



## December 2007 News - UC Davis

# POSTHARVEST TECHNOLOGY

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### Research & Information Center

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#### Season's Greetings from the Center

##### Season's Greetings & Happy New Year 2008

##### From The Postharvest Technology Research & Information Center at UCD

This is a season when many of us take stock of our past, while we also plan for the future. So, too, with the Postharvest Technology Research & Information Center's faculty and staff, who at year's end participated in a two day strategic planning session to improve our current offerings and prepare for the future. The Center faculty and staff remain firmly committed to our mission of using research and engagement with industry to reduce Postharvest losses and improve the quality, value, and safety of produce available to consumers.

Looking back, 2007 was a banner year for the Center with ever-increasing interest in the Center's short courses, workshops and growing Web site offerings, with some information available in several languages. The Center also took a significant step forward in August 2007 by hiring its first full time executive director to assist the Center in moving forward into the future.

Looking forward, in 2008 the Center has a number of special celebratory events that coincide with the 100<sup>th</sup> year anniversary celebration of the U.C. Davis Campus.

These events include:

- A [30<sup>th</sup> Anniversary Celebration](#) of the Postharvest Technology of Horticultural Crops Short Course. This one day celebration and symposium will be held from 9 a.m. – 5 p.m. on Saturday June 21, 2008 to celebrate 30 years of excellence in postharvest educational outreach and chart new directions that will assure the future continued preeminence of the postharvest program at U.C. Davis.
- A [Retirement Celebration](#) honoring the career and accomplishments of Dr. Adel Kader on Saturday evening June 21, 2008.

These events are in addition to the Center's regularly scheduled educational outreach events regarding the [Management of Ripening & Ethylene Control](#) (May '08), [Postharvest Technology Short Course](#) (June '08) and [Fresh-cut Produce Workshop](#) (September '08).

In 2008 we will also publicly launch an ambitious fund-raising campaign for the Postharvest Technology Research and Information Center's Postharvest [Endowment Fund](#), dedicated to assuring the quality of our programs, facilities, and level of support for students, research, and learning. The campaign will be launched at

the [30<sup>th</sup> Anniversary Celebration](#) of the Postharvest Technology Short Course in June 2008 and its goal is assist us in transforming our ability to provide knowledge regarding current advances in postharvest biology and technology to life-long learners.

We hope that each of you look to the New Year with confidence and enthusiasm for the journey ahead and we wish you all the best for a productive and happy 2008.

Jim Gorny, Ph.D.  
Executive Director

Jim Thompson  
Faculty Director  
UC Davis Postharvest Technology Research & Information Center

## What's New on our Website this Month

We continue to add valuable resources to our Web site, like six more **Ornamental Produce Facts in Spanish**. New this month are: [Ginger Roja](#), [Heliconias](#), [Orquídeas](#), [Protea](#), [Respiro de Bebé](#), and [Salal](#).

**Produce Facts in French** now include two new commodities: [Datte](#), and [Asperge Verte](#).

**Date Produce Facts Updates.** The “Rate of Respiration” and “Rates of Ethylene Production” information for [Date](#) has been changed in all four languages. This update reflects information gained during recent research.

The following new articles have been added to the “[Postharvest Publications Organized by Topic](#)” data store:

- [Effect of Gaseous Ozone and Hot Water on Microbial and Sensory Quality of Cantaloupe and Potential Transference of \*Escherichia coli\* O157:H7 during Cutting](#) by Maria V. Selma, Ana M. Ibáñez, Ana Allende, Marita Cantwell, Trevor Suslow. Food Microbiology 25:162-168 (2008)
- [Qualitative and Nutritional Differences in Processing Tomatoes Grown under Commercial Organic and Conventional Production Systems](#) by D.M. Barrett, C. Weakley, J.V. Diaz, and M. Watnik. Journal of Food Science 72(9): C441-C451 (2007)
- [Trends in the Marketing of Fresh Produce and Fresh-cut Products](#) a presentation by Dr. Roberta Cook. November 2007.

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## Postharvest Workshops @ UC Davis

Enrollments are NOW OPEN for our Spring and Summer 2008 Educational programs and special events:

- May 13, 2008. 14<sup>th</sup> [Annual Management of Ripening & Ethylene Control 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](#). UC Davis campus.
- September 16 – 18, 2008. 13<sup>th</sup> Annual Maintaining the Quality and Safety of Fresh-cut Produce Workshop. UC Davis campus.

### **Focus: Management of Ripening & Ethylene Control Workshop**

This workshop is scheduled for May 13, 2008 on the UC Davis campus will provide a balance of the latest information and practical technical tools for shippers, distributors and destination handlers (retail and food service), involved in ripening fruits such as bananas, mangos, pears, stone fruit, kiwifruit, and fruit-vegetables such as tomatoes and peppers. The workshop will focus on how to increase the marketability and profitability of these products by delivering ready-to-eat, delicious fruits and fruit-vegetables to consumers. The workshop will be taught by university researchers and industry professionals, and provide tremendous benefit to anyone involved in the fruit and vegetable industry. For more information or to register please link to the [Web page](#).

