UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION COUNTY OF LAKE

# your Lake County HORTICULTURAL NOTES

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## PEAR AND WALNUT ZINC DEFICIENCY CORRECTION - THE KEY IS PROPER DIAGNOSIS

Early to mid-November is a suitable time to apply zinc materials to pear and walnut (although early spring may be more effective). However, before rushing to do so, be sure the problem has been diagnosed correctly. Any nutrient deficiency may be a secondary problem due to poor root growth conditions. Symptoms of zinc deficiency - small, chlorotic leaves and shoot dieback - can be caused by winter injury (more likely in walnuts), severe water stress, root diseases, or some other mineral imbalances. In these cases, applied nutrients will provide only superficial, temporary, or, more likely, no relief. All growers should take time this fall to walk and observe their orchard thoroughly. Backhoeing is the best method to determine if root-related problems are the culprit, offering the most extensive view of a tree's root zone.

Once underground causes have been eliminated, a July leaf sample will confirm nutrient status (see July newsletter). Below is a chart for those who know zinc correction is needed:

| | RATE | APPLICATION SITE | COMMENTS |
|---|---|---|---|
| **PEAR** | | | |
| 36% Zinc sulfate | 10 lbs. per 100 gal. water; at least 150 gpa; 7 lbs. per 70 gpa concentrate rig | foliar at leaf fall; not sooner due to phytotoxicity | no oil within 30 days. No oil with concentrate sprays |
| **WALNUTS** | | | |
| 36% Zinc sulfate | 5-20 lbs. per tree | soil-applied; trenched into root zone (drip line), taken in by fall/winter rains | data available for sandier soils only; spring foliar spray probably more effective |

## ORGANIC PEARS - THE 1988 MARKET

Several growers have contacted me to discuss the economic potential, and problems, of producing organic pears. Interest has increased along with the possibility of controlling codling moth non-chemically using pheromone confusion or granulosis virus. Besides insect pest control, fireblight, scab, russeting, fertilization and weed control are BIG factors to consider in the decision to "go organic".

Research in other crops (mostly annuals) has shown that the "transition" phase from standard to organic production is often characterized by lower yields and reduced quality. The organic pears I have seen on retail shelves are not the large, "clean" fruit now demanded by the traditional shipping market. Particularly, the fruit is more russeted and superficially marked; I do not know about yields. Theoretically, levels of psylla, web-spinning mites, and rust mite decline drastically under biological control once codling moth chemicals are eliminated. However, the transition period until acceptable cosmetic control is achieved is unknown and will certainly vary case by case. It is likely that, to be accepted by buyers, either their standards will have to change, or new market channels will need to be cultivated by the industry.

How much fruit can the current organic market absorb? Who knows. There are few purely organic distributors; whether commercial brokers will absorb this new fruit will depend on consumer demand. Raleys and Safeway are 2 chains "test marketing" organic produce. A more reasonable scenario for most growers and buyers is the "low pesticide" or "IPM-grown" label (as seen in Raley's ads). In this case, limited chemicals for blight, scab and some insects and weeds would be acceptable, along with a more liberal fertilization regime. Current industry buyers would also have a wider consumer market to tap.

Most importantly, does it pay to switch? There is little, if any, production cost data for organic fruit, except by individual growers. A lot of practices are trial and error - be prepared to spend while you learn!

I tracked organic pear prices this season using the Organic Market and Information Service Organic Wholesale Market Report (OMNIS). In a high price year like 1988, organic pears received some premium at the wholesale (sold to retail) level. Comparative prices to the grower were undocumented. As mentioned above, these prices are based on limited supply and demand, and few distributors. (see page 5 )

If you would like the phone number of OMNIS, or lists of organic growers and/or distributors, contact me. I also have information of California Certified Organic Farmers.

## NEW PHYLLOXERA LOCATIONS DETECTED IN LAKE COUNTY

Chris Twohy, Senior Ag Biologist, Lake County Ag Department

Yes, phylloxera continues to spread to the susceptible Lake County vineyards. Alert growers have observed the early field symptoms of the infestation, which are then confirmed by the Farm Advisor or Agricultural Commissioner. In most cases, the new "spots" have consisted of less than 20 vines. Early detection enables the grower to implement specific management of the phylloxera infestation to minimize spread and enable the vineyard to continue to be farmed economically for years to come.

From our experience over the past four years (first confirmed phylloxera in Lake County), once found, the new phylloxera infestation can be managed economically by modifying cultural practices in infested vineyard blocks. The reduced root system of infested vines can be pampered with additional irrigation, fertilizer and pruning. Furadan soil treatments suppress the phylloxera population to manageable levels. Establishing a quarantine around the infested vineyard area makes sure that cultivation, harvesting and pruning do not continue to spread phylloxera to unaffected areas of the vineyard.

These management practices are intended to buy enough time to allow for the replanting block-by-block to phylloxera-resistant root stock, minimizing the economic hardship of replanting.

To date, more vineyard acreage has been pulled for varietal reasons than due to phylloxera yield losses.

As a reminder, the county-wide phylloxera quarantine is still in effect, with no significant changes from its original form. As infested vineyards are located within Lake County, quarantine boundaries are established with all of the movement restrictions that would apply to vineyard items moving into Lake County from Napa, Sonoma, Mendocino and other general infested areas of the state.

