

Dry Winter Weather Can Reduce Yields Stephen Vasquez and Matthew Fidelibus

To date (12/3/12), the San Joaquin Valley has only received 1.79 inches of precipitation this season (July 1 2012-June 30 2013). Last winter, 2011-2012, the San Joaquin Valley had poor rainfall too (1.57 inches) and in some vineyards this contributed to winter freeze damage, and stunted spring growth and poor to average yields in the following season (2012). To minimize the potential problems associated with dry soils over the winter, growers are strongly encouraged to irrigate their vineyards after harvest and through the winter if rainfall remains insignificant. A post-harvest irrigation helps the vine store carbohydrates for next season's crop, and prepare for winter dormancy. A mid-winter irrigation can help grapevines maintain moisture that can be lost through freezing and dry weather. Desiccation may injure canes, spurs and buds on older vines or entire trunks and cordons on young vines.

Winter Freeze Damage

This past season, several young vineyards experienced severe winter freeze damage due to dry soil conditions. Newly planted vines have small root systems and very limited permanent wood to store carbohydrates that act as an antifreeze. Winter freeze can also cause cracks that initiate the formation of galls caused by *Agrobacterium vitis* that can kill vines by disrupting the normal flow of solutes within the phloem and xylem.

Symptoms

Winter freeze damage will depend on the age of the wood. Older wood (5+ years) tends to be somewhat protected by the multiple layers of bark and its ability to store more carbohydrates. Younger grapevines tend to be the most susceptible.

Delayed Spring Growth

The past two springs, some California grape growers observed severe delayed spring growth (DSG), the symptoms of which include irregular and poor bud-break and low shoot vigor. Entire vineyards were affected. Many of the vineyards that displayed erratic growth patterns were Thompson Seedless, but other varieties were also affected. Much of what we know about this phenomenon is from comparing cultural practices (e.g. irrigation), nutrient analy-

In this Issue:

- Dry Winter Weather Can Reduce Yields
- Karen Ross Encourages UC Davis Students to Pursue Careers in Agriculture
- Grape Consumption Associated with Healthier Eating
- Agricultural Organizations Call on Congress to Pass 2012 Farm Bill
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Karen Ross Encourages UC Davis Students to Pursue Careers in Agriculture *John Stumbos*

Karen Ross, secretary of the California Department of Food and Agriculture (CDFA), sees a bright future in agriculture for young people contemplating career choices.

She met with a group of about 75 UC Davis students in November to encourage them to pursue career opportunities in agriculture and also to be effective communicators about the food system. Student leaders known as Aggie Ambassadors, who advocate on behalf of UC Davis' College of Agricultural and Environmental Sciences, hosted Ross as guest speaker during one of their regular meetings.

"As we grow enough food to feed nine billion people by the year 2050," she said, "we need every one of you to bring your creativity, your enthusiasm, your smarts, and your problem-solving skills that you're learning on this campus to agriculture. This whole food system needs you and needs your dedication."

Ross pointed to a wide diversity of job opportunities in agriculture both on and off the farm, such as specialists in irrigation and water use efficiency, in water quality, in air quality, and in labor. Entomologists, veterinarians, and other scientists are also needed to run CDFA's animal and food safety programs, as well as plant protection programs and inspection services. Opportunities also exist nationally and internationally with the likes of the U.S. Department of Agriculture's Agricultural Research Service and Foreign Agricultural Service.

One of the reasons Ross encourages students to consider public service is government lacks enough people who understand the complex biology of farming. "The lack of understanding of agriculture often creates well intended but negative impacts on the ability of farmers and ranchers to remain competitive," she said.

Ross, who was appointed CDFA secretary in January 2011 and has a long history representing agricultural organizations, stressed the importance of telling agriculture's story. "People do not know what agriculture is really about—and all the stuff that makes it work," she said. "And they don't have a true appreciation of what our productivity gains in agriculture have done for everyone else in this country and around the world."

