



Tree and Vine Newsletter



Chuck Ingels, Pomology/Viticulture Farm Advisor

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UPCOMING MEETINGS

ANNUAL PEAR RESEARCH MEETING

Thursday, February 21, 2002

Courtland Auditorium, corner of Primasing Ave. (off Hwy 160) and Washington Ave., Courtland
8:30 a.m. to 2:40 p.m.

_____ hours PCA / Private Applicator C.E. credit applied for

Sponsored by:

UC Cooperative Extension, Calif. Pear Advisory Board, and the Pear Pest Management Research Fund

Tentative Agenda

***** Please note that you must RSVP with Chuck Ingels for lunch by Feb. 18 *****

8:00 Refreshments

8:30 Welcome and announcements

Fire Blight

8:40 Recent advances in the use of antibiotics and BlightBan
Steve Lindow (UC Berkeley)

9:10 Effects of growth regulators and pruning cuts on rat-tail bloom and fire blight
Steve Southwick (UC Davis)

Pest Management Alliance / Insect & Mite Management

9:45 Evaluation of Isomate and CheckMate dispensers for codling moth mating disruption
Chuck Ingels (UCCE Sacramento) and Lucia Varela (UCCE North Coast)

10:15 --Break--

10:35 1) Predators of pear psylla; 2) Alternative dispensing technologies for management of codling moth
Matt Singleton (for Steve Welter) (UC Berkeley)

11:15 Potential for reduced-risk insecticides
Bob Van Steenwyk (UC Berkeley)

11:45 Effects of alternative spray programs on secondary pests
Chuck Ingels

12:00 Lunch – **(RSVP to Chuck Ingels by Feb. 18)** – *Courtesy of the Calif. Pear Advisory Board*

Horticulture

1:00 Status of the tree pull program
Bob McClain (CPAB)

1:10 Pilot project to test deficit irrigation in pears
Chuck Ingels and Rachel Elkins (UCCE Lake/Mendocino)

1:40 Choosing the right rootstock for best results
Rachel Elkins

2:00 Evaluation of training methods for Bosc trees
Rachel Elkins

2:20 Effects of pruning method on yield and fruit size
Chuck Ingels

PEAR PRUNING TRIAL FIELD MEETING

Friday, February 22, 2002, 9:00 to 11:00 a.m.

David J. Elliot & Sons Randall Island orchard

Location: Quinta Nova sign, _____ Hwy. 160, 0.7 mi. north of Courtland. Follow signs.

At this meeting, we will discuss the pear pruning trial, in which I am comparing four pruning methods (see page _____). You will see the short, intermediate, long, and "pole" methods being used by many growers. The buds will be starting to push, so you'll see the vast differences in both the number of buds per tree among the treatments and the location of

fruiting buds. There will be opportunity to ask questions and to discuss how your method differs from those covered here. The growers using these methods will be present to share insights into their techniques. We will also discuss results of the first two years of the study. The meeting will be cancelled if rain is falling more than a drizzle.

50TH ANNUAL LODI GRAPE DAY

Tuesday, February 5, 2002

Hutchins Street Square – Kirst and Crete Halls (125 South Hutchins Street, Lodi)

2.0 hrs. PCA / CCA credit requested

Agenda

7:30 – 8:00	Registration & Coffee
8:00 – 8:30	Forensic Viticulture: Experiences of a Farm Advisor Paul S. Verdegaal, UC Farm Advisor, San Joaquin County
8:30 – 9:00	A Look Back at Fifty Years of Grape Growing in the Lodi District James J. Kissler, Farm Advisor Emeritus, San Joaquin County
9:00 – 9:45	Comparing Application Frequency and PRD Irrigation in Lodi Terry L. Prichard, Extension Specialist, Irrigation Management, U.C. Davis
9:45 – 10:00	The California GWSS/PD Research and Containment Program Brad Lange, Board Member and Grower (LangeTwins Vineyards)
10:00 – 10:15	BREAK
10:15 – 10:50	Mineral Nutrients and Tissue Analysis in Vineyards Pete Christensen, Viticulture Specialist emeritus, U.C.KAC, Parlier
10:50 – 11:30	Vine Spacing and Vineyard Design Effects on Fruit and Wine Quality Dr. Nick Dokoozlian, Extension Viticulture Specialist, U.C. Davis
11:30 – 12:00	Tasting
12:00	Lunch (tickets \$10.00/person)
12:30 – 1:00	Luncheon Speakers: The Future of Quality Wines in the Lodi Area Jon Moramarco, Vice-Chairman, Constellation Wine Group

Lunch Tickets are available for \$10.00/person and can be purchased at the door during the program.

