University of California Cooperative Extension Fresno County

Vine Lines

Stephen J. Vasquez, Viticulture Farm Advisor

December 2009 Issue

Management of Gophers

Stephen Vasquez and Roger Baldwin

Vertebrate pests live in and around vineyard settings and can cause significant damage. Damage will depend on the vineyard location, surrounding habitat, and population size of the vertebrate pest in question. Gophers, ground squirrels, and rabbits are the primary vertebrate pests in the San Joaquin Valley and will cause long-term damage if left unchecked. Gnawing on grapevine roots and trunks will lead to large patches of dead vines. These pests can also damage irrigation systems and cause erosion by diverting water via their burrows. Although these pests have natural predators, growers should not rely on them solely for controlling large populations of vertebrates. Recently, Roger Baldwin and I held a field day that focused on gopher management in vineyard settings. Following are some of the strategies that were discussed at the field day.

Gopher Habitat

Visual identification of gophers may prove difficult since they rarely venture outside of their burrows. Living underground, gopher activity includes the building of an intricate burrow system that can only be detected by the distinct mounds found at each opening. Openings to the burrow matrix will typically be plugged, but recent activity can be indentified by the moist, friable soil that gophers push out of recently made burrows. Growers should focus their management efforts on these types of mounds and not the ones that are dry.

Injury

Feeding mostly on root systems of herbaceous plants, gophers will sometimes pull entire

(Continued on page 2)

$31.2 Million Available for Environmental Quality Incentives Program

Applications for the popular Environmental Quality Incentives Program (EQIP) are being accepted for funding consideration in fiscal year 2010 from now through **January 15, 2010**, at USDA Natural Resources Conservation Service (NRCS) offices throughout California. Conservation cost-share programs provide financial and technical assistance to farmers and ranchers for natural resource improvements.

Two parts of EQIP have an extended sign-up period, the organic initiative and combustion engine emissions reduction initiative. These two facets of EQIP are only in their second year and producers may need extra time to enroll. The engine emissions reduction portion has $13.4 million available and the organic initiative has $2.4 million available. Sign-up is open until January 29 for both special initiatives.

"All Farm Bill programs provide agriculture producers an incentive to improve the environment and the functionality of their operations, but EQIP is our flagship conservation program," says NRCS State Conservationist Ed

(Continued on page 3)

Gophers

(Continued from page 1)

plants below ground or nibble on above ground plant parts near their tunnel entry. Grapevines are damaged when gophers gnaw on roots or bark below the soil line. Vines damaged by this type of feeding will look water stressed or will die as a result of girdling, a process that removes the cambium and does not allow for natural repair. Vineyards older than ten years of age display little damage from gophers, perhaps due to the larger root system characterized by the corky periderm protecting the inner bark layer and cambium.

Management

Traps

Traps, when set correctly, work well against gophers. Traps, like all control methods, are most effective when populations are low. Several types are available, but the two-pronged pincher types are the most popular (Fig. 1).

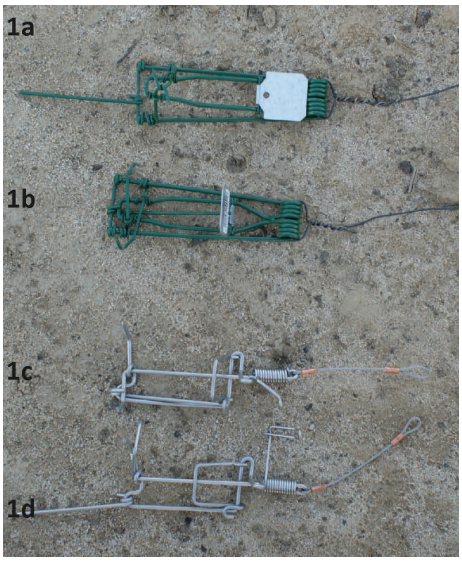

Figure 1. Two types of traps. 1a and 1c are not set. 1b and 1d are set and ready to place in a burrow.

When populations are high, trappers will need to focus their efforts in localized areas with high activity, setting traps multiple times throughout the season. Once gophers are controlled in those areas, new efforts should expand out from these centralized areas until the whole vineyard has been controlled.