In the 1950s one farmer produced enough food to feed less than 20 people, while today one farmer is responsible for food production to feed 155 people. She said those kinds of productivity gains came from land-grant institutions like UC Davis, the extension of information through Cooperative Extension, and the adaptability and resourcefulness of farmers and ranchers to make it work for their own biological system. The result is a low per capita cost of food of



Continued on Page 5

Grape Consumption Associated with Healthier Eating

In a new observational study presented today at the Academy of Nutrition and Dietetics Food and Nutrition Conference and Exposition (FNCE) in Philadelphia, PA, researchers looked at the association of grape consumption, in the non-alcoholic forms most commonly consumed - fresh grapes, raisins and 100% grape juice - with diet quality of a recent, nationally representative sample of U.S. children and adults. Their findings suggest that, among adults and children, consumption of grapes and grape products is associated with healthier dietary patterns and increased nutrient intake.

Researchers analyzed the diets of more than 21,800 children and adults using data from the 2003-2008 National Health and Nutrition Examination Surveys (NHANES) and found that consumers of grapes and grape products had increased intakes of total and whole fruit, as well as dietary fiber, calcium, magnesium, potassium and vitamins A, C, and B6, versus nonconsumers. Dietary fiber, calcium and potassium are especially important, as most Americans are currently not getting enough of these essential nutrients in their daily diets.

Adult grape and grape product consumers also had increased intakes of vegetables, whole grains, nuts and seeds along with lower intakes of total fat, saturated fat and cholesterol, versus nonconsumers.

"It is interesting to note that not only did grape consumers have increased intakes of healthy foods, critical vitamins and minerals," said presenter Carla McGill, Ph.D., "but grape consumers also ate less of the unhealthy foods, specifically solid fat and added sugars."

This new study complements an extensive body of research supporting the role grapes, raisins and 100% grape juice can play in a healthy lifestyle.

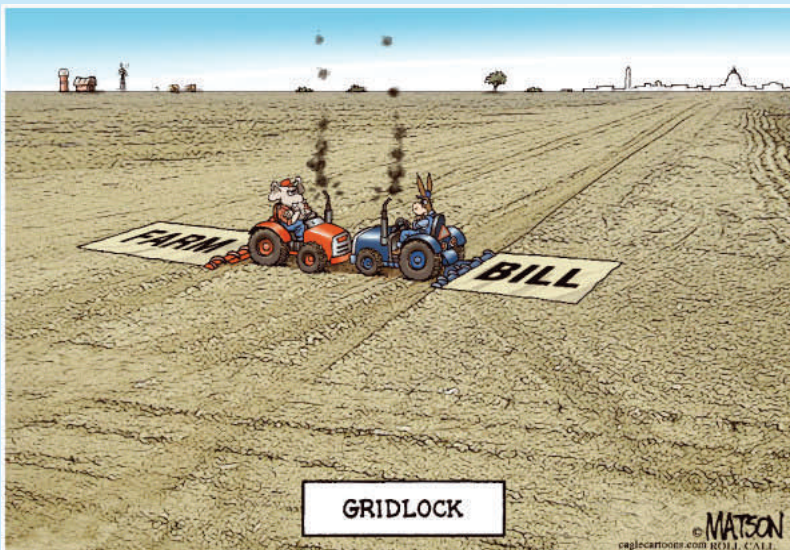
"It reinforces the association between grapes and a healthier diet, which is good news for consumers," said Jean-Mari Peltier, President of the National Grape and Wine Initiative (NGWI). "Grapes, raisins and 100% grape juice are all foods that people enjoy eating, and this information adds another dimension to the grape and health story." ▲



Agricultural Organizations Call on Congress to Pass Farm Bill

NGWI joined a broad coalition of 235 agriculture organizations signing on a letter which called on Congressional leadership to pass a new five-year farm bill to be signed into law by the end of the legislative session. Altogether, ten grape and wine groups were part of the effort to pass a full Farm Bill.

In a related action, NGWI president Jean-Mari Peltier outlined the negative impact of failure of Congress to act to renew the Farm Bill at a meeting of the California State Board of Food and Agriculture on November 6th. "A simple one-year extension will not renew important provisions of the 2008 Farm Bill," according to Peltier. "Key among these is the



Specialty Crop Research Initiative (SCRI), which has provided funding for game-changing grape research to combat drought, pests, and diseases."

Grape research has been a major beneficiary of SCRI, with projects addressing challenges across the United States.