AGRICULTURAL DIRECT MARKETING STRATEGIES

March 1, 2002

Buehler Alumni Center, UC Davis

This day-long workshop will bring together professionals who work with farmers, ranchers, and local communities to increase and improve direct marketing channels. Participants will include Cooperative Extension advisors, USDA

personnel, farmers and ranchers, and representatives from state agricultural agencies and other agricultural and community development organizations.

8TH ANNUAL PLACERGROWN FARM CONFERENCE

Saturday, February 2nd

Lincoln High School, 1081 7th St, Lincoln, CA

Over 26 workshops are scheduled for the conference, including: Getting Started in Farming, Agricultural Tourism, Growing Mandarins, Growing Wine Grapes, Getting Started with Blueberries, Livestock, Local Agricultural Marketing Efforts, and Farmer's Markets. The keynote speaker will be cookbook author and chef, Deborah Madison. She teaches cooking to both professionals and home cooks. Her newest book, *Local Flavors: Cooking and Eating from America's Farmers' Markets*, will be published this June by Broadway Books.

Registration is \$40 and includes the trade show, lunch, conference proceedings and workshop handouts. Lunch will be prepared and served by the Lincoln FFA Chapter. In addition, there will be a trade show featuring booths from area agricultural organizations and businesses. For further information and a registration form, go to the UCCE Placer/Nevada County website (ceplacer.ucdavis.edu) or the PlacerGROWN web site (www.placergrown.org), or call (530) 889-7385.

VARIETAL WINEGRAPE PRODUCTION SHORT COURSE

Feb. 12-14, UC Davis

This annual workshop includes physiology review, vineyard establishment, vineyard management, and pest management. Cost:

\$575. Contact University Extension, (800) 752-0881 or their web site, www.universityextension.ucdavis.edu.

I have been able to identify four methods of pruning pears in the Sacramento River district, although these methods are evolving and distinctions between some are less apparent than they were in the past. Each method has advantages and dis-advantages related to pruning cost and difficulty, yields, fruit size, vigor enhancement or suppression, limb rub,

as tree response is evaluated. In this method, all strong uprights are removed unless used to continue a branch, and forks of larger branches are often removed if one of the branches is over about 1/3 the size of the main branch. A large proportion of the fruit spurs originate on hangers or small branches and there are very few heading cuts. Trees are often pyramid

UPDATE ON PEAR PRUNING TRIAL

and possibly fire blight. There is no right method, and the style that results in the best effect for the situation should be used. I have labeled and briefly described the four methods below:

1) **Short pruning**, in which pruning is heavy and a large proportion of fruit are produced on short spurs originating on main branches. Most upright and lateral shoots are removed and spurs are promoted along the branch.

2) **Long pruning** has been promoted by Dan Strydom of South Africa, and has evolved

shaped.

3) **Intermediate pruning** is probably the most common method and there are certainly many variations. With the method used in this trial, strong upright one-year-old shoots are removed, whereas those of low to intermediate vigor are often headed to "four fingers" where needed to create spurs for next year, and lower vigor shoots are thinned if necessary but allowed to remain.

4) **"Upright pole"** is a form of short pruning but the majority of spurs originate from limbs

allowed to grow upright on main branches. With this method, several upright shoots along these branches are initially headed to about 6 to 10 in. long. Each year, one shoot is allowed to continue the upright growth and is headed, creating a sturdy upright limb. Dan Strydom is well known for discouraging this type of heading because vigorous upright shoots often result from such cuts rather than spurs.

