



your Lake County HORTICULTURAL NOTES

FEBRUARY 1991

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ORCHARD 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 4th.
Testing will be done on Wednesday, March 6th.
Pick up thermometers by Friday, March 8th.

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 accessibility to 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 11 - 5:35, 7:35 and 9:35 P.M. (KNTI's reports are compiled by Bob Wallen, staff meteorologist.)
- KUKI - beginning March 11 - 7:00, 8:00, 9:00 P.M. on the FM station. You can also pick up this station on Jones Intercable FM channel 94.9.
- K-WINE - beginning March 11 - reports will run every hour on the hour from 7:00 a.m. to Midnight and will run on a periodic basis from Midnight to 6:00 a.m.

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

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WINTER INJURY POTENTIAL

On December 21, minimum temperatures of 4° - 6° F were recorded at Lake County's coldest stations. Sub-freezing weather from mid-December through the New Year have undoubtedly injured dormant buds and wood, mainly in grapes and walnuts, but possibly also pears. The nature and extent of the injury will be clearer at bloom/budbreak, and may be masked by frost damage (remember 1988?). Symptoms of freezing injury include bark splitting (worse near ground level), separation of the graft union, brown or black flower buds and discolored cambium in the wood.

Some winter injury occurs in Lake County each year, especially in grapes and dryland walnuts. In 1988, damage occurred during a sudden cold spell in mid-December that followed a long, mild fall, which in turn had encouraged prolonged vine growth. Affected vines tended to be vigorous and pruned early. By contrast, the 1990-91 freeze occurred well into dormancy. Potential damage is more directly related to below-tolerance temperature thresholds for a particular species or cultivar. Of course, nature and severity will vary with plant condition (e.g. stress, age) and site (microclimate).

Grapes - According to UC Extension Specialist Jim Wolpert, V. vinifera is injured below 19° F, a little higher for Cabernet sauvignon and Zinfandel. Serious injury occurs at <10° F.

<u>Cultivar</u>	<u>Susceptibility*</u>
Chenin blanc	MOST ↓ LEAST
Cabernet sauvignon	
Petite sirah	
Pinot noir	
Zinfandel	
Gewurztraminer	
Merlot	
Sauvignon blanc	
Chardonnay	
Cabernet franc (?)	
Reisling	

*APPROXIMATE; compiled from several sources.

Factors aggravating cold injury include over- or under-vigor and low carbohydrate status due to crop load or other stress. The graft union and wood at the vine base are very vulnerable. Some spur death occurs in the county each year.

A BIG concern is the hazard of increased crown gall and Eutypa infection through winter-injured tissue. Both diseases are becoming more prevalent in the county and growers should inspect blocks carefully this year in order to take proper precautions, especially with recently grafted or young vines.

If vines have yet to be pruned, and winter injury potential is suspected, consider leaving an "insurance" kicker (extra) cane which can be pruned off once crop survival is determined in the spring. Leaving "spare parts" is standard practice in very cold growing areas.

Growers can get an idea of percent bud damage before budbreak. Collect section of fruiting canes or spurs and with a sharp razor blade, cut through buds longitudinally and flick half the bud away. Observe the color of the (middle) fat 1° bud and the smaller 2°/3° buds which flank it. Injured buds are brown, discolored, and likely to be dry. A more thorough assessment can be made by making thin horizontal slices from the bud tip to the base under a microscope and observing discolored tissue. Either way, slice the buds very soon after cutting cane sections or they will become rubbery and difficult to work with. Also, scoop out xylem tissue and check for discoloration. CONTACT ME FOR ASSISTANCE WITH THIS PROCEDURE OR TO WALK YOUR VINEYARD AND LOOK FOR WINTER INJURY.

Pears - Damage, if any, should be minimal, but most likely in weak and/or very young trees. Apparently, Bosc is more susceptible than Bartlett. Pseudomonas (causing papery bark) should not be a factor due to the dry conditions.

Walnuts - Winter kill is probable in dryland orchards, especially after several dry years. Symptoms will likely be complicated by dieback due to sunburn, drought and disease. Orchards that entered dormancy adequately irrigated are least likely to suffer injury. If water is available, winter irrigations should be considered.

CONSIDER LATE WINTER IRRIGATIONS

If soil moisture status remains low (very likely), one or two irrigations during February and early March may be warranted for several reasons:

- Roots begin to grow before tree/vine tops, so root zone moisture will enhance spring growth. Adequate moisture is most critical at BLOOM.

- It is very difficult to replenish depleted subsoil moisture once tree/vine demand increases in late spring. If water is in short supply this season, starting the season with a full root zone profile will be even more important.

- SMOOTH, MOIST, BARE SOIL PROVIDES AN EXTRA 2-4° F OF PROTECTION AGAINST FROST DAMAGE. This is often the difference between a good crop and total disaster. Lake County should be prepared for an early frost season if temperatures warm sufficiently early.

When deciding whether to winter irrigate, factor in soil type, root zone profile (depth), tree vigor/age and current moisture status - use a backhoe or auger to determine this.

TIME TO MONITOR FOR SOFT SCALE IN WALNUT

Frosted and, to a lesser extent, calico scale were prominent in quite a few orchards last season. Possibly, several mild, dry years in a row have enabled more overwintering nymphs to survive, and populations have slowly built up beyond the parasites' ability to keep them in check. Hopefully, the extreme cold this winter will kill many overwintering nymphs. Also, since very little insecticide, if any, is applied to Lake County walnuts, it is highly likely that natural control will once again "kick in".