Peltier also pointed out that the language adopted by the House of

Representatives (HR 6083) incorporates key changes sought by a broad coalition of specialty crop interests. That language would specify a two-step process for reviewing grant applications, including a review by the specific specialty crop industry to determine a proposed project's relevance and impact on the economy. "This provision would assure that in times of limited federal funding, the projects with the greatest industry impact would be funded."

Washington observers are split when asked about the likelihood of passage of a Farm Bill during the lame duck session. Some believe that a divided Congress will focus only on the issue of the "fiscal cliff" and sequestration. Others believe that the potential budget savings (\$23 billion in the Senate bill or \$35 billion with the House's measure) could attract Congressmen looking for budget cuts. Continuation of critical research to assure the competitiveness of the grape & wine industry awaits Congressional leadership. ▲

Careers in Agriculture

Continued from page 2

less than 12 percent of disposable income.

“It’s really important that we’re good communicators to help people understand how agriculture is relevant to their daily life,” she said.

Ross also acknowledged that increasingly people are asking hard questions about the food system. In response to a student question about genetically modified organisms she said that area stands out as an area in need of good communication and more scientists involved in educating the public.

“What people are yearning for is transparency in the food system because they feel disconnected from it,” she said. “We need a continuum of business practices and farming systems and choices for consumers, which creates choices for farmers and market channels they want. It’s critically important for us to not just try to drive us to one way or another but allow for that diversity which will give us resiliency in our food system.” ▲

John Stumbos is the Senior Writer for the College of Agriculture and Environmental Sciences, University of California, Davis.

Red Blotch Disease

At a recent meeting held at UC Davis titled “Current Issues in Vineyard Health”, a newly-discovered viral disease being expressed in California’s vineyards was discussed. Currently named ‘Red Blotch Disease’, its symptoms distinguish it from leafroll virus expression, as does its PCR fingerprint. Presently, the most complete information available on the disease can be found in a brochure developed by Jim Wolpert, Viticulture Extension Specialist, UC Davis and Mysore Sudarshana, Plant Pathologist, USDA-ARS, UC Davis.

If you experienced low soluble solids (Brix) or had lower than expected yields in 2012 that cannot be explained, you might want to learn more about Red Blotch Disease.

<http://ucanr.edu/red-blotch-disease-2012>

Dry Winter Weather *(Continued from page 1)*

sis, and site evaluation (e.g. soils and pests) in areas displaying DSG symptoms with non-symptomatic sites.

Symptoms

Symptoms of DSG vary in degrees of expression and at times may mimic other biotic (pest or disease) or abiotic (environmental) maladies. It is important to note that some of those maladies may also contribute to DSG depending on severity.

Water Stress: A Predisposing Factor of Delayed Spring Growth

Inadequate water after harvest and through the winter is thought to induce DSG. After fruit harvest grapevines continue to assimilate carbohydrates and mineral nutrients which are needed to maintain health during dormancy and new growth the following season. Post-harvest water stress can hinder those processes. Adequate soil moisture is also needed to rehydrate desiccated vine tissues in late winter, in preparation for bud break.

Normally after harvest a traditional flood-irrigated raisin vineyard has gone two months without water. Wine grape vineyards, depending on variety and harvest date, may also have long periods without being irrigated. Deciding when to irrigate a particular vineyard late season depends on many factors but soil type and vine vigor/health are probably most important. Sandy soils will be depleted of soil moisture much faster than finer textured soils, and vines may show symptoms of water stress while fruit matures or during the raisin drying process. Vineyards planted to finer textured soils may not show stress and often times do not need to be irrigated until later, when temperatures get cooler (October or November). This will prevent late season growth and encourage cane maturity.



Figure 1. Freeze damage and gall formation in grapes.

Symptoms of winter freeze include:

- Severe cracks in the trunk or cordons
- Dead cordon(s) or partial trunk death (Photo A)
- Discolored wood (xylem) (Photo B)
- Gall formation in trunk and/or condon(s) with some death (Photo C)

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Dry Winter Weather *(Continued from page 6)*

Factors that should be considered when making decisions on late season irrigations:

- Soil type and problems
- Trellis type and canopy size
- Rootstock type
- Vineyard age
- Pest pressure
- Time of last irrigation
- Climatic conditions post-harvest
- Climatic conditions during the winter

Poor winter rainfall can enhance DSG, especially if a post-harvest irrigation is not applied. A winter irrigation is strongly suggested when rainfall is less than an inch during the months of November and December. Note that mature vineyards planted to vigorous rootstocks and irrigated regularly tend not to experience dramatic wet and dry fluctuations and begin storing carbohydrates earlier, reducing water stress symptoms. Young vineyards (1-3 years) should be irrigated when winter rainfall is minimal regardless of soil type.

