



your Lake County HORTICULTURAL NOTES

JANUARY-FEBRUARY 1993

HAPPY NEW YEAR !!

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

***** UPCOMING MEETINGS *****

February 11-14	10th Annual Small Farm Conference San Luis Obispo
February 26	WINE GRAPE NUTRITION - Grange Hall, Finley (agenda on Page 10 and reg. form on Page 11)
February 27	Wine Grape Day, Sacramento

ORCHARD AND VINEYARD THERMOMETER TESTING

The U.S. National Weather Service will again be testing thermometers this year. The schedule is as follows:

Bring thermometers in by Monday, March 1st.
Testing will be done on Wednesday, March 3rd.
Pick up thermometers by Friday, March 5th.

New thermometer tags will be provided at the Farm Advisor's office. Thermometers will not be tested without your name on a new tag on each one. The following instructions will help you complete preparations for testing:

1. Remove thermometers from any containers.
2. Clean thermometers of all old tags, dirt, cobwebs, etc.
3. Transport thermometers vertically with **bulb end down.**

Fruit Frost Report recordings are furnished by the Agricultural Commissioner's office. The telephone numbers are available to the growers by calling the Ag Commissioner's office at 263-2271, the Farm Advisor's office at 263-2281 or your local pear packing shed or winery. For your ease in accessing these recordings,



these numbers are unlisted and not available to the general public. **PLEASE KEEP THEM CONFIDENTIAL!** The general public has access to these reports from the following radio stations and schedules.

- KNTI** - beginning March 8 - 6:30, 7:30 & 8:30 P.M. - 7 days per week
- KUKI** - beginning March 8 - 7, 8, 9, 10 P.M.
- K-WINE** - beginning Mid-February - reports will run every hour on the hour from 7:03 P.M. to 5:02 A.M. (report times may vary after midnight if no change in status)
- KXBX** - will run as a public service announcement only when a freeze is anticipated - no set schedule is provided

Again, to allow you access to the recordings more readily, please refer your non-grower friends to these radio schedules.

VIRUS SYMPTOMS IN REPLANTED VINEYARD

In 1992 North Coast grape growers were alerted to two situations:

1) virus-like symptoms causing collapse in vineyards recently replanted from symptom-masking AXR-#1 to alternative rootstocks, and

2) detection by ELISA bioassay of leafroll virus in individual selection vines at Foundation Plant Material Service (FPMS) at Davis, the source of all certified grape material in California.

The following article addresses the first concern:

VINEYARD-SELECTED SCION WOOD INCREASES THREAT OF VIRUS INFECTION ON ALTERNATIVE ROOTSTOCKS

Rhonda Smith, Sonoma County Farm Advisor, December 1991

Recent vineyard plantings in North Coast counties have shown signs of what appears to be a disturbing trend. A high percentage of vines have collapsed in blocks planted to certified rootstocks and field budded with vineyard-selected budwood. In all cases, scion material was carefully chosen from mature blocks which had in the past routinely supplied wood for several, apparently disease free vineyards on AXR#1.

USDA Agricultural Research Scientist Deborah Golino and county farm advisors have visited over 15 affected sites since October in Napa, Sonoma, Mendocino and San Joaquin Counties. Additional unverified reports of this phenomenon have been made. Vine symptoms appear in the first year

after fall budding. By second leaf, it becomes quite obvious that something more significant than poor bud take is responsible for what is happening in the vineyard. Affected vines, or more commonly, entire vineyard blocks must be removed. Thus far, Cabernet Sauvignon, Chardonnay, Sauvignon blanc, Merlot and Zinfandel scion wood is involved but other varieties are likely to be added to the list as new vineyards are planted with noncertified scion wood. Because so much acreage is being planted to alternate rootstocks and little information is available about the representation of rootstocks in these plantings, it is not yet possible to say which rootstocks are involved.

