



January 2014

News from the UC Davis Postharvest Technology Center

**Quick Links**

- [Director's Update](#)
- [Postharvest Education @ UC Davis](#)
- [Featured Postharvest Bookstore Item](#)
- [Postharvest Positions](#)
- [Postharvest Giving](#)
- [Postharvest Specialists' Updates](#)
- [What's New on Our Website](#)
- [Postharvest Calendar](#)
- [Ask the Produce Docs](#)

**Director's Update**

**Scholarship available for the Postharvest Technology Short Course**

Applications are now being accepted for the 2014 Postharvest Technology Short Course scholarship. The scholarship covers registration for the two-week course and all expenses during the course. The evaluation committee will review all applications to select the individual who best fits the criteria for this scholarship.

The scholarship is funded primarily by an endowment created by the Leonard and Marseille Morris Trust. For further information and to apply, please visit our webpage

[http://postharvest.ucdavis.edu/Education/Scholarship\\_Opportunity-PHSC/](http://postharvest.ucdavis.edu/Education/Scholarship_Opportunity-PHSC/)

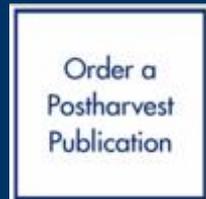
**Full House for Methods of Measuring Fruit & Vegetable Color, Flavor & Texture Workshop!**

We were excited there was such high interest in our Methods of Measuring Fruit & Vegetable Color, Flavor & Texture workshop this month. Participants came from many different segments of the produce industry who wanted to learn more about the principles of measuring color, flavor and texture. The interactive opportunity to see many new produce quality measuring tools from a variety of exhibitors was an added bonus for participants.

**Postharvest Physiologist Recruitment at UC Davis**

We are pleased to announce that the Department of Plant Sciences is recruiting for a Postharvest Physiologist to join the UC Davis Postharvest Group. The committee is particularly interested in applicants with a strong interest in research that benefits the produce industry and experience with modern biology tools. See further details below.

--*Beth Mitcham*



**Postharvest Education at UC Davis**



**20<sup>th</sup> Annual Fruit Ripening and Retail Handling Workshop to be held March 25-26, 2014**

We are now accepting enrollments for the March 25-26, 2014 "Fruit Ripening & Retail Handling" workshop which will be held at the UC Davis Alumni Center. The enrollment fee is \$795, and includes all instruction, demonstrations, course materials, coffee breaks, lunches and an evening networking reception. Topics will include ripening facilities and equipment, temperature management, ethylene inhibition and control, tools to control ripening and senescence, and more. We welcome you to join us at this workshop! To learn more, or to enroll, please visit

the [web page](#) or contact our Enrollment Coordinator, [Ms. Penny Stockdale](#).

### 36<sup>th</sup> Annual Postharvest Technology Short Course

Enrollments are also open for the June 16-27, 2014 Postharvest Technology of Horticultural Crops Short Course. The course provides a one or two-week intensive study of the biology and current technologies used for handling fruits, nuts, vegetables and ornamentals in California. The first week will be held at the UC Davis Conference Center and will include lectures and demonstrations on a broad spectrum of Postharvest Topics. The second (optional) week is a field tour visiting a variety of postharvest operations throughout California. The enrollment fee for the 1-week session is \$1975 and the enrollment fee for the 2-week session is \$2995 (plus additional required lodging fees). To learn more, please visit the [web page](#) or contact our Enrollment Coordinator, [Ms. Penny Stockdale](#).

[\[Back to Top\]](#)

## Featured Postharvest Bookstore Item

### 25% Discount on "Fruit Ripening & Ethylene Management" workshop binder

Through the end of February we are offering a 25% discount on our Fruit Ripening & Ethylene Management binder. This binder includes the information provided to participants in our annual Fruit Ripening & Retail Handling workshop, with specific information about ripening apples, avocados, bananas, kiwifruit, mangoes, melons, pears, peppers, stone fruit, and tomatoes, and de-greening of citrus, Link to [this page](#) for a complete table of contents and additional information about this useful publication.

We invite you to order a copy for your library today at our online bookstore using [this link](#) for shipments to U.S. addresses; for international shipping addresses, please use our [PDF Order Form](#), and note "25%Ripening".