Methods. This study is being conducted in an Elliot & Sons, Inc. Bartlett orchard, planted in 1962, on Randall Island. The orchard spacing is 16 x 16 ft. and the rootstock is Winter Nelis. The experiment has the four treatments with six single-tree replica-tions per treatment. Pruning treatments started in Dec. 1999. All buds on a single branch per tree were flagged in late winter, and the resulting fruit, as well as the fruit from the remainder of the trees, were harvested and weighed.

Results. The most unusual result is that, no matter how many buds trees had, the numbers of fruit per tree were similar. Most notably, long pruning, which was only lightly pruned for two years, resulted in an average of 2,500 buds per tree in 2001, whereas the other treatments had about half that. And although all treatments had an average of about 800 to 1,000 fruit per tree, long-pruned trees had significantly smaller fruit in the second year only (2001).

Short pruning resulted in slightly fewer buds than other treatments, and significantly greater fruit set and size. As might be expected, short pruning also had the least limb rub and long pruning the most.

In 2000, fire blight reached epidemic proportions in many orchards. The number of fire blight strikes per tree was evaluated on May 26, which was the second cutting of the season in this orchard. The number of blight strikes in the short and pole-pruned trees was substantially lower than the intermediate and long pruned trees, probably because these treatments produced somewhat fewer flowers per tree than the long and intermediate treatments in that year.

In 1999, as separate part of this study, about half the buds on one individual tree in each orchard were flagged and the fruit counted and weighed. The pole-pruned tree had half the number of buds per tree as other

trees, but again the number of fruit at harvest was nearly identical. This tree actually produced slightly more fruit than the number of buds because of higher fruit set and more fruit per cluster. I also found that fruit produced on downward-facing spurs and one-year-old shoots (>5 in.) were smaller than those on upward or lateral spurs.

Most growers have learned how to adapt their pruning style to produce the maximum yield and fruit size, but uncertainties remain. The biggest challenge is determining how severely to prune in anticipation of fruit set, which is dependent on weather conditions at bloom, among other things. After cold years with plenty of chilling and good spring weather, shorter pruning may have been desirable, whereas low winter chilling and/or poor conditions at bloom favors longer pruning with the greater number of buds. In general, however, pears tend to be fairly self-regulating, which is why fruit thinning is usually not necessary.

This trial has been funded by the California Pear Advisory Board. Thanks to the Elliots (Dave Sr., Dave Jr., and Richard), Chris Wilcox, Jeff McCormack, Matt Hemly, Jeff Trantum, and Wally Chan for participating in this trial.

GUIDE MAY HELP DEVELOP SHARE LEASE ARRANGEMENT

Steve Sutter, Area Farm Advisor, UCCE Fresno

An intricate decision in developing a share lease arrangement is division of income and expenses between tenant and landlord. It's crucial both parties understand both their own contribution and income share – and their partner's.

With complete understanding between parties, a lease that's "fair" to both landlord and tenant can be formed. As used here, fair means each party's income share is proportional to his/her respective resource contributions to the farm operation.

To start in developing a fair share lease arrangement, calculate the value of contributions being made by each party. Calculations for an example wine grape operation is shown in Figure 1.

Once the value of resource contributions for each party is gauged, sharing of cash expenses and production from the rented operation can be specified. Determine the proportion of the total value of contributions contributed by tenant and landlord. Then share expenses and production in the same proportion.

Contributions included in calculations include land, buildings, permanent improvements, orchards, vineyards, power, machinery, personal property tax, labor, management, and other resources or inputs. Include land and buildings in the contribution calculations at fair market value based on agricultural use.

Interest on land, building, vineyards, and orchards should be credited to the landlord at rates reflecting current rates of return on these investments. The landlord should be credited for any contribution of real estate taxes.

Most farm businesses include improvements. So, the landlord must be compensated for depreciation, repairs, and insurance required on them.

In some arrangements, tenants provide machinery and power. So, they must be compensated for equipment ownership costs,

including interest, depreciation, repairs, taxes and insurance.