Setting Traps

- Locate main burrow using a probe (long screwdrivers work well) and open a section with a gardening shovel large enough so traps can be placed within the burrow.
- Place traps in pairs facing op posite directions (Fig. 2).
- Secure traps with a wire flag for monitoring and retrieval.
- Openings can be left open or covered. If you plan on covering the opening, use cut pieces of a dark fabric (or other material, e.g. plywood) to exclude light. Place soil around the edges of the fabric covering hole to help exclude excess light and encourage the gopher to continue using the tunnel. However, covering does not appear to influence capture success, so if setting numerous traps in a vineyard, leaving openings uncovered can save valuable time.
- Monitor traps daily, moving and resetting in a new location if necessary.

Baiting*

For large populations, toxic baits have often been used and can require less time to apply. Three different types are available to grower: Strychnine[1], zinc phosphide[1], and anticoagulants[1] (diphacinone and chlorophacinone). Baits can be applied by using hand applicators or by a tractor driven mechanical applicator that makes a pseudo tunnel.

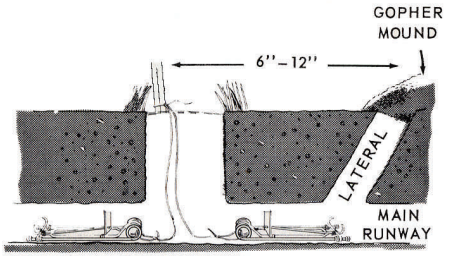

Figure 2. Gopher traps facing in opposite direction.

Hand Applications

- Using a gopher probe/ applicator (Fig. 3), locate burrow near a fresh mound. It is important that bait be placed 12-18" away from burrow entrance on both sides of the opening. Bait placed too close to the opening or too deep will encourage the gopher to seal the burrow.
- Dispense bait into tunnel through probe.
- Cover the opening with soil or a rock to exclude light. Place soil around the rock or object covering hole to help exclude excess light and encourage the gopher to continue using the tunnel.
- Place bait in two to three locations within burrow.
- Monitor activity and reapply as needed.

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Incentives Program

Burton. "Combined with technical assistance and conservation planning, EQIP has had a crucial impact on California's farms and ranches."

In fiscal year 2009, California NRCS worked with farmers and ranchers on $77 million of conservation contracts, setting a new record high in the state. The contracts covered a broad spectrum of natural resource enhancements including increasing irrigation efficiency; nutrient and manure management on dairies; grazing land management; riparian buffers and wildlife habitat; wetland protection; forest management and more. Assistance can be in the form of structures and conservation "hardware" such as irrigation or manure management facilities, as well as incentive payments for proper management to achieve environmental benefits.

Applications for EQIP are accepted year around. However, for initial funding consideration during fiscal year 2010, applications received by January 15 will be given first priority. To view EQIP information, visit to the California NRCS Web site: www.ca.nrcs.usda.gov/programs.

$2 Million in Conservation Funds Available for Organic and Transitioning Growers

California agricultural producers who are certified organic or transitioning to organic production, may qualify for technical and financial assistance through a special initiative administered by USDA's Natural Resources Conservation Service (NRCS).

Two million dollars in funding will be available to eligible producers in California as part of the agency's Environmental Quality Incentives Program (EQIP). Organic producers must submit applications by January 31 for funding consideration during fiscal year 2010.

Noting that the EQIP deadline for most applicants is **January 15, 2010**, California Assistant State Conservationist Alan Forkey said the agency was allowing a bit more time for organic and transitioning producers to develop their conservation applications but stressed they should begin the process as soon as possible. "Organic producers tend to be new to USDA and NRCS procedures and it is a learning process on both sides. Getting in early allows for a quality conservation planning experience," says Forkey.

Organic producers can receive up to $20,000 per year or $80,000 over six years through this initiative. The Organic Initiative targets core conservation practices such as Conservation Crop Rotation, Cover Crop, Nutrient Management, Pest Management, Prescribed Grazing, and Forage Harvest Management. "In addition to the six core practices, in California there are more than a dozen additional practices that can qualify for funding through this initiative," Forkey said.

This is a nationwide special initiative to provide financial assistance to certified organic producers as well as producers transitioning to organic production. Applicants must either have an organic system plan or certify that they are working toward one. Organic producers may also apply for assistance under general EQIP.

Forkey encourages organic producers and those transitioning to organic production to contact their local USDA Service Center and learn more about this opportunity before the January 31 sign-up deadline. Contact information to the Service Centers is available at http://offices.sc.egov.usda.gov/locator/app?state=CA.