If new growth was heavily encrusted with soft scale last season, winter is the time to monitor and decide whether to treat. Check last year's wood on random trees throughout the block. Unparasitized nymphs are flat, amber to dark brown, with a few waxy filaments protruding from the base. Parasitized nymphs are convex (humped) and almost black.

IF THERE ARE MORE THAN 5 NYMPHS PER FOOT OF LAST YEAR'S WOOD THROUGHOUT THE ORCHARD AND LESS THAN 90% ARE PARASITIZED, consider treating.

Current UC Recommendations are listed below. If treatment is necessary, apply it during delay dormant before rapid scale growth begins in spring. A VERY BIG CAUTION: OIL IS VERY PHYTOTOXIC TO MOISTURE-STRESSED TREES (likely this year). It is probably unwise to apply even dormant oil emulsion unless rain-fall sufficiently wets wood and root zone by late February. Registered insecticides used alone in dormant are less effective, requiring re-treatment (disrupting aphid and scale natural control) but are safer to trees.

Again, growers are strongly urged to give Mother Nature generous benefit of doubt and hold off treating this winter. Contact me or your PCA if you would like help identifying parasitized scale.

If frosted, European fruit lecanium, calico, walnut or San Jose scale need to be controlled during the dormant period and trees have been stressed, use diazinon, parathion or methidathion without oil. The use of these materials without oil will suppress scale insects, but treatments may be needed again during late spring or early summer.

TREATMENT:

Pesticide (commercial name)	Amount to Use** (dosage/acre)	P.H.I.+ (days)	Comments
A. METHIDATHION*			
(Supracide) 2EC	8 pt in a minimum 100 gal water	7	CAUTION: Do not combine with oil or severe phytotoxicity may occur. Do not graze live-stock in treated orchard. Do not apply more than twice a year or more than once a dormant period.
B. DORMANT OIL EMULSION			
2-4 gal			
...PLUS...			
1. DIAZINON 50WP	2.5 lb	HS	
...or...			
2. PARATHION* 25WP	5 lb	HS	
...or...			
3. CHLORPYRIFOS (Lorsban) 4EC	4 pt	14	Do not apply more than twice per year.

** For dilute application use with 300 to 600 gal water per acre; for concentrate application use at least 20 gal water per acre.
 + Preharvest interval. Do not apply within this many days of harvest.
 * Permit required from county agricultural commissioner for purchase or use.
 HS Do not apply after husk split.
 ‡ Acceptable for organically grown produce.

UC IPM Pest Management Database

1990 PEAR SHORT COURSE RECAP

It was long overdue, and obviously much needed, because approximately 130 pear growers, PCA's and other industry personnel sat attentively through 3 very intensive days of 31 talks and panel discussions on almost every aspect of pear production (as well as a field tour and BBQ). Virtually every West Coast pear district, from Summerland B.C. to California, was represented. 45 people from Lake County were present as registrants or speakers, representing 26 ranches and a large percentage of the acreage. This is highly encouraging because it means the local industry is looking constructively toward the future. On the evaluation forms, many growers indicated they would like a similar course in several years, either in California or Oregon. There was also strong support for researcher-grower-PCA interaction on panels, field tours, etc. I welcome any and all comments/suggestions for the future.

For those who did not attend, Short course participants received two publications: 1990 Course Proceedings and the 1990 revision of the 1986 PNW Tree Fruit Short Course Proceedings. Presently, extra copies of these books are UNAVAILABLE. HOWEVER, IF there is sufficient interest, we will explore a second printing. Contact me if you would like to stop by and look at them at the office. I am happy to photocopy articles of specific interest (at \$.05/page).

Some final thoughts. As of January 1991, the California research community and pear industry have lost two extremely important people; Mendocino County Farm Advisor Bruce Bearden and U.C. Extension Pomologist Jim Beutel have both retired. Their combined knowledge, dedication and experience will be replaced very slowly, if at all. In the 1990's, those few of us left actively working in our relatively small pear industry (by California's standards) must, and will, look toward the much larger research and extension community of Oregon and Washington for much basic information. Indeed, 9 short course speakers were from the Northwest. Although California is unique and we will always "do our thing", it behooves us to establish and maintain strong positive relationships with Pacific Northwest research, extension and industry personnel. The 1990 Short Course was an excellent start toward developing those ties.

Lastly, with all the progress in variety development, production practices and pest management, we can look forward to a great 1990's.

THANK YOU FOR YOUR COOPERATION

Although somewhat belated - but just as sincerely - I would like to thank all those who donated field trial sites, labor, energy, time and moral support to UCCE in 1990. Included are all those who acted as tour guides and stop hosts during the Pear Short Course last November:

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Maryka Orchards
Jack McCabe


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Jane Plachek
Quercus Ranch
Doug Railey
Randolph Railey
Larry Rogers Ranch
Roumiquiere Vineyards
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Ed Seely
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Wayne Sylvia
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Dave Tuttle
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Broc Zoller

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Lake County Grape Growers Assoc.
BioControl, Ltd.
Concep Membrane
Abbot Laboratories
Ed and Francis Seely
Diamond Walnut Growers
Uniroyal Chemical Co.
City of Lakeport Parks Dept.
Maag Agrochemicals, Inc.

Adobe Creek Packing Co.
Moitozo Bros. Packing Co.
Kelseyville Packing Co.
Mt. Konocti Growers, Inc.
Lake County Farm Bureau
Moyer Products
Rainbow Ag Services
Brea Ag Services
Ciba Geigy Corp.

Sincerely,



Rachel Elkins
Farm Advisor

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