Summary

Probably the most important factor in causing winter freeze damage or DSG is water availability post-harvest and during the winter. Without available water during late summer, grapevines are unable to maintain a healthy canopy. This in turn hinders nutrient acquisition and photosynthetic activity, both needed for producing carbohydrate reserves in permanent wood structures used during dormant respiration and new growth the following season. When deciding on a post-harvest irrigation or fertilization, soil type, vine vigor and health, and time of year should be taken into consideration. Assuring that a portion (at least 1/3) of the soil profile is re-wetted by mid-November will also help to minimize the effects of cold damage. ▲

Stephen Vasquez is the viticulture farm advisor for Fresno and Madera Counties. Matthew Fidelibus is the viticulture specialist, UC Davis located at the UC Kearney Ag Center.

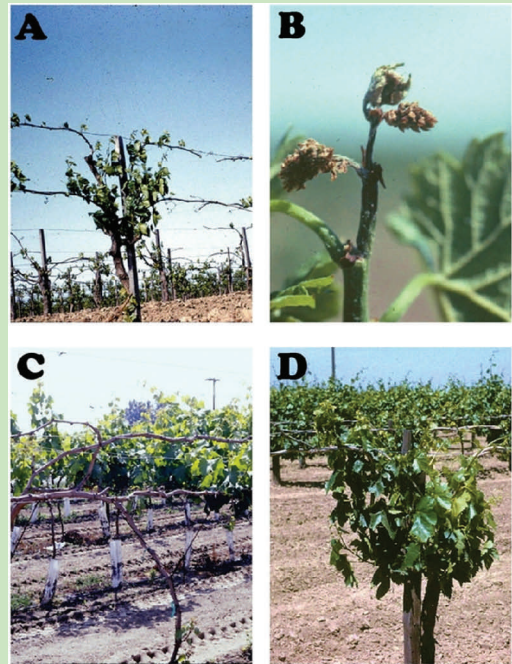


Figure 2. Delayed spring growth (DSG).

Symptoms of DSG include:

- Poor and uneven bud-break (Photo A)
- Stunted growth (Photo A)
- Smaller flower clusters or complete abortion of clusters (Photo B)
- Failure and ultimately death of individual buds (Photo C)
- Sucker growth at the base or head of the vine (Photo D)

Publications from the University of California

VINEYARD PEST IDENTIFICATION CARDS

Keep your vineyard healthy by staying on top of pest activity with this pack of 50 sturdy, pocket-size laminated cards. This is the perfect quick reference to identifying and monitoring vineyard diseases and pests. Twenty-seven common insects and mites, 8 diseases, 6 beneficial insects, and a variety of other disorders, weeds, and

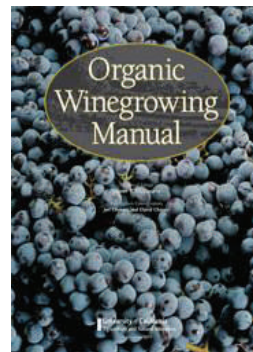


invertebrate pests are covered in 244 photos. These 50 information-rich cards will help growers, and

vineyard managers identify and manage most common problems. **See page 5 for special pricing.**

ORGANIC WINEGROWING MANUAL

Interest in California organic wine grape production inspired this publication that provides a full-color guide with information on soil management, including soil considerations when selecting a vineyard site, developing organic soil and fertility programs and selecting cover crops. An extensive section covering weed, disease, insect, mite, and vertebrate pest management options for organic grape production is covered. The chapter on organic certification contains an overview of considerations for evaluating and selecting a certifier.



