



# May 2008 News-UC Davis

## **POSTHARVEST TECHNOLOGY**

### Research & Information Center

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#### News from the Center

##### **Charting New Directions In Postharvest Biology & Technology**

This year marks the 30<sup>th</sup> offering of the annual UC Davis Postharvest Short Course and to celebrate this milestone a very special one day symposium entitled “Charting New Directions In Postharvest Biology & Technology” with three pivotal sessions has been planned.

Session 1 - The Consumer Produce Experience

Session 2 - Assuring Produce Buyer Confidence

Session 3 - Charting New Directions to Meet Postharvest Challenges and Opportunities

Symposium Speakers Include.

- James Truscott, Director of Sales & Marketing, Wild Rocket Foods, supply chain partner of Fresh & Easy (Tesco USA)
- Nick Tompkins, Chairman of the Board, APIO Inc.
- Nick Kukulian, President & CEO, Paramount Export Co.
- Dennis Gipson, Executive VP of the Cold Chain, Ingersoll Rand Climate Control Technologies
- Keri L. Morrelli, Technical Services Manager, APIO Inc.
- Robert Whitaker, Ph.D. Chief Science Officer, Produce Marketing Association
- Deirdre Holcroft Ph.D., Research & Development Manager, AgroFresh Inc.
- Patrick Brecht, Ph.D, President, P.E.B. Commodities Inc.
- Postharvest Technology Center Faculty members.

Registration and detailed information about this symposium to be held on *June 21, 2008* on the UC Davis campus may be found at: <http://postharvest.ucdavis.edu/announce/30thanniversary.shtml>

##### **Kader Retirement Dinner**

In addition to the U.C. Davis Postharvest Short Course 30th Anniversary Celebration and Symposium, on the evening of Saturday June 21, 2008 we will be celebrating the career, accomplishments and retirement from UC Davis of Dr. Adel Kader with a very special reception and dinner. Your RSVP is requested no later than May 30, 2008 and space is limited so early registration is encouraged.

An album of photos and personal greetings from Dr. Kader's friends and associates through the years is being prepared by Dr. Mary Lu Arpaia. Even if you cannot attend, you are welcome and encouraged to submit your

personal note or photo to be included in Dr. Kader's Retirement Album.

If you would like to contribute in making Adel's retirement dinner a very special event, please contact:

- Event Program Planning: Beth Mitcham [ejmitcham@ucdavis.edu](mailto:ejmitcham@ucdavis.edu)
- Event Financial and In-kind Contributions: Jim Gorny [jrgorny@ucdavis.edu](mailto:jrgorny@ucdavis.edu)
- Personal Reflections on Adel's Career: Mary Lu Arpaia [arpaia@ucdavis.edu](mailto:arpaia@ucdavis.edu)

Detailed information as well as the ability to RSVP and register for both of these events may be done by visiting the Center's secure on-line registration site by clicking on the respective event links at <http://postharvest.ucdavis.edu>.

Dr. Kader has requested that in lieu of gifts, contributions be made to the [Postharvest Program Endowment Fund](#).

We at the Postharvest Technology Research & Information Center look forward to meeting and celebrating these milestone events with you this June.

### **Class Registration Update**

Next Tuesday our [Fruit Ripening & Ethylene Management Workshop](#) will take place. For those who were interested but are not able to attend you'll be interested to know that we will be videotaping this course and offering it as a distance learning opportunity later this year.

We've confirmed several new guest speakers for the September 16-18 [Fresh-cut Products: Maintaining Quality and Safety Workshop](#). This course promises to be an excellent opportunity to get the latest information on Fresh-cut products from academic and industry leaders.

### **Outreach Having an Impact!**

UCD Postharvest Technology Center Members and associates were prominently featured in the Produce Business Perishable Pundit on two important produce industry issues; fruit ripening (Dennis Kihlstedt) and CA cantaloupe food safety (Trevor Suslow).

