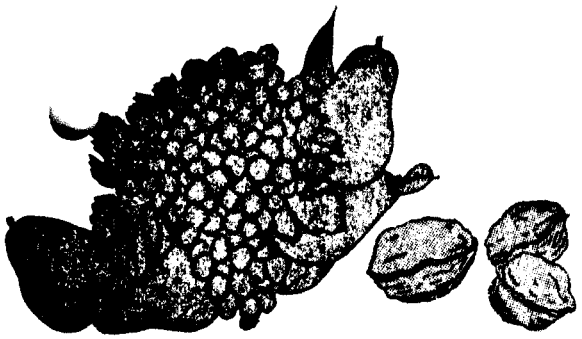
UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION COUNTY OF LAKE



your Lake County HORTICULTURAL NOTES

883 LAKEPORT BOULEVARD
LAKEPORT, CALIFORNIA 95453
TELEPHONE: 263-2281

SEPTEMBER 1990

NATIONAL FARM SAFETY WEEK
September 16-22, 1990

"The busy harvest season is a most fitting time to express our concern and our appreciation for the Nation's farmers and ranchers. During National Farm Safety Week, we renew our support for programs designed to protect their health and safety. All of these hardworking Americans should be able to reap the fruits of their labor with a sense of achievement and security."

President George Bush

REVIEWING THE 1990 GRAPE SEASON

"The fat lady hasn't sung yet" but it may be useful to recap the season thus far. Early season temperatures were generally ideal for bloom, pollination and fertilization and most Lake County vineyards escaped the late spring rains that inundated the North Coast. (Those growers that observed early-season bloom, rachis and stem rot should be vigilant as harvest approaches.)

Temperatures then climbed rapidly, with ±20 days over 90°F in July, depending on location. As in 1988, the hot weather probably hindered set and early cell division, as indicated by shot-berries and erratic cluster formation observed in some vineyards in July. However, the same high temperatures that may have reduced set have generally speeded up maturity. Chardonnay was being harvested toward the southern end of the county the second week of August. Barring rain or abnormally cool weather from now through September, harvest should begin relatively early this year.

Besides affecting crop set and maturity, the hot summer may have exascerbated certain problems, for example measles, which seems to be more severe in hot climates. On the other hand, powdery mildew (PM) colonies are suppressed when exposed to sunlight and air temperatures over 90°F. Of course, a heavy canopy and growing clusters protect the inoculum and moderate the interior microclimate. If you are treating PM late into the season, then re-evaluation of your canopy management and PM control program is warranted.

In summary, 1990 has been a typical Lake County season: unpredictable and atypical. All in all, the fruit looks clean and though crop load is not huge, is of decent size in most vineyards (vines are understandably resting after 1989!) After harvest, I encourage growers to analyze disease and insect incidence and vine vigor in relation to yield and quality. BEGIN TO PLAN YOUR 1991 VINEYARD PROGRAM NOW.

To all Lake County growers, HAVE A SMOOTH AND UNEVENTFUL HARVEST.

NOTES FROM SUMMER TRAVELS: GRAPES AND PEARS

Fellow North Coast farm advisors reviewed the highlights of two functions we attended this summer. They did such a great job, I am reprinting their comments here.

ASEV Meeting Highlights (Ed Weber, Napa County)

The American Society for Enology and Viticulture held its annual meeting last month in Los Angeles. Papers presented included the following:

Bill Peacock, University of California Cooperative Extension, reported on continuing nitrogen studies comparing the time of N fertilization to nitrogen uptake by the vine. As in other studies, he found that post-harvest fertilization resulted in the greatest petiole nitrate levels at bloomtime, followed by fertilizations at berry set or at veraison, with budbreak applications resulting in the lowest petiole nitrates at bloom. Grapevines rely on stored nitrogen to support their rapid growth in the spring. Nitrogen applied in the fall or summer was more readily available to vines to support this growth than nitrogen applied at budbreak. (Note - research was done on San Joaquin Valley grapes harvested in early September - re)

Steve Price, Oregon State University, described an interesting method of vigor reduction to manage high vigor vines. He termed it "vigor diversion" through the use of "disposable canes". Two extra canes were left on the vines when pruned and were positioned below the trellis wires and

staked to the ground. Shoots from these canes were allowed to grow until shatter, at which point the canes were cut off. These disposable canes slowed down the growth of the fruiting canes and improved the canopy microclimate.