The value of labor and management contributed to the operation by the tenant and landlord must be figured. A wage rate must be determined reflecting the value of "raw" labor contributions.

Finally, a management contribution is included based on relative amounts of management provided by tenant and landlord. In the example, management return is computed as 10 percent of the estimated gross return, and allocated between tenant and landlord based on their respective contributions.

Adjustments for cash rent paid to the landlord by the tenant for housing or other facilities must be reflected in the computation.

The total value of contributions provided by the tenant and landlord is determined by summing the value in each category. The value of contributions for the entire farming operation is determined, and the relative proportion provided by the tenant and landlord calculated.

Note in the example the tenant is contributing about 59 percent of resources and the landlord 41 percent. So, cash expenses and production should be shared in these proportions to mirror an equitable division of expenses and production between them.

If higher land productivity is being contributed by the landlord, her/his proportion of the contributions would increase. An equitable arrangement would result in the landlord sharing a larger proportion of production and cash expenses. Likewise, more machinery or labor provided by the tenant results in the tenant getting a larger share.

Although Figure 1 illustrates computations of interest, depreciation, and repairs on major asset categories, other accounting and farm management references, including UC "cost studies" may be useful. The chart is simply a guide in aiming at contribution shares.

Figure 1. Developing or testing your crop rental arrangement.

EXAMPLE WINE GRAPE OPERATION

Item	Cash or Value	Contribution		Each Party's Share	
		Rate	Value of Annual Contribution	Tenant	Land Owner
Land and Buildings					
1. Interest (3-6% of valuation)	\$420,000	6%	\$25,200	0	\$25,200
2. Real estate tax			5,280	0	5,280
Buildings, Fences, and Other Permanent Improvements					
3. Depreciation (4-10% of replacement value)	5,000	4%	200	0	200
4. Repair (2-4% of replacement value)		3%	150	0	150
5. Insurance		0.5%	25	0	25
Power and Machinery					
6. Interest (8-10% of new cost plus salvage value ÷ 2)	111,600	7%	4,883	\$4,883	0
7. Depreciation		10%	8,370	8,370	0
8. Repair (4-6% of new cost)		4%	4,464	4,464	0
9. Insurance		0.5%	349	349	0
Orchards and Vineyards					
10. Interest (5-9% of cost ÷ 2)	503,040	7%	17,606	0	17,606
11. Cost Recovery (3-7% of replacement value, or according to practice)		3%	15,091	0	15,091
12. Personal Property Taxes		0.5%	2,151	0	2,151
Labor and Management					
13. Operator labor <u>12</u> months			20,000	20,000	0
14. Management (<u>10</u> % of estimated gross revenue)	\$546,000		54,600	54,600	0
15. Cash Rent (paid by land owner to tenant)			0	0	0
16. <i>Subtotal</i> – major contributions (add lines 1 through 15)			158,369	92,666	65,703
Other Cash Expenses (specify)					
17. _____					
18. _____					
19. _____					
20. _____					
21. _____					
22. Total Expenses (add lines 16 through 21)			\$158,369	\$92,666	\$65,703
23. Percentage of Total Contributions				59%	41%

Rates and values are for illustrative purposes only. The actual values are old and they vary with time and circumstance.

PLANT NEW TREES HIGH

Wilbur Reil, UCCE Yolo/Solano Counties

(These guidelines should be used for all fruit trees, including pears. Some growers plant deeply for better anchorage, but this is not necessary. Although pears are resistant to Phytophthora root rot, planting deeply may lead to increased oak root fungus problems.)

I keep stressing the need to plant trees correctly in orchards and have used several different methods to describe what I mean.

- Plant the top root above the ground surface. Then cover it with extra soil.
- Dig the hole deep enough for most of the roots, then mound up soil to cover the rest of the roots.
- Plant the tree so that the soil line where it was planted in the nursery is 4-6 inches above ground level.
- Allow for 3-6 inch settling of the planting hole!