The current explanation for this phenomenon is only a hypothesis at this point. Latent viruses with symptoms resembling those of leafroll and corky bark are appearing in vineyards which have been planted with certified rootstock and budded with noncertified scion wood. It is possible that strains of these viruses which produced no symptoms or mild symptoms on AXR#1 produce severe symptoms on other rootstocks. This makes sense because the genetic background of these alternative rootstocks are quite different than AXR#1 and, in fact, include species known to be sensitive to these viruses. There is no fast way to determine which virus is actually causing this problem. Indexing takes two years and ELISA detection methods are not available or are experimental at best. Although we do not understand exactly what is going on, it is imperative that growers be aware that the use of alternative rootstocks with noncertified budwood could be disastrous.

Much remains to be learned about corky bark and leafroll viruses, but unfortunately, several acres of newly planted vineyards may provide use with ample opportunity. If you are aware of a new planting of certified rootstock budded or grafted to noncertified scion material that is displaying the symptoms described above, please call and bring it to my attention. Farm Advisors statewide working with Deborah Golino are attempting to document the extent of this problem. We are working to learn more about this potential threat.

Thus far, to my knowledge, Lake County has been unaffected by the above occurrence, since very little AXR#1 exists (PLEASE CONTACT ME IF YOU SEE PROBLEMS IN YOUR VINEYARD!). Virus-affected own-rooted vines are readily apparent and are not used as grafting wood. However, in light of the possibility of latent (i.e. non-symptomatic) virus presence, growers are, as always, strongly encouraged to utilize both certified rootstock and certified scion wood. This recommendation is made despite some worry concerning the positive ELISA tests on some individual FPMS mothervines for leafroll virus, which is addressed in the following December 16, 1992 letter to growers from CDFA and FPMS administrators:

**CALIFORNIA GRAPEVINE REGISTRATION AND CERTIFICATION
PROGRAM**

David Godfrey, CDFA and Susan Nelson-Kluk, FPMS

California State Department of Food and Agriculture (CDFA) and Foundation Plant Materials Service (FPMS) announce that work is under way to update the California Grapevine Registration and Certification Program by incorporating new disease detection technology. The success and prestige of the program today attests to the value of a dynamic program that is updated regularly when the resources and technology to make improvements become available. Recent research, conducted at FPMS, indicates that the means are now available to create the next generation of the California Grapevine Registration and Certification Program.

In the past, the program was regularly improved when more sensitive field indicators were discovered and used to eliminate diseased vines from the Foundation Vineyard at FPMS. In recent years, scientists have been working to adapt sensitive, fast and inexpensive disease detection technology used in human medicine to identify disease in plants. The fanleaf ELISA test, now used routinely in the Foundation Vineyard and Increase Blocks, is an example of a successful application that improved the program and greatly benefited industry. Research has now progressed to the point where it is also possible to use ELISA to detect some grapevine leafroll associated viruses as well.

The biology of the disease grapevine leafroll is not well understood. Currently there are at least eight viruses associated with grapevine leafroll according to the scientific literature, but no viruses have been proven to cause the disease. There is also strong speculation that more than eight viruses will ultimately be linked with leafroll. Since this connection has not been established, ELISA results are compared to field index data to evaluate the accuracy of the tests. Over the last three years, the FPMS Plant Pathologist, Dr. Adib Rowhani, made this comparison using new candidates for the certification program. He found that results for the two tests matched 90% of the time. When approximately 5% of current Foundation mother vines were tested for leafroll associated viruses by ELISA in September and October 1992, about 20% tested positive. These mother vines were all propagated from selections that tested negative for leafroll according to field indexes conducted in the past. The data suggests that a leafroll associated virus is present but not evenly distributed throughout selections or vines in the Foundation Vineyard. There is also limited evidence that the virus might be spreading by some means other than grafting.

It may be sometime before any conclusive statement can be made about the health of materials in the Foundation Vineyard that test positive for leafroll associated viruses.