Mark Kliewer, UC Davis, reported on improved performance of a mature French Colombard vineyard at Davis through trellis conversion from a bilateral cordon to a divided canopy Geneva Double Curtain or Lyre trellis. Yields were increased in both divided canopy systems by about 60% with no reduction in fruit maturity, and these systems increased the light within the fruiting zone.

Jim Wolpert, University of California Cooperative Extension, gave a progress report on the rootstocks recently released through UC for use in fanleaf infested soils, 039-16 and 043-43, sometimes referred to as the VR (vinifera/rotundifolia) hybrids. He presented data from a screening trial planted here in Napa Valley in 1979. In this plot, there were 4-5 vines of several rootstocks which seemed promising at the time, including the VR hybrids. From 1984-1989, the VR rootstocks outyielded AXR#1, St. George and Harmony by 2-4 times. Currently, all of the standard stocks test positive by ELISA for fanleaf virus, as do all 5 of the 043-43 vines, and 2 out of 4 039-16 vines. It is clear that despite their early performance and freedom from virus, the VR hybrids are not immune to fanleaf virus. Further study will determine if they continue to outperform other stocks even after they have picked up the virus.

Dan Roberts, Sterling Vineyards, and Richard Nagaoka, Vineyard Consultant, each reported on two separate rootstock trials. Richard's trial was located on a heavy Maxwell clay soil on the valley floor in Rutherford and included Cabernet Sauvignon grafted on 110R, SO4, 1202, 5A, AXR#1, St. George, Harmony, 3309, 3306 and 216-3. At this site, no differences were found in vine performance or in wine quality. The Sterling Vineyards location included two soil types, a deeper soil and a rockier soil, and compared Merlot on AXR#1 and SO4. The viticultural performance of AXR#1 was better than SO4 on both soils, however on the deep soils the wines from SO4 were preferred, while on the rocky soil, the wines from AXR#1 were preferred.

Mark Kliewer, UC Davis, gave comparisons on the performance of Cabernet Sauvignon clones 2, 6, and 8, growing at Davis and at Oakville. These clones consistently fell into the three categories of yield as follows:

Yield Class	Clone	Yield at Oakville	Yield at Davis
High	8	9.8 kg/vine	15.8 kg/vine
Moderate	2	7.6 "	13.0 "
Low	6	5.9 "	7.8 "

An interesting part of this study was the finding that the lowest yielding clone (clone 6) exhibited poor fruit set due to poor pollen viability. No differences in wine quality were found between wines made from the three clones grown at Oakville.

Medford Notes (Bruce Bearden, Mendocino County)

A joint training meeting was held for pear farm advisors from Washington, Oregon and California in mid-July. It was my first experience with the Medford/Rogue Valley in the summer time and the 100+ temperatures caused me to reevaluate my notion about Oregon's cool climate. The Rogue River Valley is very much like our Russion River valleys in both appearance and soil type; there are even remnants of their hop industry visible.

Trellis training systems

Wire trellis was the highlight of our tour. For some reason the Australians and New Zealanders seem to be developing one complex training system after another for apples, grapes and pears. We saw the Tatura, mini Tatura, M.I.A., Lincoln and fruiting wall systems, none more than a few years old. The most extensive trials are being done by large growers like Naumes, Bear Creek, Reter and Ernest, however, there are also trials at the OSU Experiment Station in Medford.

I won't try to describe the trellises in any detail except to say that they are constructed of heavy poles and wooden bracing which support multiple strands of tightly stretched high tensile wire anchored with a well engineered deadman. They must cost several thousand dollars an acre to install, but actual cost estimates were not available.

It will be interesting to follow these experiments over the years. Based on preliminary observation, I thought the MIA trellis which forms a "V" shaped double row of trees had the most promise for ease of cultural operation among the poles and wires, and it seemed to fit the upright growth habit of pears best.

Orchard renewal

Orchard renewal seems to be a major concern in the Medford/Rogue Valley area and we saw several alternative ways of dealing with the rejuvenation of older orchards or 20-30 year old trees that have overgrown causing serious loss of fruit wood. Inter-planting existing rows and adding a new row close enough to the old row to form a double row of trees is being tried. The double row appeared to be two rows about 4 feet apart which effectively narrowed the drive rows. The interplant and double row spacing is dependent on what best fits the original spacing.

