



November 2012

News from the UC Davis Postharvest Technology Center

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Director's Update



Reunited and Rediscovered!
UC Davis Reception at PMA's Fresh Summit was a Great Success!

We were very pleased with the great turnout for our October 27th reception at the PMA Fresh Summit International Convention in Anaheim. Thank you to those of you who took the time to join us for this reception, it was a pleasure to have the opportunity to visit with many of you.

The door prizes provided a fun highlight for the evening. Four nice jackets, several totes, and an assortment of college gear were given away in addition to the grand prize, a certificate giving the bearer a free enrollment in the Postharvest Technology Center's new "Produce Professional Certificate Program", a \$2,500 value!

We are very grateful to our sponsors who partnered with us to make this event possible. If you'd like to join us by sponsoring this event next year, please get in touch.

--[Beth Mitcham](#)

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Postharvest Workshops at UC Davis

Gearing Up for our 2013 Courses and Workshops



The staff of the UC Davis Postharvest Technology Center has been busy putting many details into place for the Center's 2013 educational programs. We recently had a group meeting to plan our upcoming activities.

2013 Courses and workshops will include the March 18-19 "Fruit

Ripening & Retail Handling” workshop, the June 17-28 “Postharvest Technology Short Course”, and the September 24-26 “Fresh-cut Products: Maintaining Quality & Safety” workshop.

We are also working on the final details of our “Produce Professional Certificate” Program which we plan to launch on January 1st. To learn more about this exciting new certificate opportunity, we invite you to visit the [web page](#).

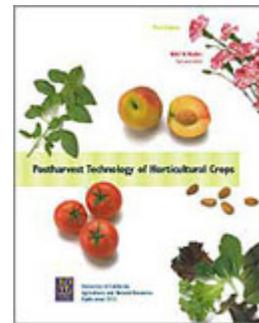
We hope you will set time aside on your calendar to attend these workshops. As soon as enrollments are open, they will be announced in this e-newsletter.

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Featured Postharvest Publication

November 25% Discount on “Postharvest Technology of Horticultural Crops”

The printed version of Postharvest Technology of Horticultural Crops is featured this month with a 25% discount. We invite you to order a copy for your library today. U.S. and Canadian addresses only please use our [online store](#), and international addresses please use our printed [order form](#). The discounted price (\$48.75/copy) for the printed version (English) is available through November 30th.



Need it quick? Traveling, and need it light? The famous [Postharvest Technology of Horticultural Crops](#) and its Spanish translation [Tecnología Postcosecha de Cultivos Hortofrutícolas](#) are still available for download via the University of California’s Division of Agricultural and Natural Resources. The downloaded digital version costs \$52/copy.

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Postharvest Endowment Contribution

Thank You to Boudjebel Dates

We wish to extend a grateful thank you to [Boudjebel S.A. VACPA](#) for their recent generous contribution to the Postharvest Endowment Fund in honor of Dr. Adel Kader. All contributions to either the endowment fund, or in support of scholarships for deserving individuals to attend our workshops or courses, are warmly welcomed.

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Postharvest Specialists Activities

Dr. Roberta Cook gives Talk at Biopesticide Industry Alliance (BPIA)

By Rick Melnick, BPIA PR Chair

Early in October, Cooperative Extension Specialist Dr. Roberta Cook told a record BPIA crowd that savvy produce marketers are entering a new age of opportunity with point-of-sale scan data. In her presentation surrounding trends and marketing implications in the produce industry, Cook said that sustainability goals are also becoming a much bigger factor in produce buyer-seller negotiations.

“Expect big changes in the next five years or so as packer-shippers will have more and better access to data surrounding their sales and product mix,” said Cook. She told attendees that chain retailers now account for about 2/3 of all grocery sales in the U.S., and that demands on produce suppliers to justify shelf space through analytics are also increasing.