The information to date does suggest that a possible disease agent exists in Foundation stock, but sources for most selections without the virus can be identified by ELISA testing. Therefore, new technology to improve the program producing California certified materials is available. In light of these developments, a work group has been selected to assist CDFA and FPMS in reevaluating and modernizing the Grapevine Registration and Certification program.

We don't know yet how long it will take to design the next generation program. Careful consideration is necessary to devise the best way to use leafroll ELISA and other possible high tech methods for detecting and excluding disease from certified materials. While this work is in progress, CDFA has developed the following transition protocols for materials in the current program.

Foundation Vineyard: As of November 17, 1992, no grape materials will be labeled foundation stock until new criteria are developed to qualify materials for foundation status and materials that meet the new criteria are produced.

Registered Increase Blocks: Depending upon the availability of resources, these blocks will be tested in whole or in part on a varietal priority basis during the next calendar year for leafroll associated viruses. However, registration will not be suspended pending testing.

Certified Blocks: Planting stock in certified blocks is eligible for certification because it still meets the current program standards. It has been tested for disease in the same manner as certified materials that have been distributed for many years. CDFA will continue to approve materials in certified blocks until such time as new program protocols and qualifying criteria are developed and implemented.

California certified grape stock is still the best source of planting materials when healthy true-to-variety vineyards are a priority. Serious problems caused by virus diseases are common in vineyards planted with noncertified field selections, but are not observed in vineyards planted with California certified stock. Recognizing certified materials in the current program makes it possible to retain the value already achieved while another advance is being made. As new technology is incorporated, we can look forward to future materials that may be improved by eliminating newly discovered disease agents. (Emphasis added by Rachel Elkins).

As more information and data develops, updates will be distributed by the certification program work group. All who receive this announcement are on the mailing list for future announcements. To be added to the mailing list, contact the FPMS office at (916) 752-3590.

INFORMAL MONTHLY MEETINGS FOR GRAPE GROWERS

Growers and others involved in the Lake County Winegrape industry are invited to attend these "brown bag" sessions to learn about, share and discuss issues of local concern. Subject matter is wide open and may include production, political, legal, social, economic and others. Meetings were the 'brainchild' of Bill Pickering, Vineyard Manager at Guenoc Winery. The Lake County Wine Grape Commission provides publicity for the events. Meetings are held:

WHEN: Second Wednesday of each month
(February 10, March 10)
11:30 a.m. to 1:00 p.m.

WHERE: Borenbega Storage and Mooring
9080 Soda Bay Road, Kelseyville
(4 miles in from Hwy. 29)

BRING LUNCH; coffee provided

Ideas for topics are welcome and should be suggested to either Bill at 987-2359 or Rachel Elkins at U.C. Cooperative Extension at 263-2281.

REVISED GRAPE PEST MANAGEMENT MANUAL FINALLY AVAILABLE!

After a long production delay, the second edition of the UC DANR Publication, **Grape Pest Management**, has been released.

This new edition of **Grape Pest Management** meets the latest challenges of growing grapes in the 1990s: problems like the variegated leafhopper invasion of the San Joaquin Valley and the loss of pesticide registrations that has prompted the search for additional biological and cultural pest control methods. The 10 years since publication of the first edition have seen major advances in combatting pests and diseases, thanks to improvements in the chemical, cultural and biological controls that make up a practical integrated pest management program.

Grape Pest Management, Second Edition is as thorough a guide as you will find to current trends and methods in pest control for wine grapes and table grapes. More than 400 color photographs help you identify insect pests and disease symptoms in the field.

Whether you have 5 acres or 5,000, whether grapes are your hobby or your livelihood, **Grape Pest Management** will show you the least costly, most effective pest control measures available.

To accompany the manual, I recommend growers also purchase UC **Grape Pest Management Guidelines**, which are revised each year with updated control recommendations.

