



February 2012

## News from UC Davis Postharvest Technology Center

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### Director's Update



#### Postharvest Opportunities

For all of us associated with the Postharvest Technology Center, there have been many opportunities recently to impact the Postharvest Handling of Horticultural Crops, improving the quality of produce, and reducing losses. Through the work of many postharvest professionals around the world, progress is being made, but we still have a long way to go to effect significant improvement on many fronts.

Speaking of opportunities, we are very happy to announce that we are able to offer one scholarship to an individual from a developing country to attend the 2-week Postharvest Technology Short Course, scheduled this year from June 18-29, 2012. For complete information about requirements and to apply for this scholarship opportunity, see the web page: [http://postharvest.ucdavis.edu/Scholarship\\_Opportunity-2012PHSC/](http://postharvest.ucdavis.edu/Scholarship_Opportunity-2012PHSC/)

### Highlights

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We were saddened to hear of the recent death of F. Gordon Mitchell. My colleague, Adel Kader, wrote these remarks about Gordon's career and many contributions: "Gordon Mitchell was a founding member of the Postharvest Technology Program at UC Davis and a co-editor of the "Perishables Handling Newsletter" for more than 25 years. He worked collaboratively with colleagues from the Biological and Agricultural Engineering Department to produce the UC Davis Cooling Manual in 1972 and several updated editions during his career. He conducted excellent, mission-oriented research on optimal harvesting and handling of many fruits, including stone fruits, pears, apples, strawberries, and kiwifruits, that benefited the respective industries not only in California, but throughout the world. His extension program was exemplary and he was recognized internationally as a leader in postharvest biology and technology of fruits." A memorial service will be held at 1:00 p.m. on Saturday, March 3rd at the Lutheran Congregation Church at 1701 Russell Blvd., Davis, California.

--Beth Mitcham



## Postharvest Workshops at UC Davis

### 18<sup>th</sup> Annual Fruit Ripening & Retail Handling Workshop is Quickly Approaching!

We're excited about the March 27-28, 2012 Fruit Ripening & Retail Handling Workshop, organized by Dr. Carlos Crisosto. This two-day workshop is intended for shippers, fruit handlers (wholesale and retail), quality control personnel, and produce managers who are involved in handling and ripening fruits and fruit-vegetables. Lectures, group discussions, and hands-on demonstrations form the workshop, and topics include how to increase profits by developing ripening protocols, evaluating arrival condition, proper retail handling strategies to protect fruits and fruit-vegetables, and delivering ready-to-eat, good quality produce to the consumer.

This workshop's registration fee is \$750 which includes two days of lectures and labs, instructional materials, small group discussion, lunches, coffee breaks, and an evening networking reception. [Click here](#) to learn more about this workshop or link to our online enrollment form. Since spaces are filling quickly, we invite you to register soon.

We thank our sponsors for their support of this workshop: QA Supplies, Catalytic Generators, Summeripe, and Agrofresh!





### Excitement Builds for the Postharvest Technology of Horticultural Crops Short Course

Registrations are coming in quickly for the 34<sup>th</sup> Annual Postharvest Technology of Horticultural Crops Short Course, June 18-29, 2012. The course is a two-week intensive study of the biology and current technologies used for handling fruits, nuts, vegetables and ornamentals. It is designed for research and extension workers, quality control personnel, and other professionals interested in current advances in postharvest technology of horticultural crops. The fee for the lecture plus field tour option (2-week, limited to 55 participants) is \$2850; and the lecture-only option (1-week, open to 25 participants) is \$1850. This year we are also offering an all-inclusive package to include the course enrollment fee, airport transfers, hotel accommodations and a food allowance. For information about the all-inclusive package please contact [Penny Stockdale](#), our Registration Coordinator.

Course topics will include: maturity indices, measuring quality, handling systems, preparation for market, packinghouse facilities and equipment, packaging, containers, unitization, cooling, storage, managing ethylene, transport, sanitation and other procedures related to decay and insect control, food safety assurance, standardization and inspection, energy use, marketing, harvesting and postharvest handling systems for various commodity groups, and an overview of current postharvest research at UC Davis.

To learn more about the course, or to enroll, please link to the [webpage](#). Please note that lodging in Davis will be impacted by a large conference during the first week of the Postharvest Technology Short Course. We have reserved blocks of rooms at the Hallmark Inn, Best Western University Lodge, and the Comfort Suites. These blocks will only be held through May 14, and we encourage participants to make their lodging reservations as quickly as possible. Be sure to mention that you are with the "Postharvest Technology Short Course."