SJV Grape Symposium

January 6, 2010

C.P.D.E.S Hall

Easton Ca.

See insert!

Or

Register online at:

http://ucanr.org/2010_grape_symposium

Trinchero Family Gift Will Support UC Davis Grapevine Program

A $1 million gift from Trinchero Family Estates, a family-owned wine company in the Napa Valley, will help the University of California, Davis, build new facilities for a program that provides disease-free rootstock to California nurseries and is of critical importance to the grape and wine industries.

The donation was presented to the university Nov. 12 at a meeting of Foundation Plant Services, a program of the UC Davis College of Agricultural and Environmental Sciences that produces, tests, maintains and distributes premium plant materials.

"We are delighted with the Trinchero family's decision to help us expand our facilities for Foundation Plant Services," said Neal Van Alfen, dean of the College of Agricultural and Environmental Sciences. "Their generous gift helps California grape growers maintain access to healthy planting stock, which is essential for a competitive and economically viable industry."

"For decades, UC Davis has educated many top industry leaders in the wine community and we have benefited from the winemakers, viticulturists and scientists who have studied in UC Davis halls," said Bob Trinchero, board chairman of Trinchero Family Estates. "Foundation Plant Services has helped shape our industry by providing state-of-the-art technologies and services for growing the finest grapes. Our decision to make this contribution to UC Davis and its Foundation Plant Services was based on our exceptional experiences with the university and its profound effect on the wine business."

Grape rootstocks are one of the principal horticultural crops supported by Foundation Plant Services. In 2008, the program released five new grape rootstocks with resistance to nematodes and phylloxera — two of the most damaging vineyard pests.

In 1994, the unit moved into the university's National Grapevine Importation and Clean Stock Facility located west of the Davis campus. Since then, its programs have more than tripled, necessitating expansion for new staff and information technology needs

The Trinchero Family Estates gift will support construction of a planned $3.8 million, 5,600-square-foot new building adjacent to the current facility. The project aims to achieve LEED silver certification with a variety of sustainable design features, including water and energy efficiency. It will include a meeting room for hosting classes and stakeholder gatherings.

"I'm extremely grateful for this gift and overwhelmed with the Trinchero family's generosity," said Foundation Plant Services Director Deborah Golino. "This new building will help us build greater capacity to better serve the California grape and wine industries. And we're thrilled that it is in the process of being named the Trinchero Family Estates building."

About Trinchero Family Estates

Trinchero Family Estates is owned and operated by the Trinchero family, who came to the Napa Valley in 1947. Immigrants from northern Italy in the 1920s, the Trincheros purchased an abandoned 19th-century winery named Sutter Home in St. Helena. For the next quarter century, the family ran Sutter Home as a small mom-and-pop winery.

Second generation winemaker Bob Trinchero, son of founder Mario Trinchero, was the creator of Sutter Home White Zinfandel, a wine first sold in the winery tasting room in 1973. The wildly successful white zinfandel allowed the Trinchero family to expand their winery portfolio to include 23 different wine labels, including Sutter Home. Their 13-acre sustainably farmed cabernet sauvignon vineyard brings the family's Napa Valley vineyard holdings to more than 200 acres.

About Foundation Plant Services

Foundation Plant Services is a self-supporting unit of the College of Agricultural and Environmental Sciences at UC Davis. It is dedicated to the distribution of disease-tested, true-to-identity plant materials that are produced by UC researchers, improved by UC researchers, or valuable to California's agricultural community. It is responsible for clean stock programs for grapes, strawberries, deciduous fruit and nut trees, roses, and sweet potatoes; a hybrid pistachio rootstock seed program; and importation programs for grapes, strawberries and chestnuts. These programs have played a key national and international role in

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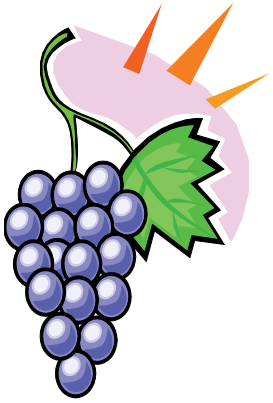
Trinchero Family

distributing new crop varieties and healthy planting stocks.