While Cook stopped short of declaring incremental value exists at the consumer level for fruits and

vegetables produced with biopesticides, she emphasized that value for grower-shippers, and their buyer relationships, has already been established. “The business-to-consumer value may still be a ways off,” Cook said, “but for business-to-business, we’re already there.”

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What's New on Our Website



Postharvest Fact Sheets an Excellent Resource

One of the most viewed sections of our website, the [Produce Fact Sheets](#), include recommendations for maintaining the postharvest quality of 130 commodities. These pages are consistently organized into sub-categories of Maturity and Quality, Temperature and Controlled Atmosphere (CA), and Disorders. For most produce fact pages, there is a link to a photo album containing helpful pictures that illustrate the written material. The Produce Fact Sheets are available in English, Spanish, French, and Arabic.

New Additions to Postharvest Publications Organized by Topic Library

This library currently contains more than 1,500 postharvest articles and documents, organized by topic. It is searchable by title or author, and is one of the world's premiere sources of postharvest information.

Avocado

Mickelbart, Michael V., Paul W. Robinson, Guy Witney, Mary Lu Arpaia, [‘Hass avocado tree growth on four rootstocks in California. I. Yield and flowering](#). *Scientia Horticulturae*. 143 (2012) 184-188

Mickelbart, Michael V., Paul W. Robinson, Guy Witney, Mary Lu Arpaia, [‘Hass’ avocado tree growth on four rootstocks in California. II. Shoot root growth](#). *Scientia Horticulturae* 143 (2012) 205-210

Peach

Cano-Salazar, Jaime, Gemma Escheverría, Carlos H. Crisosto, Luisa Lopez, [Cold-storage potential of four yellow-fleshed peach cultivars defined by their volatile compounds emissions, standard quality parameters, and consumer acceptance](#). *Journal of Agricultural and Food Chemistry* 60 (2012) 1266-1282

Martínez-García, Pedro J., Dan E. Parfitt, Ebenezer A. Ogundiwin, Joseph Fass, Helen M. Chan, Riaz Ahmad, Susan Lurie, Abhaya Dandekar, Thomas M. Gradziel, Carlos H. Crisosto, [High density SNP mapping and QTL analysis for fruit quality characteristics in peach \(*Prunus persica* L.\)](#) *Tree Genetics & Genomes* (2012) DOI 10.1007/s11295-012-0522-7, 14 pgs.

Martínez-García, Pedro J., Cameron P. Peace, Dan E. Parfitt, Ebenezer A. Ogundiwin, Jonathan Fresnedo-Ramírez, Abhaya M. Dandekar, Thomas M. Gradziel, Carlos H. Crisosto, [Influence of year and genetic factors on chilling injury susceptibility in peach \(*Prunus persica* \(L.\) Batsch\)](#). *Euphytica* 185 (2012) 267-280

Pears

Elkins, R.B., E.J. Mitcham, W.V. Biasi, J. Abreu, J.M. Meyers, V. Duraj, J.A. Miles, D.J. Tejada, L. Asín, [Comparison of platform versus ladders for harvest in Northern California pear orchard](#). *Acta Hort* 909 (2011) 241-250

Physiological Disorders

de Freitas, Sergio Tonetto, Elizabeth J. Mitcham, [Factors involved in fruit calcium deficiency disorders](#). *Horticultural Reviews* 40 (2012) 107-146

Plum

Minas, Ioannis S., Gayle M. Crisosto, Deirdre Holcroft, Miltiadis Vasilakakis, Carlos H. Crisosto, [Postharvest handling of plums \(*Prunus salicina* Lindl.\) at 10°C to save energy and preserve fruit](#)

[quality using an innovative application system of 1-MCP](#). Postharvest Biology and Technology 76 (2013) 1-9

Spinach

Tudela, Juan A., Alicia Marin, Yolanda Garrido, Marita Cantwell, Maria S. Medina-Martínez, Maria I. Gil, [Off-odour development in modified atmosphere packaged baby spinach is an unresolved problem](#). Postharvest Biology and Technology 75 (2013) 75-85

