B in the laboratory. Results were reported in this newsletter and will be published in the American Journal of Enology and Viticulture later this year. Strain 1 has been screened against seven rootstocks (pg. 4), and tests of five others are in progress. None has supported strong population growth except on callus and nodosities.

The Phylloxera Task Force recommends that rootstocks on which any phylloxera strain grows faster on tuberosities than biotype A on AXR#1 rootstock not be used for phylloxera protection. Ungrafted

Contact me for the following which were handed out at the Spring Walnut Meeting held May 16 (free):

1991 Walnut Husk Fly Summary (your Lake County Hort Notes, September-October 1991)

Walnut Husk Fly - section of Walnut Pest Management Guidelines - UCPMG #3 (complete guidelines available for $1.20).

Frosted Scale - ibid.

PEST MANAGEMENT GUIDELINE UPDATES

Grape Pest Management Guidelines (UCPMG Publication 18) was updated in May. There are new sections on leafhoppers, omnivorous leafrollers, phylloxera, Botrytis bunch rot, summer bunch rot, powdery mildew, phomopsis cane and leafspot, measles and Eutypa dieback. Individual pages are available from our office for $.05 each or the complete 52-page Guidelines for $2.60.

Pear growers should contact us for two indispensible publications:

IPM for Apples and Pears UCANR Publication #3340	$30.00
Pear Pest Management Guidelines UCPMG Publication #16	$ 3.00

PESTICIDE SAFETY HANDOUTS AVAILABLE

If you were unable to attend, contact us for the following, which were distributed at the 1992 Pesticide and Farm Safety Update held in January:

* Pesticide Safety for Farmworkers/Uso Seguro de Pesticidas para los Trabajadores del Campo. USEPA.

* Pesticide Safety for Non-certified Mixers, Loaders and Applicators/Uso Seguro de Pesticidas para Mezcladores, Cargadores y Aplicadores no Certificados. USEPA.

* Selected Pesticide Safety Training Materials (ENGLISH AND SPANISH VERSIONS). University of California Statewide IPM Project. Includes slide sets, videos and written materials.

* Safety Publications List/Order form - Fresno County UCCE (English and Spanish titles).

Also, growers whose employees attended the Spanish safety meeting should have been mailed Certificates of Attendance. If you did not receive any or enough, contact us.

Vitis vinifera and AXR#1, VR 043-43 and 41 B rootstocks are not recommended. Others may be added to the list as new strains of phylloxera and more rootstocks are tested.

To complement laboratory testing, U.C. Cooperative Extension Viticulturalist Jim Wolpert, U.C. farm advisors and several wineries and growers are conducting field trials of rootstocks throughout California.

TREATING INDIVIDUAL PEAR TREES FOR LIME-INDUCED IRON CHLOROSIS

Growers with individual trees showing mid-season symptoms should be interested in this "recipe" for treating iron chlorosis which comes from Tulare County Farm Advisor Steve Sibbett:

- with a post-hole digger, dig 4 holes around the drip line of each tree below the disk layer.
- place 1/2 lb. iron sulfate (FeSO4) in each hole and cover with 1 lb. of soil sulfur, then bury it.
- the total for each tree is 2 lbs. FeSO4 and 4 lbs. soil sulfur.

As a comparison, leave a few trees untreated so you can see the difference over time. For very large trees, double the amounts of all ingredients.

Fall applications are ideal so winter rains can begin dissolving the sulfur to acidify the soil and release iron the following spring. However, it is certainly acceptable to begin any time during the season to utilize irrigation water, though results will be delayed accordingly. If you decide to try this, give me a call to view your progress and results.

WALNUT HUSK FLY SEASON IS HERE

Due to the early season, growers should put WHF traps up ASAP. If possible, use those "supercharged" with ammonium carbonate, or contact me for a source of AC to charge your own. Last year, many growers suffered damage due to a late emergence in mid-September which went largely untreated. DO NOT BE CAUGHT THIS YEAR. Trap and spray as long as flies emerge and walnuts are vulnerable (until husk split). When growers call to ask about damage, my first question is, "What were your trapping numbers?" If there is no trap data, expect no assistance from me! Trap catches are the key to knowing the pattern of emergence in your (not your neighbors') orchard!

OTHER NEW UC PUBLICATIONS (contact us)

1992 UC Farm and Garden Publications Catalogue (also includes videos and slides) FREE

Blackline Disease of Grafted English Walnut Trees
#21497 6 pages $1.00

Managing Insects and Mites with Spray Oils
#3347 48 pages $6.50

Phytophthora Crown and Root Rot of Walnut Trees
#21509 4 pages $1.00

CERTIFIED FARMER'S MARKET IN KELSEYVILLE

Eleanor Godfrey, St. Peter's Church

A Certified Farmer's Market will be held on Saturdays beginning July 11 until November from 8:00 a.m. to 12:00 noon at St. Peter's Church parking lot on Main Street in Kelseyville.

The market will provide participating growers the opportunity to create a special social-business community spirit, as well as enable them to sell their products. Buyers will have the chance to enjoy and support a local outdoor market of fresh produce and other related items. The old-fashioned atmosphere and farming heritage of Kelseyville will be an added enhancement to attract buyers from around the county.

As the number of sellers increases, the market will eventually be held from May to November, as long as produce is available. All help will be volunteer. Growers will man their own booths. Coffee will be available.