It takes many years to establish the healthy live plant collections that are the core of clean stock programs. Clean planting stock programs use disease detection, pathogen elimination techniques, and isolation strategies to produce, maintain, and propagate healthy planting stock. Clean plant programs must use state-of-the-art technology to ensure that producers stay competitive in the global market. Collections must be continually protected from infection, monitored for disease, farmed, and documented.



Grapevine Regulations in Final Revision Process

The most recent version of the proposed regulations for the *California Grapevine Regulation and Certification Program* (R&C) were submitted to the state Office of Administrative Law (OAL) on November 17, 2009. The regulations of the *California Grapevine Registration & Certification Program* were revised by the California Department of Food and Agriculture (CDFA). After filing the draft revision of the grape regulations with the OAL in the fall of 2008, the ensuing public comment period yielded substantive comments requiring a response by CDFA. On March 17, 2009, a public hearing was held at UC Davis to enable oral presentation of comments to CDFA. Statements made in writing during the formal comment period and during the March public hearing necessitated amendment of the original proposed regulations, as well as amendment of the initial statement of reasons in support of the draft amended regulations.

CDFA withdrew the draft regulations from the OAL process as a result of the scope of the changes required by the comments. Mike Colvin, CDFA Nursery, Seed and Cotton Program Supervisor, indicated that CDFA staff has worked diligently since the March hearing to respond to industry concerns, stating "We are very close to issuing a final product that addresses the concerns expressed by industry members. We believe that the amended regulations will result in a significantly improved and stronger R&C Program and will meet the needs of the grapevine industry."

The current version is now available for review and comment until Monday, January 11, 2010. Any person interested, may present statements or arguments in writing relevant to the action proposed, to the agency officer named below:

Susan McCarthy
CDFA
1220 N Street, Room A-210,
Sacramento, California 95814
(916) 654-1017
FAX (916) 654-1018

e-mail: smccarthy@cdfa.ca.gov

Additional information about the proposed regulations can be found on the CDFA website:

http://www.cdfa.ca.gov/PHPPS/regs_grapevines.html

Come Visit Us On Facebook!

We have been on Facebook since July 2009 and have had a great response from the San Joaquin Valley grape industry. We have kept the pages relevant and timely in order to best serve the industry. If you have not visited us, click on the link below and see what you've been missing. The entire San Joaquin Valley Viticulture Facebook site is open to everyone.

San_Joaquin_Valley_Viticulture

Gophers

(Continued from page 2)

[1]. May be restricted use material depending on such aspects as concentration of the active ingredient, method for applying bait, and where bait is applied. Restricted use materials require a permit for purchase and use.

Mechanical Applications (Burrow Builder)

- Determine soil moisture. Soil should contain enough moisture so the pseudo-burrow will not collapse (too dry) or tractor does not get stuck (too wet). Late winter or early spring is the best time to use burrow builders (Fig. 4).
- Pseudo-burrows should be made down row centers between vine rows. The perimeter of the infested area should also be baited.
- Check to make sure burrows are being properly made and baited.
- Limit vineyard equipment usage for several days in order to maintain the integrity of the pseudo-burrow. This will allow gophers to find the burrows and consume bait.
- Monitor activity and reapply as needed.
- **NOTE:** Burrow builders should only be used if populations are high. Making single tunnels the length of the vine row may encourage and increase gopher activity.

Fumigants*

Many fumigants are not very effective against gophers due to their ability to detect and seal off tunnels quickly. However, aluminum phosphide[1] works well during the late winter or early spring months when the soil is moist. Soil moisture helps retain the gas within the burrow. Burrows should be located using a probe and tablets dropped into the hole and sealed. Activity should be monitored to determine effectiveness of fumigant. Follow up with additional treatments if new activity is noticed. Fumigants should not be used in gopher burrows near or around buildings due to potential escape of the resultant gas into buildings.

[1] Restricted use material and requires a permit for purchase and use.

Gas explosive device

A device that combines propane and oxygen in a given mixture, which is then ignited, producing a violent explosion within a gophers burrow is also available. Through a concussive force, the burrow(s) and their residents are destroyed. Like fumigants, this device should not be used near buildings due to leakage and the potential damage caused by the explosion.

Figure 4. Mechanical bait applicator.