### Produce Professional Certificate Program Resources Continue to Grow

The resources available to participants of the Produce Professional Certificate Program have grown by leaps-and-bounds this past year. This educational website now includes more than 180 PDF handouts, 80 videos of lectures, and 800+ quiz questions designed to help participants grasp the key learning points of each module. The registration fee for the Produce Professional Certificate Program is \$2500, and provides unlimited access to these online resources for 4 years. Participants must also enroll in a minimum of three campus-based workshops during the 4 year period to complete the required 120 points and earn the certificate. For more information, see the [web page](#), or contact [postharvest@ucdavis.edu](mailto:postharvest@ucdavis.edu).

[\[Back to Top\]](#)

## Postharvest Positions

### Postharvest Physiologist Position at UC Davis

UC Davis is recruiting a new Postharvest Physiologist at the Assistant to Associate level. We are especially looking for candidates who have experience with modern biology tools but also a strong foundation in postharvest biology and interest to research topics relevant to postharvest handling of horticultural crops. The successful candidate will establish a vigorous and dynamic research program as well as an innovative teaching program at both the undergraduate and graduate levels. The research will focus on postharvest biology of horticultural crops. It is expected that the research program will draw upon practical knowledge of postharvest processes and technology as well as upon related disciplines in genomics, plant pathogen interactions, biochemistry or plant developmental biology, especially in areas such as senescence or fruit ripening. An intended outcome of these discoveries will be identification of processes or traits that can be manipulated to improve postharvest handling strategies and ultimately postharvest quality of fruits, vegetables or ornamentals. The position is a 9-month tenure track appointment. This position will include an appointment in the Agricultural Experiment Station, which includes the responsibility to conduct research and outreach relevant to the mission of the California Agricultural Experiment Station.

A Ph.D. in plant biology, horticulture, biochemistry, genetics or related discipline is required, with experience and documented interest in postharvest plant biology. International experience is desirable. Candidates should begin the application process by registering online at <http://recruitments.plantsciences.ucdavis.edu> Please include statements

of research goals for this position and teaching philosophy, *curriculum vitae*, publication list, copies of 3 of your most important research publications, copies of undergraduate and graduate transcripts (if within 5 years of either degree), and the names, e-mail addresses, and telephone numbers of at least five professional references. For technical or administrative questions regarding the application process please email [kqeer@ucdavis.edu](mailto:kqeer@ucdavis.edu). Review of applications will begin April 1, 2014. The position will remain open until filled.

[\[Back to Top\]](#)

## Postharvest Giving



### With Thanks

We extend our sincere appreciation to the following individuals and companies who have recently contributed to the Postharvest Technology Center:

- Chao-Chia Huang
- Jim & Marilyn Lugg
- Galen D. Peiser, Ph.D. (in memory of Adel A. Kader, Ph.D.)
- Mauricio G. Rodriguez (in memory of Kiyoto Unu, Ph.D.)
- George & Claudia Wilson (in honor of Beth Mitcham, Ph.D.)
- Tropicales Fasip S.L.

See a complete listing of our [contributors](#), or make an [online gift](#) as an individual or on behalf of your company. All contributions are tax deductible within the U.S.

## Postharvest Specialists' Updates & Other News



### Suslow Lectures at University of Foggia

Dr. Trevor Suslow was invited to the University of Foggia to give lectures to the students of the Master program "Advanced Professional Skills in Convenience Products" on the topic "Fresh Cut Produce Safety: A Science-based Framework". He gave several lectures over a 4-day period during the third week of January 2014. See the [Facebook posting](#).

### Bruhn Reports on Student Sensory Experience

UC Davis students attending a Dept. of Food Science & Technology course were impressed by the quality of irradiated tropical fruit sampled as part of a discussion of the use of irradiation as a phytosanitary treatment. Students from Southeast Asia rushed through their final exam to be among the first to try rambutan from Vietnam, a fruit some said they hadn't had since leaving home. Others hurried to try dragon fruit from Vietnam and purple sweet potato from Hawaii. Students wanted to find the fruit in the supermarket so they could share the good taste with friends and family. Fruit was generously provided by Bill Gerlach from Melissa's World Variety Produce. Bruhn will participate on a further workshop on this topic at Chapman University in March. See linked information Postharvest Calendar below for details and an opportunity to register for the workshop.