ORDER FORM				
Publication	Number	Qty.	Price	Subtotal
Vineyard Pest Identification	3532		\$ 25.00	
Organic Winegrowing Manual	3511		\$ 35.00	

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CALENDAR OF EVENTS

Local Meetings and Events

San Joaquin Valley Grape Symposium

January 9, 2013

7:00 a.m. — 12:30 p.m.

C.P.D.E.S. Hall

172 W. Jefferson Avenue

Easton, California

(See flier)

Raisin Production and Marketing Symposium

January 23, 2013

7:00 a.m. — 1:30 p.m.

C.P.D.E.S. Hall

172 W. Jefferson Avenue

Easton, California

(See flier)

U.C. Davis University Extension Meetings (800) 752-0881

Managing the Small Vineyard I

February 9, 2013

9:00 a.m. — 4:00 p.m.

Room 180, Medical Science C, E Health Science Dr.

Davis, CA

Section: 123VIT205

Current Wine and Winegrape Research

February 21, 2013

9:00 a.m. — 5:30 p.m.

Freeborn Hall, North Quad

Davis, CA

Section: 123VIT203

Descriptive Analysis of White and Red Table Wines

March 23-24, 2013

9:00 a.m. — 4:00 p.m.

1632 Da Vinci Ct., Da Vinci Building

Davis, CA

Section: 123VIT206



7th International Table Grape Symposium

Attention table grape growers and attendees of the 6th International Table Grape Symposium, I am pleased to announce the

7th International Table Grape Symposium

will be held in Australia in early December 2013.

Persons interested in presenting a paper at the 7th International

Table Grape Symposium should

contact: David Oag

+61 427427517

david.oag@deedi.qld.gov.au

If you are interested in receiving more information as it becomes available please email me at:

sjvasquez@ucanr.edu

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Vine Lines

San Joaquin Valley Viticulture Issues

Vine Lines is produced by UC Cooperative Extension Farm Advisor Stephen J. Vasquez. Contact me for further article information, or to be added to the e-mail list.

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Our programs are open to all potential participants. Please contact the Fresno County UCCE office, (two weeks prior to the “scheduled” activity), at 559-600-7285, if you have any barriers to participation requiring any special accommodations.

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San Joaquin Valley Grape Symposium

Wednesday January 9, 2013

C.P.D.E.S. Hall

172 W. Jefferson Avenue - Easton, California



- 7:00 am** **Registration**
- 7:45 am** **Morning Welcome**
- 8:00 – 8:45 am** **Pierce's Disease: History, Symptoms, Vectors and Management**
Stephen Vasquez, UC Cooperative Extension, Fresno County
- 8:45 – 9:15 am** **Glassy-winged Sharpshooter Fresno County Management Program**
Fred Rinder, Fresno County Agricultural Commissioner's Office
- 9:15 – 9:45 am** **BREAK**
- 9:45 – 10:30 am** **The Effects of Winter Freeze on Xylem Phenolics-Cold Curing for PD**
Andrew Waterhouse, Department of Viticulture and Enology, UC Davis
- 10:30 – 11:15 am** **Breeding Salt Tolerant Rootstocks**
Kevin Fort, Department of Viticulture and Enology, UC Davis
- 11:15 – 12:00 am** **Vine Mealybug Identification and Management**
Walt Bentley, UC Kearney Ag Center
- 12:00pm** **LUNCH**
- 12:30 pm** **Industry Update**
Nat DiBuduo, President - Allied Grape Growers

Continuing education PCA and CCA hours have been requested.



Registration Form or Register online with a credit card at <http://ucanr.edu/sjvgrapesymposium>

(^{*}LATE REGISTRATION at the door — \$20.00)

Company:	<input type="text"/>	Attendee Names:	<input type="text"/>
Phone:	<input type="text"/>		<input type="text"/>
Address:	<input type="text"/>		<input type="text"/>
City:	<input type="text"/>	Zip:	<input type="text"/>