*Enrollments will open in the near future for:*

- Fresh-cut Products: Maintaining Quality & Safety Workshop, coordinated by Dr. Marita Cantwell, scheduled for September 18-20, 2012.

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Featured in the Postharvest Bookstore



### 20% Discount on Fresh-cut Products: Maintaining Quality & Safety Manual

Through the end of March, we're offering a 20% discount on the amazing Fresh-cut Products: Maintaining Quality & Safety publication. This resource is comprised of a large binder, three separately bound publications, and a flash drive containing dozens of supplementary documents. To order a copy for your library, please use our printable PDF [Order Form](#) and be sure to note "FCP20" to receive your discount.

Also, don't forget about our great [Postharvest Technology Center t-shirts](#), screen printed on 100% cotton! They're perfect for everyday casual wear, or a nice gift for a comfort-loving friend.

For a complete listing of all our publications see:

<http://postharvest.ucdavis.edu/bookstore/>. To order a copy of any of our titles for your library, please use our [Order Form](#).

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## Postharvest Specialist's Activities



### Suslow offers UCGAPs Practical Skill-Building for On-Farm Risk Assessments Workshops: April 2-3, 2012 - or- November 5-6, 2012

Dr. Trevor Suslow is offering two one-day workshops that will provide entry-level information for those businesses beginning to respond to the need to have a food safety management plan that addresses key risks and controls that prevent contamination. Growers, shippers, brokers, farm supervisors, and packinghouse managers will benefit from the development and improvement of skills in hazard identification and risk-based corrective actions that are essential to designing and implementing an on-farm safety plan.

There will also be a half-day optional "build your own on-farm food safety manual" session following each workshop. For more information, or to register, visit the [workshop's webpage](#), or contact Ms. Penny Stockdale at [pastockdale@ucdavis.edu](mailto:pastockdale@ucdavis.edu), or phone (530) 752-7672.



### European Fresh-cut Workshop in Berlin

Three members of the UC Davis Postharvest Technology Center participated in the 3 day 5th European Fresh-cut

workshop which was organized by Dr. Giancarlo Colelli and his team from the University of Foggia, Italy at [Fruit Logistica/FreshConex](#) in Berlin. It was co-sponsored by United Fresh Produce Association. UC Davis participants were Trevor Suslow, Adel Kader and Marita Cantwell. The topics covered were similar to those included in the UC Davis Fresh-cut workshop, scheduled to be held September 18-20, 2012, see <http://postharvest.ucdavis.edu/Education/FreshCut/>.

#### **Cantwell Invited Speaker at IFCO 2012 Milestone Event**

Dr. Marita Cantwell was an invited speaker at the IFCO 2012 Milestone Event, held February 13-14, 2012 in the Phoenix area. The group visited the RPC (reusable plastic container) manufacturing facility in the area, which was equipped with new robotics for the new designs of RPCs. IFCO recently bought CHEP and is making progress in developing reusable packaging and pallets for the fresh produce industry. About 10% of fresh produce in the U.S. is now shipped in RPCs. Dr. Cantwell gave a talk about postharvest physiology with emphasis on managing temperature and moisture loss.

#### **Fresh Market Potatoes Talk at Congreso Nacional de Papa**

Dr. Marita Cantwell was also a speaker at the Congreso Nacional de Papa (National Congress of Potato) held in Cd. Obregon, Mexico, Jan 19-21, 2012. There were representatives from Canada (exporting potato seed to Mexico) and the U.S. (exporting frozen potatoes; producing potatoes in Mexico) as well as Mexico. The event included an exposition, tour, and technical sessions. Dr. Cantwell gave an overview talk on postharvest handling considerations for fresh market potatoes.

#### **Announcing our Winners! Thanks for Giving us Your Feedback**

Congratulations to Doug Ensz and Sheila Benitez, whose names were drawn out of a basket from amongst all those who completed our opinion survey! They each won a \$250 certificate to use toward a future course offered by the Postharvest Technology Center.

Over the next few weeks, the UC Davis Postharvest Technology Center, working with Dr. Carlos Crisosto as the PI, will be using the information from the surveys as we explore developing a new condensed short course for 2012 that will look at "Emerging Postharvest Technologies for California Agriculture."