April 30, 2008: Pundit's Mailbag Ripening Lessons From The Trenches  
<http://www.perishablepundit.com/index.php?date=04/30/08#5>

May 2, 2008: Pundit's Mailbag – Cantaloupe Leaders Provide Roadmap To Safer Future  
<http://www.perishablepundit.com/index.php?date=5/2/08#5>

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## **What's New on our Website this Month**

### **Postharvest Library Update**

Now featuring over 700 articles and other postharvest documents, the "[Postharvest Publications Organized by Topic](#)" data store is one of the best resources for postharvest information. The following new articles were added last month:

- [Compilation of Research Citations on the Microbiological Safety and Risk Reduction Interventions for Fresh and Fresh-cut Melons](#) by Carol D'lima and Trevor Suslow. 46 pgs. April 2008.
- [Research: New Packaging Developed for Ripe Bartlett Pears](#) by David Slaughter and Jim Thompson. Good Fruit Grower. Vol. 57 No. 5 (2006)
- [Measuring Mold Infestation in Raw Tomato Juice](#) by S.J. Potts, D.C. Slaughter, and J.F. Thompson. Journal of Food Science 67:321-325 (2002)
- [Nondestructive Determination of Total and Soluble Solids in Fresh Prune Using near Infrared Spectroscopy](#) by D.C. Slaughter, J.F. Thompson, E.S. Tan. Postharvest Biology and Technology 28:437-444 (2003)
- [The Effect of Fungal Species on the Fluorescent Lectin Test](#) by S.J. Potts, J.F. Thompson, D.C. Slaughter. Journal of Microbiological Methods 46:187-191 (2001)

- [A Fluorescent Lectin Test for Mold in Raw Tomato Juice](#) by S.J. Potts, D.C. Slaughter, and J.F. Thompson. *Journal of Food Science* 65:346-350 (2000)
- [Harvest Mechanization Helps Agriculture Remain Competitive](#) by James F. Thompson and Steven C. Blank. *California Agriculture* May-June 2000: 51-56.
- [Maintaining Quality of Bulk-Handled, Unhulled Pistachio Nuts](#) by J.F. Thompson, T.R. Rumsey, M. Spinoglio. *Applied Engineering in Agriculture* 13:65-70 (1997)

An additional 19 articles by Jim Thompson on topics such as energy, transportation, cooling, and storage were added to our Library: [Postharvest Publications Organized by Topic](#).

We're pleased this month to let you know we completed the huge project of putting all of Michael Reid's papers on the web. We are grateful to the assistance of our hard-working student assistants who spent many hours scanning these still-useful documents so we can make them available for public use.

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## Postharvest Workshops @ UC Davis

Early registration is suggested to ensure a spot at these popular workshops.

- June 16-27, 2008. [Postharvest Technology Short Course](#) (30<sup>th</sup> Annual). UC Davis campus. Note: Just a few spots are left!
- June 21, 2008. [30<sup>th</sup> Anniversary Celebration & Postharvest Technology Symposium](#). UC Davis campus.
- September 16 – 18, 2008. [13<sup>th</sup> Annual Fresh-cut Products: Maintaining the Quality and Safety Workshop](#). UC Davis campus.

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## Postharvest Specialists' Activities

### Postharvest Technology Center Connects with the Produce Industry at United Fresh Expo

Numerous Postharvest Technology Research & Information Center members participated in events at the recent United Fresh Produce Association Annual Meeting and Expo May 4-8, 2008 in Las Vegas, Nevada.