Gutiérrez-Rodríguez, E., A. Gundersen, A.O. Sbodio, T.V. Suslow, [Variable agronomic practices, cultivar, strain source and initial contamination dose differentially affect survival of *Escherichia coli* on spinach](#). Journal of Applied Microbiology 112 (2011) 109-118

Tomato

de Freitas, Sergio T., Avtar K. Handa, Ginyu Wu, Sunghun Park, Elizabeth J. Mitcham, [Role of pectin methylesterases in cellular calcium distribution and blossom-end rot development in tomato fruit](#). The Plant Journal 71 (2012) 824-835

de Freitas, Sergio Tonetto, Cai-Zhong Jiang, Elizabeth Mitcham, [Mechanisms involved in calcium deficiency development in tomato fruit in response to gibberellins](#). Journal of Plant Growth Regulation 31 (2012) 221-234

Tomás-Callejas, Alejandro, Gabriela López-Velasco, Angeela M. Valadez, Adrian Sbodio, Francisco Artes-Hernández, Michelle D. Danyluk, Trevor V. Suslow, [Evaluation of current operating standards for chlorine dioxide in disinfection of dump tank and flue for fresh tomatoes](#). Journal of Food Protection 75 (2012) 304-313.

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Postharvest Positions

Junior Specialist – Innovative Small Scale Storage of Potatoes

Horticulture CRSP is seeking applications for the position of junior specialist, described at <http://hortcrsp.ucdavis.edu/main/jobs.html>.

Working with the International Potato Center, and funded by USAID/Bangladesh, the Horticulture CRSP project seeks to install and test a range of innovative systems for small-scale storage of potatoes in Bangladesh. The location of the project is in the southern regions of the country, which have been identified as targets for USAID's Feed the Future program in Bangladesh. The position is available from November 26, 2012; applications will be considered as they are received but must be received by November 7 to assure full consideration. Applications should include a current CV and a statement of interest in the position, and should be emailed to msreid@ucdavis.edu, with a copy to djpucetti@ucdavis.edu.

Driscoll's Seeking Organic Supply Manager

This position will maintain focus and momentum within Driscoll's in the pursuit to achieve the planned organic berry supply, and to see the opportunities in the future for expanding and improving the business. Primary responsibilities include co-authoring, publishing, communicating and supporting the achievement of Driscoll's 5-year Organic strategic supply plan. This position will be the company subject matter expert on organic production, overall company organic supply strategy and the organic berry industry. Must collaborate with key stakeholders in the creation of the strategic plan including Category Supply Managers, National Product Business Managers, the Market Group, R&D, Breeding, Nursery, General Managers (GMs), and all other appropriate Global, National and Regional staff. Communicate the plan to the entire company and break it down into regional components. Work across the organization to identify and prioritize gaps between planned supply and ability to deliver, either physically or economically, and strategize to find production solutions to close these gaps. Help the General Managers marshal appropriate company resources towards collaborative problem solving. Ensure grower regulatory compliance with all USDA National Organic Standards, California State Organic Program, and applicable international organic standards. A

Master's degree in agriculture or other horticulture science is preferred, and candidate must have over 8 years year-round, full-cycle production management in organic or sustainable agriculture. Must have expertise in computer modeling tools along with strong quantitative and analytical skills, as well as excellent inter-personal, writing, oral communication, and presentation skills. Conversational Spanish is strongly desired. Contact Maureen.Minnes@driscolls.com for more information.