Although the contest is over, we'd still like to have your feedback. Please use the following link: [http://postharvest.ucdavis.edu/Education/Interest\\_Survey\\_-\\_Emerging\\_Postharvest\\_Technologies\\_for\\_California\\_Agriculture/](http://postharvest.ucdavis.edu/Education/Interest_Survey_-_Emerging_Postharvest_Technologies_for_California_Agriculture/)



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**What's New on Our Website**

### Ask the Produce Docs

We hear over-and-over again that our readers' favorite section of the UC Davis Postharvest Technology Center's e-newsletter is the "Ask the Produce Docs" feature. More than ten years of these questions and answers are available on our website, and completely searchable by topic, author, or date. Every month we add the new Q&A's to the list so they can serve as an ongoing helpful resource for our readers. If you ever have a question you'd like answered, we invite you to send it to us at [postharvest@ucdavis.edu](mailto:postharvest@ucdavis.edu), and we'll see if one of our Postharvest Specialists can answer it for you.



### New Additions to Postharvest Publications Organized by Topic Library

*The Postharvest Publications and Presentations Organized by Topic library currently contains more than 1,400 postharvest documents, organized by topic. It is searchable by title or author, and is one of the premiere sources of postharvest information.*

#### Produce Marketing, three new articles by Dr. Roberta Cook

- Cook, Roberta, [Eye on economics: Much more than dollars and cents, tracking consumption trends and buyer preferences](#). *Blueprints, The Produce Professionals' Quarterly Journal* Oct/Nov/Dec (2011): 86-90
- Cook, Roberta L., [Fundamental Forces Affecting U.S. Fresh Produce Growers and Marketers](#). *Choices* 26(4)(2011): 13 pp.
- Cook, Roberta L., [Fundamental forces affecting U.S. Fresh Berry and Lettuce/Leafy Green Subsectors](#). *Choices* 26(4)(2011): 5 pp.

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## Postharvest Positions

### AgroFresh Research Scientist Position

Located in the AgroFresh research lab in Davis, Calif., this Research Scientist position's duties will include performing plant pathological research on fruit, vegetable, and ornamental crops during the postharvest handling and storage time frame. Specific duties include: identification and culturing of fungal plant pathogens, optimizing inoculation of the various crops, collecting qualitative and quantitative data, and data handling and analysis. The candidate will be responsible for the daily operation of the laboratory, including compliance with laboratory safety protocols, conducting safety reviews, implementing and monitoring of experiments and managing the laboratory workspace. A B.S. or M.S. degree in Plant Pathology, Microbiology, Plant Biology, Postharvest Biology, or related field. For more information see: <https://dow.taleo.net/careersection/10060/jobdetail.ftl?job=1200465>

### Summer Job Opportunity

Summeripe has an opening for a Summer/Fall intern. The position would focus on controlling tree fruit ripening and quality assurance programs. This full-time position begins in mid-June and continues through the Fall. An Undergraduate or Graduate student in Horticulture & Agronomy, preferably with a background in Postharvest Technology, is desired. Send your cover letter and resume to [Mr. Charlie Lack](#).

### Produce Packing Manager

Farm Fresh to You is seeking a Spanish-speaking Farm Packing Manager at their Capay, California location. A Bachelor's degree, and one-to-two years' retail produce or agricultural experience is desirable. Position manages 60 employees in two packing areas, and is responsible for the overall direction, coordination and evaluation of these units. Position assigns workers to specific duties, establishes operational procedures for verification of incoming and outgoing shipments, handling and disposition of merchandise, maintaining inventory, safe use of mechanical washing and packing lines, establishes and executes routines for care and maintenance of cooling equipment, hydro-coolers, forced air coolers, and ice machines. For more information contact [noah@farmfresh toyou.com](mailto:noah@farmfresh toyou.com).

### R&D Senior Research Scientist

Sycamore Technical Recruiters is looking for a R&D Senior Scientist to lead the design and execution of vegetable research to support the development of new products and processes, line extension, brand maintenance, and operations/cost optimization. Projects will include significant innovations within the area of fresh to minimally or fully processed vegetables. Candidate will develop new or improved ways of harvesting, processing, packaging, storing, and delivering fresh vegetables, and will employ a strong understanding of consumer research and sensory testing and its application to product development. A PhD or MS degree in Food Science or related field is required, and 5-7 years' experience in the area of fruit and vegetable research. For more information contact [Mallory Howes](#).