- Invited Speaker: Dr. Roberta Cook was an invited speaker at the annual meeting and she gave a presentation entitled "Business Trends Creating New Produce Sales". Her presentation may be found at: [Produce Marketing Track- Business Trends Creating New Produce Sales Channels Part 1](#)
- Tree Crop Food Safety Initiative: The U.C. Davis Postharvest Technology Research & Information Center in collaboration with the Western Institute for Food Safety & Security co-sponsored a meeting of tree crop industry representatives and food safety researchers from around the United States to develop a list of prioritized food safety research objectives for the tree crop industry. Postharvest Technology Center members who participated in the meeting were Linda Harris, Adel Kader, Trevor Suslow and Jim Gorny. The group also compared high priority tree crop food safety research objectives with those from the leafy greens and tomato industries to explore development of common food safety research objectives.
- USDA S-294 Research Meeting: Jim Gorny and Mikal Salveit from U.C. Davis participated in the annual USDA S-294 research meeting held in conjunction with the United Fresh Annual Meeting and Expo. This consortium of land grant university and government researchers, have a common interest in postharvest quality and safety in fresh-cut vegetables and fruits. The group meets annually to report on ongoing research and facilitate collaboration on new research initiatives. A summary of research reports presented and meeting poster abstracts may be found on the web at <http://postharvest.ucdavis.edu/S294/index.shtm>
- United Fresh Food Safety & Technology Council: Jim Gorny and Bonnie Fernandez Executive Director of the U.C. Davis Center for Produce Safety participated in a meeting of over 70 members of the United

Fresh Produce Association's Food Safety and Technology Council, which is the largest technical body in the fresh produce industry today. Dr. Gorny was appointed to chair and lead the Council's new Education and Outreach workgroup which has been charged with identifying educational programs for the fresh and fresh-cut produce industry and facilitating outreach to those most likely to benefit. Four other workgroups (research, microbiology, audit benchmarking and standards harmonization) were also formed at this council meeting to address important produce industry specific issues.

### **USDA National Vegetable Crop Initiative**

This week over 60 leaders from the produce industry, government and academia met in Denver, Colorado to review a first draft of the National Vegetable Crop Initiative, which is a strategic research and extension plan for the vegetable crops industry under development by the USDA CSREES. Postharvest Technology Center Executive Director Jim Gorny has served on the steering committee which developed this initiative and provided an overview of the initiatives strategic goals and objectives regarding produce food safety. Also participating from UC Davis was Dr. Tim Hartz Faculty Director of the UC Davis Vegetable Research & Information Center. This plan will be used to inform the USDA REE process, state agencies and universities about challenges facing the vegetable crop industry.

### **Sensory Laboratory Opens at the U.C. Kearney Research & Extension Center**

Friday, April 18, 2008, saw the dedication of a new sensory research laboratory dedicated to understanding the complex issue of what sensory attributes make fruit appealing to consumers. This brand new world class sensory laboratory is located directly adjacent to the F. Gordon Mitchell Postharvest Laboratory at the UC Kearney Research & Extension Center. The laboratory, led by Dr. Mary Lu Arpaia, will be used by her and other UC scientists to measure, analyze and interpret human responses to produce items by sight, smell, touch, taste and hearing senses. Pre and postharvest treatments of numerous fruit crops grown in the central valley will be the subject of their investigations.

### **Fruit & Vegetable Health Claims Symposium A Success**

On May 15<sup>th</sup> the Robert Mondavi Institute (RMI) Center for Fruit & Vegetable Quality, in collaboration with the UC Davis Postharvest Technology Research & Information Center, hosted a one day symposium entitled "Fruit & Vegetable Health Claims – What, Why & How". The one day symposium on the UC Davis campus attracted more than 60 participants from industry, government and academia and focused on the various fruit and vegetable health and nutrition claims as well as clearly defining FDA's requirements for making specific claims. The symposium showcased the expertise available at UC Davis to carry out analysis of fruits and vegetables as well as the capabilities of USDA ARS facilities on campus to collaborate on human consumption studies to potentially substantiate health and nutrition claims.

### **Crisosto at Several Postharvest Venues**

On April 22<sup>nd</sup> Dr. Carlos Crisosto presented a half day session on Kiwifruit Postharvest Handling Update at the UC Kearny Agricultural Center in Parlier, California. He participated in the April 23<sup>rd</sup> Dry and Fresh Fig Day in Madera. On Tuesday 29<sup>th</sup> he instructed at the Tree Fruit Postharvest Update which was also held at the Kearney Agricultural Center.