The best solution for dealing with younger orchards that should be in their prime but have overgrown is to not let them overgrow in the first place. As we look at our high producing 10 x 20 foot spaced Mendocino County orchards, which seem to get better and better with age, we must be very aware that we must maintain fruit wood in the lower portion of the tree by not letting the trees grow together and by controlling top growth.

Once the lower fruit wood is lost and the tree tops mushroom into a shade canopy, it is a very difficult condition to correct. The harder you cut the tops, the more vigorous and unfruitful they become. We saw one block of pears that had been reduced in height by about one third with chain saws early this summer in the hope that the lower branches exposed to sunlight for the rest of this year would form fruit buds for next year. The same pruning during the dormant season would simply stimulate a wild growth of water sprouts next year. A drastic measure to be sure, but also an indication of the difficulty of the problem.

Nitrogen fertilization

Nitrogen fertilization timing trials were based on the desire for high N at bloom time to increase set, moderate N in the growing season to stimulate new growth, and low N in fruit to prolong storage. Early growing season nitrogen applications resulted in vigorous growth and high nitrogen in fruit, which became more susceptible to decay in storage. Nitrogen applied in late summer, about a month before harvest, (remember these are winter pears in Oregon) was taken up by the tree but did not reach the fruit by harvest. Under Oregon conditions, post harvest nitrogen applications were taken up by the roots but did not move to the shoots and spurs.

FALL 1990 UNIVERSITY EXTENSION VITICULTURE CLASSES

Contact our office or University Extension at 1-800-752-0881

Grape Disease Management and Identification
#902E17 November 12 UC Davis $85.00 incl.lunch

Taxation and Accounting for the Small Vineyard
#902E07 November 28 UC Davis $100.00 incl. lunch

Meridional Red Wines of Europe: An Introduction
#902E26 December 1 UC Davis $130.00 incl. lunch and wines

Diagnosis of Nutritional Needs of Grapevines
#902E24 December 4 UC Davis $70.00 incl. lunch

COMMERCIAL VINEYARD PLANNING

Contact our office for the following publications:

How to Plan a Commercial Vineyard
John H. Foott and James Wolpert
UC DANR Leaflet #21475 Cost $1.00

Information for Prospective Lake County Grape Growers
Rachel Elkins
No number Cost $2.00 (xerox costs)

SEPTEMBER CHECKLIST

REMOVE WEAK AND DEAD TREES AND VINES - There is no reason to wait to pull nonproductive trees and vines. Holes can then be back-hoed, irrigated down, leveled and fumigated if desired. This avoids working moist soil and resulting compaction in the spring.

PRUNE OUT DEAD/DYING LIMBS/CORDONS NOW - Likewise, it is a good time to remove these limbs while the leaves are still on, if you have the labor.

ANALYZE SHADE PROBLEMS - Before foliage senesces, pear and walnut growers should note water sprouts, "umbrella tops", extra scaffolds and excessive vigor. Consider remedial steps to improve fruit distribution and quality. Vineyards with huge canopies should consider trellis adjustments to increase crop load and reduce vegetation.

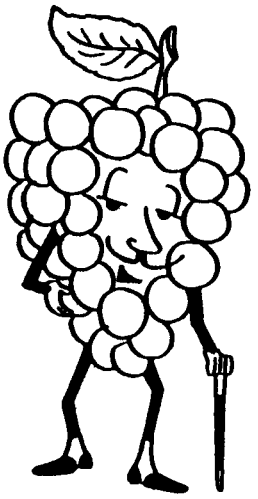
FALL WEED CONTROL - Fall is a great time to apply post and pre-emergence materials. I am happy to help growers with weed identification and control. Pear growers should contact me for a copy of the May 1990 Pear Weed IPM Guidelines ($.60). We also have registered herbicide and weed susceptibility charts for trees and vines.

COVER CROPS - Fall-seeded cover crops should be planted by mid-October so they can establish and grow before winter. Contact our office for Cover Crops for California Agriculture, UC DANR #21471, $3.50.

Sincerely,

Rachel

Rachel Elkins
Farm Advisor



HAPPY HARVEST!