--[Christine Bruhn](#)

### UC Davis represented in Keynote Speaker Lineup at Postharvest Unlimited Conference

Scheduled for June 10-13, 2014 in Cyprus, the Fifth International [Postharvest Unlimited](#) Conference is delighted to announce the following confirmed keynote speakers:

- Mondher Bouzayen, University of Toulouse, France
- Arnaud Bovy, University of Wageningen, Netherlands
- Carlos Crisosto, University of California, Davis
- Serge Deiot, Institut des Sciences de la Vigne
- Bart Nicolai, University of Leuven, Belgium
- Mario Pezzotti, University of Verona, Italy
- Graham Seymour, University of Nottingham, United Kingdom
- Leon Terry, Cranfield University, United Kingdom

- et du Vin, Villenave d'Ornon, France
- Ian Ferguson, Plant & Food Research, New Zealand
- M<sup>a</sup> Isabel Gil, Food Science & Technology Dept. at CEBAS-CSIC, Spain
- Susan Lurie, Volcani Center, Israel
- Beth Mitcham, University of California, Davis
- Peter Toivonen, Pacific Agri-Food Research Center, Summerland, Canada
- Pietro Tonutti, Sant' Anna School of Advanced Studies, Pisa, Italy
- Daniel Valero, University Miguel Hernández, Spain
- Ariel Vicente, University of La Plata, Argentina

### Citrus Postharvest Pest Control Meeting in Oxnard

Dr. Mary Lu Arpaia is organizing the 2014 Citrus Postharvest Pest Control Meeting, which will be held in Oxnard, California on April 1-2, 2014. This 1-½ day meeting focuses on postharvest pest control treatments with an emphasis on disease management and resistance management. Although citrus is emphasized, there are normally several talks on other fruit crops as well. For more information contact [Linda Coco](#).

### Crisosto Invited to National Mango Board Annual Meeting

Dr. Carlos Crisosto was an invited speaker at the November 18-19, 2013 National Mango Board's Annual Meeting. He spoke about "Developing a Minimum Quality Index for Mango."

### Mitcham attends Global Horticulture Initiative Board Meeting

Dr. Beth Mitcham attended the board meeting for the Global Horticulture Initiative at ISHS headquarters in Belgium in January followed by the Global Forum for Food and Agriculture meeting in Berlin, Germany.

[\[Back to Top\]](#)

## What's New on Our Website

### YouTube Channel Addition

An improved version of a popular 2008 webinar about Quality & Safety in California Strawberries, produced in partnership with the California Strawberry Commission, has been uploaded in [two parts](#) to our YouTube Channel.

### New this month in the "Postharvest Publications Organized by Topic" Library

*This extensive [free postharvest resource library](#) currently offers more than 1,900 articles on a wide variety of topics.*

#### *Apples*

Pesis, E., A. M. Ibáñez, M.L. Phy, E.J. Mitcham, S.E. Ebeler, A.M. Dandekar, [Superficial scald and bitter pit development in cold-stored transgenic apples suppressed for ethylene biosynthesis](#). Journal of Agricultural and Food Chemistry 57 (2009) 2786-2792

#### *Grape*

Selma, M.V., P.M. Freitas, L. Almela, R.González-Barrio, J.C. Espín, T. Suslow, F. Tomás-Barberán, M.I. Gil, [Ultraviolet-C and induced stilbenes control ochratoxigenic \*Aspergillus\* in grapes](#). Journal of Agricultural and Food Chemistry 56 (2008) 9990-9996

#### *Insect Control*

Mitcham, E., T. Martin, S. Zhou, [The mode of action of insecticidal controlled atmospheres](#). Bulletin of Entomological Research 96 (2006) 213-222

Tipping, C., V. Bikoba, G.J. Chander, E.J. Mitcham, [Efficacy of Silwet L-77 against several arthropod pests of table grape](#). Journal of Economic Entomology 96 (2003) 246-250