Dr. Carlos Crisosto also traveled to Brussels from April 28-30 to participate in the ISAFRUT meeting. The primary topic of discussion was fruit quality issues.

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## **Featured Postharvest Publication**

We are pleased to feature our world-renown "Small-Scale" series this month. We are offering a 20% discount on any of our [small-scale titles](#), including "Postharvest Technology for Small-Scale Produce Marketers: Economic Opportunities, Quality and Food Safety" and "Small-Scale Postharvest Practices: A Manual for Horticultural Crops" (available in English, Spanish, French, and Arabic). To receive your 20% discount, please note "20% May Small-Scale Discount" on your [Order Form](#).

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## **Postharvest Positions**

## USDA CSREES National Program Leader

A qualified candidate is sought for: National Program Leader for Food Safety Microbiology (\$82k-\$107k). This position is open with CSREES and the National Research Initiative. The National Program Leader for Food Safety Microbiology will have complete responsibility for managing the NRI Food safety programs, including working with stakeholders to determine program priorities, oversight of the competitive peer review grant process and tracking progress of the grants awarded. The total budget for these programs is approximately \$10 million per year. This position is open to US citizens and is a permanent career federal appointment. The candidate selected to fill the position will be eligible for relocation support including reimbursement of real estate commissions and moving costs. A house hunting trip could also be included. Contact Mark Poth (Tel 202-401-5244) if you have any questions about the position or how to apply.

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## Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- May 20, 2008. [14<sup>th</sup> Annual Fruit Ripening and Ethylene Management Workshop](#). UC Davis campus.
- June 16-27, 2008. [Postharvest Technology Short Course - 30<sup>th</sup> Annual](#). UC Davis campus.
- June 21, 2008. [30<sup>th</sup> Anniversary Celebration & Postharvest Technology Symposium](#). UC Davis campus.
- June 21, 2008. [Retirement Dinner](#) for Dr. Adel Kader. UC Davis campus.
- August 11-14, 2008. [9<sup>th</sup> International Symposium on Postharvest of Ornamentals](#). Odense Conference Center.
- September 16-18, 2008. [13<sup>th</sup> Annual Fresh-cut Products: Maintaining the Quality and Safety Workshop](#). UC Davis campus.
- January 5-9, 2009. [Frutic Chile 2009](#). 8<sup>th</sup> Fruit, Nut, and Vegetable Production Engineering Symposium. Concepción, Chile
- April 4-7, 2009. [10<sup>th</sup> Controlled and Modified Atmosphere Research Conference](#). Antalya, Turkey.
- April 8-12, 2009. [6<sup>th</sup> International Postharvest Symposium](#). Antalya, Turkey.

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## Ask the Produce Docs

**Q:** I need some information about studies on pest control in Dry Fruits as we face infestation problems due high temperatures and humidity levels. Would you be able to provide us with a detailed study on pest control /fumigation of dry fruits to increase its shelf life? (R.M.)

**A:** Nuts and dried fruits can be damaged during storage by various stored-product insects. Infestation by insects can be minimized by use of good sanitation, fumigation with an approved chemical fumigant (such as phosphine and methyl bromide; fumigant concentration and treatment time depend on the insect), and physical protection against reinfestation. Irradiation (250 Gray to prevent insect reproduction or 750 Gray to kill the insects), heat treatments (50 to 60C for a duration that depends on temperature and the insect of concern), freezing (at -18C or lower for at least 48 hours), and controlled atmospheres (oxygen levels below 0.5% and/or carbon dioxide levels above 80%; balance nitrogen) provide alternative tools to chemical fumigation for insect control. Storage below 13°C will prevent insect feeding damage and reproduction. Storage at 5°C or below will control insect infestation. Packaging in insect-proof containers is highly recommended to avoid reinfestation.

The following link provides a list of books on postharvest insect control :

<http://postharvest.ucdavis.edu/Pubs/XIII.pdf>

I recommend that you consult one or more of these references (especially #15 and 16) for more details. –Adel Kader

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