Final Thought

Gophers are a difficult species to control given that they reside underground. Because of this, gopher control is costly and time-consuming no matter which approach you use. Therefore, much effort should be made to keep gopher populations low within your vineyards. If you take the time to maintain consistently low gopher populations, you will experience substantially greater savings on gopher control and will likely see greater production from your crops than if you only deal with gopher populations after they reach high levels.

*** Always read and follow label directions when using pesticides.**

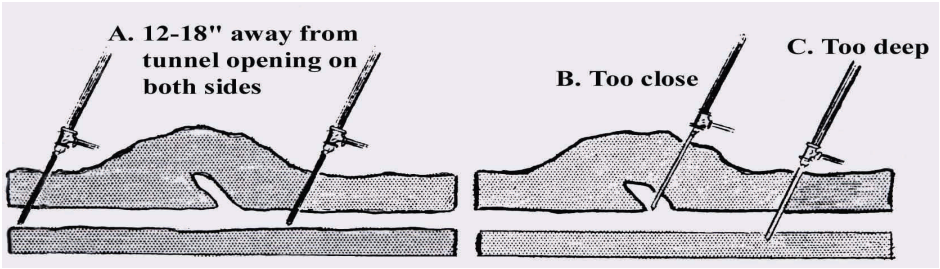


Figure 3. A) Correct application method requires that bait be placed on both sides of tunnel opening 12-18" away. B&C) Poor application methods encourage gophers to seal the burrow.

Stephen Vasquez is the University of California Cooperative Extension farm advisor for Fresno County. Roger Baldwin is the University of California IPM Wildlife Pest Management Advisor located at UC Kearney Agricultural Center in Parlier, CA.

Calendar of Events

Local Meetings and Events

San Joaquin Valley Grape Symposium
January 6, 2010
C.P.D.E.S Hall
172 Jefferson St.
Easton, CA
Contact: Stephen Vasquez (559) 456-7285
Register on-line at:
http://ucanr.org/2010_grape_symposium

6th International Table Grape Symposium
June 24-26, 2010 — Symposium
June 28-30, 2010 — Technical Tour

Contact: Stephen Vasquez or Jennifer Hashim-Buckey at 6thinttablegrapesymposium@gmail.com.
http://groups.ucanr.org/GoGrapes2010/

U.C. Davis University Extension Meetings

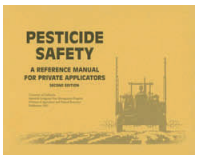
(800) 752-0881

Introduction to Wine Chemistry
January 16-17, 2010
8:30 a.m. — 4:30 p.m.
Da Vinci Building, 1632 Da Vinci Ct.
Davis, CA
Instructor: Michael Ramsey
Section: 093VIT210

Current Wine and Winegrape Research
February 18, 2010
9:00 a.m. — 4:00 p.m.
UC Davis: Freeborn Hall, North Quad
Davis, CA
Instructor: Deborah Golino
Section: 093VIT203

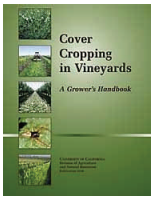
Varietal Wine Grape Production Short Course
February 23-25, 2010
8:30 a.m. — 6:00 p.m.
UC Davis: Freeborn Hall, North Quad
Davis, CA
Instructor: Faculty
Section: 093VIT200

Publications from the University of California



Pesticide Safety: A Reference Manual for Private Applicators
ANR Publication 3383
Price - $7.00 + tax and shipping

Updated in 2006, this manual covers information essential for anyone using pesticides on California farms, including growers, managers and employees. The manual covers pesticide labels, worker safety (handlers and fieldworkers), how to mix and apply pesticides, calibration, the hazards of pesticide use including heat related illness, and pesticide emergencies.



Cover Cropping In Vineyards
ANR Publication 3338
Price - $20.00 + tax and shipping

This guide features cutting-edge methods for using cover crops to enhance vineyard performance. Based on extensive research, this guide details technical and theoretical information on how cover crops affect vineyards and promote ecological stability.