If you would like to order a copy of **GRAPE PEST MANAGEMENT** or **PEST MANAGEMENT GUIDELINES FOR GRAPES**, please fill out this form and return it to the U. C. Cooperative Extension office at 883 Lakeport Blvd., Lakeport, CA 95453.

I would like ____ copies of **GRAPE PEST MANAGEMENT** at \$68.00 per copy. Enclosed is my check for \$_____ made payable to **U.C. Regents**.

I would like ____ sets of the **GRAPE PEST MANAGEMENT GUIDELINES** at \$3.00 per set. Enclosed is my check for \$_____ made payable to **U.C. Cooperative Extension**.

Name _____
Mailing Address _____
City, State, Zip _____
Phone Number _____

You will be notified when your book is ready to be picked up.
Thank you.

NEW PUBLICATIONS FOR PEAR GROWERS (see me to review copies)

Fire Blight - Its Nature, Prevention and Control; A Practical Guide to Integrated Disease Management

Published by the U.S. Department of Agriculture, Agricultural Research Service, this Agricultural Information Bulletin (AIB 631) was written by T. van der Zwet of the ARS Appalachian Fruit Research Station in Kearneysville, West Virginia, and S.V. Beer of the Department of Plant Pathology at Cornell University in Ithaca, New York.

Fire blight is a serious bacterial disease of apples, pears, quinces and several plants in the rose family, including hawthorn, cotoneaster, firethorn (pyracantha), mountain ash, blackberry and raspberry. Outbreaks of fire blight are usually most severe in areas with a warm, humid climate, especially when these conditions occur while the plant is blooming.

Meant especially for growers of apples and pears because many varieties and rootstocks of these fruits are very susceptible to fire blight, this publications is a practical guide to prevention, identification and control of the disease.

While supplies last, copies may be obtained at no cost from the following: USDA-ARS-NAA, Appalachian Fruit Research Station, 45 Wiltshire Road, Kearneysville, WV 25430: and, Department of Plant Pathology, Cornell University, Ithaca, NY 14853

Training and Pruning for Apple and Pear Growers

C.G. Forshey, D.C. Elving and Robert L. Stebbins
American Society for Horticultural Science 1992 \$30.00
113 South West Street, Suite 400
Alexandria, VA 22314-2824

PESTICIDE AND FARM SAFETY TRAINING MATERIALS

Growers should have a good collection of training materials to enable them to comply with SB198 and other laws (available from our office):

The Safe and Effective Use of Pesticides UC ANR Publication #3324	\$30.00
The Illustrated Guide to Pesticide Safety - Instructor's Edition (English & Spanish) UC ANR Publication #21489	\$ 5.00
- Worker's Edition	\$ 4.00
Catalog of Selected Safety Materials and Resources UCCE Agricultural Personnel Management Program	\$ 2.00

Written Accident and Illness Prevention
Programs
ibid

\$ 2.00

La Lotera de los Pesticidas; Pesticide
safety training game for agricultural workers
UC ANR Publication #3355

\$15.00

We also have lists of videos and slide sets available to borrow from the UC Davis Farm Safety Program. Contact me for assistance in developing or adding to your collection of farm safety training materials.

THANK YOU FOR YOUR COOPERATION

1992 was another good year for Lake County agriculture. Some field plots have been "put to bed" for the winter, while others continue to demand the input of both researchers and cooperators. Once again, we extend our deepest gratitude to those who have donated trial sites, labor, energy, money and time to UCCE's cause. For 1992, we particularly acknowledge:

Vic and Jane Barnes
Jack McCabe
Wayne and Elaine Sylvia
Alex Suchan
Dennis McCarthy
Bobby Gayaldo
Joe Woolridge
Ike and Lucille Hill
Greg Hanson
Jorge Garcia
Holdenried Vineyards
Mike Garcia
Broc Zoller
Bill Knispel
Dietmar Renker
Kelseyville Packing Co.
Ken and Carolyn Barr
Albert Pinch
John Barr
Don and Margaret Eutenier
Quercus Ranch
Manuel Mendoza
Toni Scully
Steve Yates
Mark Hauser
Sutter Home Winery
Clay Shannon
Dave Tuttle
Reid and Sara Dorn