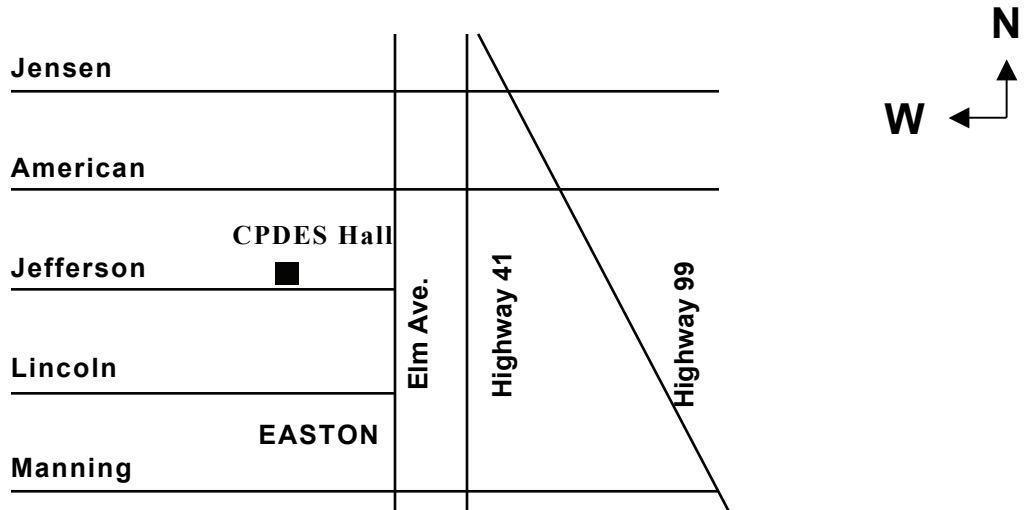
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Fresno, CA 93702

FEES: Registration and payments must be received by January 3, 2013 ^{*}
Meeting/Proceedings and Lunch: _____ x \$10 each = \$ _____
Check Number: _____ Amount Enclosed: \$ _____

San Joaquin Valley Grape Symposium Program

Wednesday, January 9, 2013

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. Turn west on Jefferson. C.P.D.E.S. 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. C.P.D.E.S. Hall will be on your right.

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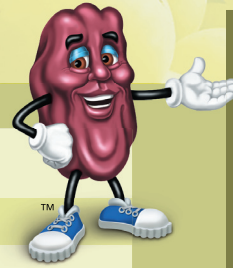


Raisin Production and Marketing Symposium

WEDNESDAY, JANUARY 23, 2013

Meeting Agenda

7:00am	Registration
7:45	Morning Welcome
8:00	Presentation: Sonet Van Zyl, CSU Fresno Raisin Production in South Africa
8:30	Presentation: Stephen Vasquez & Mathew Fidelibus, UCCE & UC Davis Raisin Production in Argentina
9:15	Presentation: Jeff McNeil, President, Market Makers Inc. California Raisins in Japan: A 50 History
10:00	Break and Refreshments
10:20	Presentation: James Painter, Eastern Illinois University Health & Nutrition Update
11:10	Presentation: Deborah Golino, Foundation Plant Services UC Davis Foundation Plant Services Role in the National Grapevine Importation Program
12:00pm	LUNCH Guest Speaker at 12:30pm
12:30pm	Guest Speaker: Sandy Schubert, Undersecretary of Agriculture, California
1:30	Prize Drawing (Must be present to win)



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

From North of Fresno:

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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.

Continuing education PCA and CCA hours have been requested.

Registration Form Raisin Production and Marketing Symposium

Pre-register online at <http://ucanr.edu/sjv-raisin-symposium> to be entered in the Prize drawing.

Company:

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City: Zip:

Attendee Names:

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1720 S. Maple Avenue, Fresno, CA 93702
559-600-7285

Make Checks Payable to : UC Regents
Late registration for, day of meeting.
\$20 per person at the door.



Fees:

Registration and Payments Must be Received by January 18, 2013

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

Check Number _____ Amount Enclosed \$_____

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Please Join Us
Wednesday,
January 23, 2013



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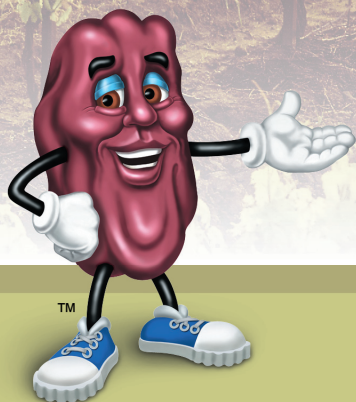
Raisin Production and Marketing Symposium



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