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### Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- March 5-8, 2012. [2012 Florida Postharvest Horticulture Tour](#). Gainesville, FL.
- March 22-28, 2012. [VI Curso Internacional de Tecnología Postcosecha y Procesado Mínimo](#). Cartagena, Spain.
- March 27-28, 2012. [18th Annual Fruit Ripening & Retail Handling Workshop](#). UC Davis campus.
- April 2-3, 2012. [UC GAPs Practical Skill-Building for On-Farm Risk Assessments](#). UC Davis campus.
- April 2-3, 2012. [International Symposium on Mechanical Harvesting and Handling of Fruits and Nuts](#). Lake Alfred, FL.
- April 11-13, 2012. [Cold Chain Assessment and Audit](#). Georgia Tech Cold Chain Management Series. Atlanta, Georgia.
- April 21-26, 2012. [IARW-WFLO Annual Convention & Expo](#). Tucson, Arizona.
- May 1-3, 2012. [United Fresh Produce Association Convention](#). Dallas, Texas.
- May 21-25, 2012. [Post-Harvest Management and Value-added Agriculture International Conference](#). Jimma, Ethiopia.
- May 22-24, 2012. [Strategies for Successful Postharvest Handling of Fresh-Produce](#). Georgia Tech Cold Chain Management Series. Atlanta, Georgia.
- June 18-29, 2012. [34th Annual Postharvest Technology Short Course](#). UC Davis Campus, optional field tour.
- June 25-29, 2012. [7th International Postharvest Symposium](#). Kuala Lumpur, Malaysia.
- July 27-29, 2012. [PMA Food Service Conference and Exposition](#). Monterey, California.
- August 28-30, 2012. [Cold Chain Integration](#). Georgia Tech Cold Chain Management Series. Atlanta, Georgia.
- September 18-20, 2012. [17th Annual Fresh-cut Products: Maintaining Quality & Safety Workshop](#). UC Davis campus.
- October 15-19, 2012. [9th International Conference on Controlled Atmosphere and Fumigation in Stored Products](#). (CAF 2012). Antalya, Turkey.
- October 16-19, 2012. [X International Symposium on Postharvest Quality of Ornamental Plants](#). Porto de Galinhas, Pernambuco, Brazil. Contact Prof. Fernando Luiz Finger (55) 3138991128 or [ffinger@ufv.br](mailto:ffinger@ufv.br).
- October 26-29, 2012. [PMA Fresh Summit International Conference and Exposition](#). Anaheim, California.
- November 5-6, 2012. [UC GAPs Practical Skill-Building for On-Farm Risk Assessments](#). UC Davis campus.
- December 3-5, 2012. [Postharvest Africa 2012](#): The 7th Technical Symposium of CIGR Section VI and 2nd International Conference on Postharvest Technology & Innovation. Stellenbosch, South Africa.

## Ask the Produce Docs

**Q.** I've a question about postharvest handling of cherries. I need to know if the fungicide Rovral 4FLO have some reaction with sodium hypochlorite, because I'm thinking in use this mix (Rovral 4FLO 300 cc/hL + Sodium Hypochlorite 100 ppm). There is a problem with that? (L.T.A.)

**A.** To answer your question, I asked [Dr. Jim Adaskaveg](#), an expert in disease control and use of fungicides for produce. Following is his response.

"We have found that some fungicides are unaffected by sodium hypochlorite (e.g., fludioxonil, propiconazole, TBZ); whereas others are affected and degraded rapidly (e.g., pyrimethanil, imazalil). I have never tested iprodione but I am guessing that it is probably unstable. If it is degraded, the reaction is fairly quick. We measured residues of fungicide in a aqueous solution with and without 100 ppm sodium hypochlorite after a few hours. If the same amount is present then no degradation occurs. We then did efficacy trials with inoculated fruit using the same treatments to ensure the activity of the fungicide was not lost and that the solutions were not phytotoxic. This is published in Plant Disease 92: 261-269."

Iprodione is the chemical name for Rovral. It seems Dr. Adaskaveg feels it is not a good idea to mix Rovral with chlorine, however he has never tested it. He suggests that you could try making the mixture and then having the efficacy of the solution tested as compared to fungicide without chlorine. This will give you the final answer.

--[Beth Mitcham](#)

**Q.** I have a question about the pineapple article:  
<http://postharvest.ucdavis.edu/PFfruits/Pineapple/>

Some say that turning a pineapple upside down will help distribute the sugars in the pineapple. Is this true? (B.K.)

**A.** It has been shown that concentrations of sugars and organic acids vary among fruitlets and regions of the pineapple fruit. However, I do not know of any scientific evidence that sugars and organic acids (usually located as soluble solids in the cell vacuoles) move from one region to another region of the harvested pineapple fruit. --[Adel A. Kader](#)



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

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**Editorial Review:** Beth Mitcham

**Writing:** Mary Reed, Beth Mitcham, Marita Cantwell, Adel Kader

**Layout & Design:** Mary Reed

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