Zhou, S., R.S. Criddle, E.J. Mitcham, [Metabolic response of \*Platynota stultana\* pupae to controlled atmospheres and its relation to insect mortality response](#). Journal of Insect Physiology 46 (2000) 1375-1385

Zhou, S., R.S. Criddle, E.J. Mitcham, [Metabolic response of \*Platynota stultana\* pupae during and after extended exposure to elevated CO<sub>2</sub> and reduced O<sub>2</sub> atmospheres](#). Journal of Insect Physiology 47 (2001) 401-409

#### *Persimmon*

Monzon, M.E., B. Biasi, E.J. Mitcham, S. Wang, J. Tang, G.J. Hallman, [Effect of radiofrequency heating on the](#)

## Postharvest Calendar

- February 5-7, 2014. [Fruit Logistica](#). Berlin, Germany
- February 11-14, 2014. [Better Process Control School](#). UC Davis campus
- February 18, 2014. [Tomato Processing School](#). Sacramento, CA
- February 18-20, 2014. [GAPs, GMPs & HACCP Food Safety for the Fresh Produce Industry](#). Athens, GA
- March 25-26, 2014. [20<sup>th</sup> Annual Fruit Ripening & Retail Handling Workshop](#). UC Davis campus
- March 25-26, 2014. [Opportunities in Phytosanitary Irradiation for Fresh Produce Workshop](#). Chapman University, Orange, CA
- April 1-2, 2014. [Citrus Postharvest Pest Control Meeting](#). Oxnard, CA
- April 26-30, 2014. [Global Cold Chain Alliance Convention & Expo](#). San Diego, CA
- May 5-6, 2014. [Juice Processing Course](#). UC Davis Campus
- May 26-29, 2014. [The International Food Congress: Novel Approaches in Food Industry](#). Kusadasi, Turkey
- June 10-13, 2014. [V International Conference Postharvest Unlimited](#). Lemesos, Cyprus
- June 16-27, 2014. [36<sup>th</sup> Postharvest Technology of Horticultural Crops Short Course](#). UC Davis
- August 17-22, 2014. [XXIX International Horticultural Congress](#). Brisbane, Australia
- August 25-29, 2014. [Small-Scale Postharvest Horticultural Technologies Short Course & Study Tour](#). Bali, Indonesia
- September 16-18, 2014. [19<sup>th</sup> Fresh-cut Products: Maintaining Quality & Safety](#). UC Davis campus
- October 14-17, 2014. [Postharvest Technology Course](#). Wageningen, The Netherlands
- November 4-6, 2014. [2<sup>nd</sup> Annual Produce Safety Workshop](#). UC Davis campus

## Ask the Produce Docs

**Q.** We grow roses, and we are having serious problems with Botrytis developing after just 4 days in a vase. Could you recommend a postharvest treatment solution that would be effective? We are currently using Teldor®. (S.M.)

**A.** Botrytis is the most serious postharvest fungal problem in roses, and it appears you are running into a problem of a strain of Botrytis that is resistant to the Fenhexamid (Teldor®) fungicide.



The disease spreads by spores that are formed in the greenhouse on diseased material, often dead or dying prunings and other plant residue, so perhaps the most important control measure is good sanitation in the greenhouse. Don't leave any plant materials on the ground in the greenhouse, and immediately remove any infected stems or buds. A greenhouse fungicide regime that rotates among effective chemicals is also an important strategy. Postharvest dips are commonly used. If Teldor® is no longer effective, perhaps you should try a different fungicide? A couple of years ago we wrote a paper on the [use of low concentrations of sodium hypochlorite](#) which was very effective as a postharvest dip in preventing development of Botrytis in roses. I'd certainly test that as well. There is zero chance of the fungus developing resistance to sodium hypochlorite

--[Michael Reid](#)

## End Notes and Disclaimers

**Postharvest Questions.** If you have a perplexing postharvest question you'd like answered, please send it to [postharvest@ucdavis.edu](mailto:postharvest@ucdavis.edu), and we'll see if one of our specialists can help.

**Archived Items.** Link to a data store of all our previous "Ask the Produce Docs" questions, or link to [archived copies](#) of our monthly e-newsletter as PDF documents.

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