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Postharvest Calendar

- November 18-23, 2012. [2012 International Citrus Congress](#). Valencia, Spain.
- November 25-28, 2012. [Postharvest Africa 2012](#): The 7th Technical Symposium of CIGR Section VI and 2nd International Conference on Postharvest Technology & Innovation. Stellenbosch, South Africa.
- February 6-8, 2013. [Fruit Logistica](#). Berlin, Germany
- March 18-19, 2013. [19th Annual Fruit Ripening & Retail Handling Workshop](#). UC Davis campus.
- April 23-24, 2013. [35th Annual Citrus Postharvest Pest Control meeting](#). Santa Barbara, California.
- April 28-May 2, 2013. [II International Symposium on Discovery and Development of Innovative Strategies for Postharvest Disease Management](#). Kusadasi, Turkey
- May 4, 2013. [IARW-WFLO Annual Convention and Expo](#). Hollywood, Florida
- June 3-7, 2013. [XI International Controlled and Modified Atmosphere Research Conference](#). Bari, Italy
- June 17-28, 2013. [35th Annual Postharvest Technology Short Course](#). UC Davis
- June 23-27, 2013. [VII International Cherry Symposium](#). Plasencia, Spain
- August 5-8, 2013. [International Symposium on Quality Management of Fruit and Vegetables for Human Health](#). Pattaya, Thailand
- August 19-21, 2013. [I International Symposium on Marketing and Consumer Research in Horticulture](#). Portland, Oregon
- September 2-5, 2013. [VI International Conference on Managing Quality in Chains MQIC 2013](#). Cranfield, United Kingdom
- September 17-19, 2013. [18th Annual Fresh-cut Products: Maintaining Quality & Safety Workshop](#). UC Davis campus
- June 10-13, 2014. [V International Conference Postharvest Unlimited](#). Lemesos, Cyprus
- June 16-27, 2014. [36th Postharvest Technology Short Course](#). UC Davis
- August 27-22, 2014. [XXIX International Horticultural Congress](#). Brisbane, Australia
- September 16-18, 2014. [19th Fresh-cut Products: Maintaining Quality & Safety](#). UC Davis

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Ask the Produce Docs

Q. I have a question. I have some skin markings on Brazilian Kent mango which arrived on a container with a closed vent. I am wondering if it is CO₂ injury? (M.O.)



A. Exposure of mangos to below 2% O₂ and/or above 8% CO₂ may induce skin discoloration, grayish flesh color, and off-flavor development. If the closed vent resulted in carbon dioxide levels above 8%, damage to the mangos may occur. However, it is important to note that skin markings can result from chilling injury (exposure to temperatures below 55°F) or other factors.

–[Adel Kader](#)

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Q. I am trying to test 'in vivo' the actions of several fungicides against 'Verticillium theobromae' in banana. To accomplish this it is necessary to have available a good inoculation technique. The bibliography I have found is scarce and not very clear. Do you know of any good resources? (J.H.)

A. Here are some resources that should provide you with the needed information:

Basic screening methodology:

C.L. Igeleke and D.K.G. Ayanru , 2007. Evaluation of fungicides on growth and conidial germination of *Verticillium theobromae* isolated from plantain. *Journal of Applied Sciences*, 7: 531-535.

This has in vivo methodology:

Sulali Anthony, Krishanthi Abeywickrama, Ranjith Dayananda, Shanthi Wijeratnam and Luxshmi Arambewela, Fungal pathogens associated with banana fruit in Sri Lanka, and their treatment with essential oils. *Mycopathologia*, Volume 157, Number 1, 91-97, DOI: 10.1023/B:MYCO.0000012226.95628.99

--[Trevor Suslow](#)

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- If you have a perplexing postharvest question that you'd like answered, please send it to postharvest@ucdavis.edu
 - Link to a data store of all our previous "[Ask the Produce Docs](#)" questions and answers, or link to archived copies of our [monthly E-Newsletters](#) as PDF documents.

This publication is produced monthly by the UC Davis Postharvest Technology Center. For more information visit our [website](#) or [email](#) us. If you, or a colleague, wish to receive a copy of this free monthly E-Newsletter, click [here to subscribe](#). If you no longer wish to receive this publication, please click on "reply" to this e-mail and type "unsubscribe" on the subject line.

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