Order Form

Publication	Qty.	Price	Subtotal
Pesticide Safety		$ 7.00	
Cover Cropping in Vineyards		$ 20.00	

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Fresno County

Please Join Us
Wednesday,
January 6, 2010

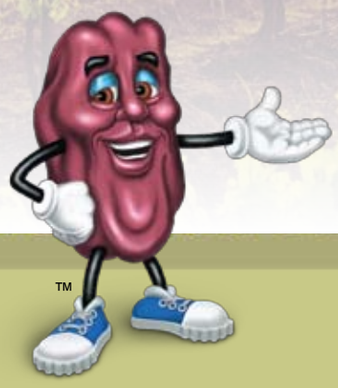
California Raisins™

SAN JOAQUIN VALLEY

Grape Symposium

Full-day conference attendees can enter drawing to win a John Deere™ TS Gator Utility-Style Quad, retail value $6000.*

** Must pre-register for symposium and be present at time of drawing.*



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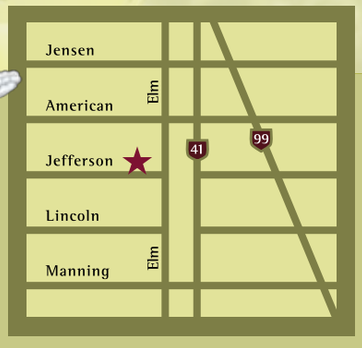
Fresno County

San Joaquin Valley Grape Symposium

WEDNESDAY, JANUARY 6, 2010



Meeting Agenda

7:00am	Registration and Refreshments
7:45	Morning Welcome
8:00	Presentation: Stephen Vasquez 2009 Powdery Mildew Challenges
8:30	Presentation: Kurt Hembree Spray Tips for Aiding Herbicide Performance
9:00	Presentation: David Ramming The USDA/ARS Raisin Grape Breeding Program
9:30	Break and Refreshments
10:00	Presentation: Health and Nutrition Research Update
10:30	Presentation: Marketing Activities Update
11:00	Presentation: Matthew Fidelibus Update on Grape Abscission Agent Research
11:30	Presentation: Mike McKenry Performance of Movento as a Nematicide
12:00pm	Lunch with Guest Speaker Paul Loeffler, KMJ Sports Announcer and Historian
1:30	Prize Drawing (Must be present to win)

Continuing education PCA and CCA hours have been requested.

Location: C.P.D.E.S. Hall
172 W. Jefferson Avenue
Easton, California

From North of Fresno:
Take Highway 99 South to Highway 41 south. Take Highway 41 south to American Avenue. Turn west on American Avenue towards Elm Avenue. Turn south on Elm Avenue towards Jefferson Avenue. CPDES Hall will be on your right.

From South of Fresno:
Take Highway 99 south to Manning Avenue. Turn west on Manning Avenue to Elm Avenue. Turn north on Elm Avenue towards Jefferson Avenue. Turn west on Jefferson Avenue. CPDES Hall will be on your right.

GUEST SPEAKER

PAUL LOEFFLER

Career Highlights
- Voice of Fresno State Baseball on KMJ (2001-present), called NCAA championship
- Voice of Fresno State Bassketball on KMJ (as of 2008-2009 season)
- Voice of Fresno State Football on KMJ (starting Fall 2009)
- Host of Hometown Heroes, Saturdays at 1 p.m. on KMJ (spotlighting WWII veterans)
- Author of book, *Underdogs to Wonderdogs*, on 2nd printing (wonderdogsbook.com)
- Frequent speaker and/or emcee for civic clubs, sports-related events, veterans events
- Co-Host/analyst for Scripps National Spelling Bee broadcasts on ABC/ESPN (2006-present)

Honors
- Edward R. Murrow Award, NorCal RTNDA Award for Best Series, Emmy nomination, Fresno County Farm Bureau Journalism Award, History Channel Community Historian Award, California Image Award from Native Daughters of the Golden West

Fun Facts
- Involved in church, loves spending time with family, plays pickup basketball and enjoys all sports rec reationally and once appeared on JEOPARDY! (1994)

Registration Form San Joaquin Valley Grape Symposium

Pre-register online at http://ucanr.org/2010_grape_symposium to be entered in the Gator drawing.

Company: _____

Phone: _____

Address: _____

City: _____ Zip: _____

Attendee Names:

_____

_____

_____

_____

_____

Mail Payment and registration to:
San Joaquin Valley Grape Symposium
1720 S. Maple Avenue, Fresno, CA 93702
559-456-7285

Make Checks Payable to: UC Regents
Late registration for, day of meeting:
$15 per person at the door.

Fees:

Registration and Payment Must be Received by December 31, 2009

Meeting/Proceedings and Lunch: _____ x $10 each = $_____

Check Number _____ Amount Enclosed $_____