Growers are still being solicited. The more growers, the more likely the market will succeed. Products include: vegetables, fruits, flowers, plants, pasta, spices, baked goods, jams, jellies, honey, nuts, cheese and eggs.

Spaces in the parking lot will be rented and the proceeds added to the church building fund. Please call Carolyn Marchetti at 279-0662 to rent a space or for further information about the market. Potential sellers should also contact the Lake County Department of Agriculture to obtain a Certified Producer Certificate ($10.00).

1992 FARMER-TO-CONSUMER DIRECTORY

The 1992 Farmer-to-Consumer Directory has just been published by the University of California's Small Farm Center. For people who want to harvest their own bounty, the directory also lists pick-

your-own operations. Many of the growers listed in the directory have picnic areas, nature trails, fishing ponds or hold food festivals.

Directory listings are organized by region and include information about location, season, operating hours and products available. The directory lists 21 farm trail organizations, which publish maps to local farms. Many of the farm trails are located along some of California's more scenic back roads.

The certified farmers' markets, where individual farmers sell directly to the public, are inspected by county agricultural commissioners to ensure that the farmers -- and not peddlers -- actually grow the items being sold.

The last Farmer-to-Consumer directory was printed in 1990 by the California Department of Food and Agriculture Direct Marketing Program. Because of severe budget cuts, however, the program could no longer continue to publish it. Recognizing that the directory is a valuable service to farmers, consumers and others with an interest in locally grown fresh fruits and vegetables, the staff of the UC Small Farm Center volunteered to take on the task.

Copies of the directory are available free from our office.

LOW-INPUT FARMING SYSTEMS FIELD DAY

UC researchers will present results of an interdisciplinary study comparing conventional, organic and low-input farming systems at a field day in Davis on Thursday, July 30th.

The field day will feature results from the first 4 year cycle of this in-depth study that evaluates the transition phase as well as the long-term economic and ecological viability of conventional and alternative farming systems. Results will include data collected on soil parameters, economic performance, pest problems and yield and quality of crops.

Processing tomatoes, safflower, field corn and wheat/bean double crop are grown in a four-year rotation under conventional, low-input and organic farm management systems. A second conventional system, with a two-year rotation of tomatoes and wheat, is also part of the study. Both conventional systems are managed using practices typical of the central Sacramento Valley. Low-input and organic systems in the experiment incorporate alternatives to conventional pest mangement practices, rotational schemes including legumes and agronomic practices such as minimum tillage. On an adjacent field, the team of researchers is testing novel farming methods that could potentially conserve non-renewable resources. Field day attendants will have a first hand view of many different legumes being evaluated for their potential as cover crops and in intercropping systems.

Registration for the field day begins at 8 A.M. at the Agronomy Field Headquarters on Hutchison Drive in Davis. Presentations will start at 8:15 A.M. and the field tours will begin at 9:00 A.M. and continue until noon. No fee or pre-registration is required. PCA credit will be available.

The project is sponsored by the University of California Sustainable Agriculture Research and Education Program (SAREP), the USDA Western Regional SARE program and the H.J. Heinz Foundation. For additional information, contact Oscar Somasco, Department of Agronomy and Range Science, University of California, Davis, CA 95616; (916) 752-2023.

JULY CHECKLIST (contact me for further details)

PEARS

- collect tissue samples for nutrient status by the end of the month. Contact us for a list of critical values and labs.
- watch pears carefully for any sign of premature ripening about one month before harvest. Apply NAA accordingly. This can be a problem if late July and early August temperatures are abnormally cool.

GRAPES

- prepare to collect petiole samples at veraison in blocks with marginal to low potassium levels. Note symptoms of nutrient imbalance, e.g. boron, potassium, manganese.
- if July is cool, continue watch for powdery mildew.

WALNUTS

- OBTAIN AND PLACE WALNUT HUSK FLY TRAPS BY MID-LATE JULY. Contact us for detailed information on husk fly monitoring and control.
- protect trees from sunburn with white flat latex paint on south and west-facing scaffolds and trunk. There was quite a bit of sunburn in 1990 and 1991.
- keep weeds controlled around young trees.

Sincerely,

Rachel B. Elkins

Rachel Elkins
Farm Advisor

!!! **GROWERS AND EMPLOYEES ARE INVITED TO UCCE'S** !!!

PEAR RESEARCH FIELD DAY

FRIDAY, JULY 17, 1992
8:30 A.M. TO 12:30 P.M.

Meet at Ken Barr's young Harrell Orchard; follow signs from Stone Drive/Finley East Road. We will carpool from there to the other stops (map below).

AGENDA

8:30	**STOP 1:**	Welcome and Registration
9:00		Pre-plant fumigation Guest: Dave Esrock, Tri-cal, Inc.
9:30		Pre-emergence weed control
10:15	TRAVEL to EAT Benson Orchard, corner of Soda Bay Road and Gaddy Lane, Kelseyville	
10:45	**STOP 2:**	Codling moth mating disruption Guest: Don Thomson, BioControl Ltd.
11:30	TRAVEL to Don Eutenier's Asian pears, Gaddy Lane just before Loasa Drive	
11:45	**STOP 3:**	N-pHuric and iron chelate treatment for iron chlorosis
12:30	ADJOURN