Janie Plachek
Moitozo Bros. Packing Co.
Larry Rogers
Rafael Valadez
Dave and Vivian Bucknell
Neil and Karen Bradford
Ben Cambron
Carl Laslovich
Leroy Thomas
Maryka Orchards & Packing Co.
Keith Petterson
Mt. Konocti Growers, Inc.
John Sisevich
Bill Hayes
Lindell Allen
Brian Dallas
Ephrain Cortez
Adobe Creek Packing Co.
Carolyn and Diane Henderson
Ross Eutenier
Doug and Randolph Railey
Scully Packing Co.
Kendall Jackson Winery
John Garduno
George Perez
Dean Harrell
Beringer Vineyards
Pat Starke

The following organizations and people co-sponsored meetings, donated funds and supplied other support for our research program. We are thankful for this because it enhances the programs we can provide to the entire agricultural community.

Lake County Department
of Agriculture
Lake County District 2 Wine
Grape Commission
USDA Soil Conservation Service
Pacific BioControl, Ltd.
Microflo Corp.
Cheryl Norton
Bill Gallion
Abbott Laboratories
Faith Potter
Unocal Corp.

Moyer Products
Lake County Farm Bureau
United Ag Products
Kimball Toppers
Farmecology Labs
Terry Rosetti
Vince Bartolemi
Concep Membrane
MSD AgVet
Best Sulfur Products
Growers Ag Service
ICI Americas, Inc.

Sincerely,



Rachel Elkins
Farm Advisor

REGISTRATION FORM - WINE GRAPE NUTRITION
February 26, 1993

Name _____ Phone # _____

Mailing Address _____

of persons _____ at \$7.00 per person TOTAL ENCLOSED \$ _____

Make Checks payable to: **U C REGENTS**

Mail to: Rachel Elkins
U. C. Cooperative Extension
883 Lakeport Blvd.
Lakeport, CA 95453

REGISTRATION DEADLINE IS FEBRUARY 15

WINE GRAPE NUTRITION

Friday, February 26, 1993 - Clear Lake Grange, Finley

co-sponsored by

University of California Cooperative Extension
Lake County District 2 Wine Grape Commission
Lake County Grape Growers Association (LCGGA)

PROGRAM

(4 hours of PCA credit applied for)

- 8:00 **Registration and coffee**
- 8:30 **Welcome and announcements**
 Rachel Elkins, UCCE Farm Advisor, Lake County
- 8:45 **Lake County three-year petiole analysis survey**
 Rachel Elkins
- 9:20 **Proper interpretation of petiole, soil and water analysis**
 Peter Christensen, Extension Viticulturist,
 Kearney Agricultural Center (KAC), Parlier
 Rachel Elkins
- 10:00 **BREAK**
- 10:20 **Uptake and distribution of nitrogen and potassium and
implications for fertility programs**
 Dr. Larry Williams, Associate Professor,
 Dept. of Enology and Viticulture, UC Davis and KAC
- 11:00 **Appropriate utilization of soil amendments and foliar
fertilizers**
 Peter Christensen
- 11:40 **Application of fertilizers through drip irrigation systems**
 Bill Peacock, UCCE Farm Advisor, Tulare County
- 12:15 **LUNCH** (catered by the Grange)
- 1:15 **Effect of cover crops and compost on grape nutrition
and vine growth:**
- San Joaquin Valley research**
 Donna Hirschfelt, UCCE Farm Advisor, Fresno County
- North Coast research**
 Dr. Lucia Varela, Area IPM Advisor, Sonoma County
- 2:15 **ADJOURN**