## WALNUT HUSK FLY - NOT MOTH!

I goofed! An observant reader of the August newsletter noted that I referred to adult "moth" emergence more than once. Although I feel silly, I'm grateful someone was reading carefully enough to notice the mistake. My only excuse is being neck-high in codling moth while writing the article. 100 times: adults are husk flies, not moths. Growers, as well as farm advisors, should know the life stages of our common economic insect groups:

| Stage | Moths/Butterflies | Flies | Beetles |
|---|---|---|---|
| | ex. codling moth | ex. walnut husk fly | ex. branch and twig borer |
| egg | eggs | eggs | eggs |
| juvenile | larvae/caterpillars/ worms | maggots/larvae | larvae/worms (soil type) |
| adult | moths/butterflies | flies | beetles |

Some insects, such as stink bugs and pear psylla, begin as eggs but juveniles are known as nymphs and increasingly resemble the adults as they get bigger (molt). Aphids are born as aphids from the mother - it is futile to look for aphid eggs.

## FEDERAL CROP INSURANCE FOR PEARS

The Federal Crop Insurance Corporation will underwrite policies for pears beginning in the 1989 season. Policies will cover drought, earthquake, excessive wind, fire, flood, freeze, frost, fruit-set failure, hail, volcanic eruption and, if applicable, failure of the irrigation water supply due to an unavoidable cause occuring after insurance attaches. Exceptions, exclusions and limitations are listed in actuarial tables.

Crop insurance is available from agents trained and certified to sell it. For details, check with your farm policy agent. SALES CLOSING DATE IS NOVEMBER 20, 1988 FOR THE 1989 SEASON.

## WALNUT HARVEST

As I write this (October 12), dryers are being fired up, nuts (many of them sunburned and shriveled due to water stress) are split and falling and the weather is changing. Trees are ready to unload and take a much needed rest after a long, hot, dry season. Throughout harvest, I hope growers are employing timely shaking followed by prompt pickup in order to minimize further quality deterioration.

Whether to irrigate after harvest depends on weather, soil moisture and tree condition. Tree water use plummets by October and it is undesirable to promote new growth that can be killed back by fall frost. However, going into the winter bone-dry invites winter injury so a judgement must be made for an orchard's particular condition (tree vigor, soil moisture, etc.).

For non-irrigated trees, pray for rain. In many cases, I feel strongly that PRUNING will be in order this winter. The stress this year is incredible and a good pruning is the one tool you have to keep the top and roots balanced.

Happy harvest and I wish you all high shelling prices for the 1988 crop.

Sincerely,

Rachel

Rachel Elkins
Farm Advisor

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## ORGANIC BARTLETT PEAR PRICES - 1988 (OMNIS)

| DATE | SIZE | CARTON WT. (LBS) | NO. DISTRIBUTORS | PAID TO GROWERS | SOLD TO RETAIL | NO. CARTONS | LA TERMINAL NON ORGANIC SOLD TO RETAIL |
|---|---|---|---|---|---|---|---|
| 7/22 | -- | 28 | 3 | 15.50 16.00sb* | 21.70 22.00 | 235 | N/A |
| 7/29 | -- | 28 | 4 | 15.50 16.00sb | 20.40s 22.00s* | 435 | 25.00 28.00 |
| "fire" (reds?) | | -- | 1 | 21.00 21.00 | 29.00 29.00 | 33 | N/A |
| 8/12 | 120 | 22-40 | 3 | 10.34 18.50sb | 13.00s 24.00s | 98 | 17.00 18.00 |
| | -- | 28 | 1 | 16.00sb 16.00 | 22.00s 22.00 | 3 | N/A |
| 8/19 | None - only Asian | | | | | | |
| 8/25 | -- | 22-28 | 3 | 11.50sb 12.75sb | 14.00s 17.50s | 86 | 7.00 7.00 |
| | -- | 36 | 1 | 18.50s 18.50s | 24.00s 24.00s | 48 | 18.00 21.00 |
| 9/2 | -- | 22-28 | 4 | 11.50sb 14.50sb | 14.00s 22.00s | 217 | 11.50 14.50 |
| 9/9 | -- | 36 | 1 | 18.50s 18.50s | 22.00s 22.00s | 8 | 15.00 19.00 |
| loose, 2½"-2 7/8" | | 28-36 | 1 | 12.00 18.00 | 15.00 22.50 | 54 | N/A |
| 9/16 | -- | 26-28 | 2 | 14.75sb 14.75sb | 17.75s 18.00s | 27 | 15.00 18.00 |
| | -- | 36 | 2 | 18.00 18.50s | 22.50s 24.00s | 82 | ----- |
| loose 2¼" | -- | 46 | 1 | 26.90sb 26.90sb | 35.40s 25.40s | 48 | ----- |
| 9/23 | -- | 26-28 | 2 | 14.50 14.75sb | 17.70s 18.00s | 44 | ----- |
| 9/30 | -- | 46 | 1 | 26.90s 26.90s | 36.00 36.00 | 48 | ----- |
| | 100-135 | 24-38 | 2 | 17.00s 19.50s | 24.00 25.50 | 83 | 13.00 13.50 |

s = shipping included

b = paid to broker/co-op/packer