All of these statements have one basic concept. Make sure the tree crown is high – definitely higher than in the nursery row even after settling. While not all tree loss is caused by improper planting, the biggest single factor for your trees dying is trees settling too deep after planting and then water ponding around the crown during wet periods.

Most of our soils in Yolo and Solano (*and Sacramento!*) are heavy with high clay content. The soil has excellent water holding capacity. It

also has slow water percolation; therefore, the soil remains saturated longer than on well drained sandy soils. The mound around the tree trunk allows excess surface moisture to drain away from the tree, thus reducing the length of time the crown is exposed to saturated conditions. This saturated condition can occur at planting time, when the trees are irrigated, or when a high rainfall winter and spring occurs. Some orchards survive for several years before a wet spring kills those trees that settled too deep.

Plant the tree right the first time. Make sure the ground is in proper shape and the soil has good moisture. Then make sure the crown is high after planting. The only person that might be happy if you plant the tree too deep will be your nurseryman. You will need to buy another tree when the first one dies! Do the job right the first time and avoid costly replanting and loss of production.

Now after making a strong case for planting the tree high, there is at least one exception. On the Marianna 2624 plum rootstock, planting trees high causes them to rootsucker more than when planted deeper. Therefore, plant this rootstock the same depth as planted in the nursery. Plum rootstocks also can tolerate wetter conditions than most other rootstocks so planting these deeper should not affect survival of trees grown on Marianna 2624 plum.

NEW COUNTY DIRECTOR

The Sacramento County UC Cooperative Extension office has a new county director. Gloria Barrett is now both the county director and the community development advisor. Previously she was a West Virginia Extension

Service county director and advisor. She has a M.S. degree in nursing and she is finishing up work on a doctorate in education, focusing on communication information systems, with an emphasis on the adult learner.

ONLINE INFORMATION

COST OF PRODUCTION STUDIES

You can download UC cost and return papers for many crops and locations, including pears, grapes, apples, and a new one for cherries, in the Northern San Joaquin Valley at: <http://www.agecon.ucdavis.edu/outreach/crop/cost.htm>, or call (530) 752-1515 to order a hard copy. These studies provide an overview of typical growing practices, an outline of the assumptions underlying the calculations, and several tables, including a breakdown of the

specific costs to establish and produce the crop, equipment and overhead costs, average returns, and several ranging analysis tables to help determine the profitability of growing the crop.

Although costs and prices received change frequently, the cost studies provide useful information and you can insert your own costs. The cost studies are useful for government agencies, attorneys, bankers, farmers and others.

ONLINE COURSE FOR ECOLOGICAL VINEYARD MANAGEMENT

This self-guided course offers problem-solving simulations and interactive self-tests. Through a web site and companion CD, the course is presented in a series of four units: Concepts of Ecological Pest Management, Insects, Diseases, and Scenarios. It also covers the biology of several pests, monitoring techniques and summaries of management options, and includes many high-quality images. Graded multiple-choice exams taken on-line are also included, and are used to

determine the number of continuing education credits received.

The course covers some of the new knowledge expectations developed by the California Dept. of Pesticide Regulation in preparing for the PCA licensing exam.

Online registration information is located at www.sarep.ucdavis.edu/courses/grapes. Total credits for this course are from 6 to 11 Continuing Education units, depending on test scores. The course fee is \$40.

PESTICIDE INQUIRY WEB PAGES

Here are some useful web sites for detailed information on various pesticides:

Product/Label Database (Calif. DPR)
<http://www.cdpr.ca.gov/docs/label/m4.htm>

Crop Data Management Systems (CDMS)
<http://www.cdms.net/pfa/LUpdateMsg.asp>

Pesticide Fact Sheets (OSU / EPA)
<http://npic.orst.edu/npicfact.htm>

A FARMER'S GUIDE TO HOSTING FARM VISITS FOR CHILDREN

This on-line guide provides activities for elementary school students on visits to your farm. The guide helps connect what happens on the farm to school subjects and real life. It can be viewed on the UC Sustainable Agriculture Research & Education web site:

<http://www.sarep.ucdavis.edu/>. Click on "Funded Projects", then "Project Reports."



County of Sacramento

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