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## Postharvest Specialists' Activities

### **Cold Chain Management Workshops in India**

Drs. Adel A. Kader and Lisa Kitinoja recently served as instructors in a series of cold chain management workshops in India. The U.S. Trade and Development Agency (USTDA) is conducting a year long project including workshops in 4 major cities in India to encourage development of new postharvest technology investments and to strengthen the country's existing cold chain infrastructure. The objective of USTDA's cold chain project is to improve the handling of high value perishable produce and products, including those coming from the U.S., via activities to facilitate improvements in the management of the cold chain in India.

The program began in November 2007 with a series of workshops in India and provided state-of-the-art training to stakeholders in the Indian cold chain regarding proper post-harvest handling, food safety practices, cold storage and transportation of fresh fruits, vegetables and other perishable commodities. The first two workshops were attended by 50 participants each in Chennai and Mumbai and these will be followed by two more workshops in New Delhi and Calcutta (scheduled for early March 2008). Following the workshop series in India, a select group of workshop attendees will be brought to the United States for a study tour in 2008 to receive more specialized training.

The Peoples Group, Ltd (TPG), is responsible for the managing the project under contract with USTDA. The International Association of Refrigerated Warehouses/World Food Logistics Organization (IARW/WFLO) is designing and managing the Indian workshops with TPG. The U.S. study tour is being organized by Drs. Eric Thor and Phil Stiles of the Morrison School of Management and Agribusiness of Arizona State University.

Anyone in India who is interested in attending the March 2008 workshops in New Delhi or Calcutta can visit the website <http://usicca.org/usi/intro.htm> to find the complete three day Agenda and Application Form.

### **UCD PTRIC Provides Value-Added Expertise in Portugal**

Dr. Jim Gorny executive director of the UCD Postharvest Technology Research & Information Center (PTRIC) was an invited guest speaker at a "Postharvest and Minimal Processing of Fruits and Vegetables; Quality and Safety" short course offered December 3-5, 2007 in Lisbon, Portugal. At the three day short hosted by the Instituto Superior de Agronomia at the Universidade Técnica de Lisboa, Dr. Gorny discussed good agricultural practices employed in the USA that enhance the safety of fresh-cut produce and modified atmosphere packaging design for fresh-cut produce. He was also joined by ICPT (<http://postharvest.ucdavis.edu/icpt/index.shtml>) collaborator Dr. Luis Cisneros from Texas A&M University. The course attracted more than 65 participants from all sectors of the Portuguese produce and retail produce industry as well as undergraduate and graduate students from the Instituto Superior de Agronomia at the Universidade Técnica de Lisboa. The Postharvest Center wishes to express special thanks to Dr. Maria Luisa Beirão da Costa and Dr. Sara Beirão da Costa at the Instituto Superior de Agronomia whom served as conference organizers and hosts, for extending an invitation and financially supporting PTRIC's participation in this important event. "This was an excellent opportunity for PTRIC to collaborate with another leading institution to provide industry and future industry leaders with working knowledge regarding how to effectively handle and market, safe high quality value added produce" said Jim Gorny.

### **Vegetable Seed/Human Pathogen Interactions Addressed**

Dr. Trevor Suslow was an invited speaker at the Annual Plant Disease Seminar organized by Steven Koike, UCCE Farm Advisor, Monterey County. At the Salinas, Calif. Seminar in November 2007, Dr. Suslow presented an overview of research regarding the potential for vegetable seeds contaminated with human pathogens to serve as means by which edible portions of vegetables may be contaminated with human pathogens. He also addressed the issue of seed testing as a means to enhance produce food safety. A [PDF of this presentation](#) will be posted at the PTRIC website for one month.

### **Postharvest Center Provides Outreach to Small Farm Specialty Crop Growers**

New markets, new tools and new crops were showcased at the 2007 Specialty Crops Conference, organized by the University of California Small Farm Program. Dr. Jim Gorny executive director of the Postharvest Technology Research & Information Center at UC Davis, was an invited speaker at the conference on the critical topics of produce food safety and postharvest handling. Conference presentations also included discussions of enterprise screening tools, alternative marketing channels, planting based on market outlooks, and consumer preferences for colors and flavors led by farm advisors and staff of the UC Small Farm Program. For more information about the U.C. Small Farm Program go to: <http://sfc.ucdavis.edu>

## Leafy Greens Food Safety Research Priorities Report Available Online

In September 2007, the University of California–Davis Postharvest Technology Research & Information Center in collaboration with the United Fresh Produce Association, FDA, USDA-ARS and University of Florida IFIS co-convened the 1st International Lettuce and Leafy Greens Food Safety Research Symposium in the Washington, D.C. The final symposium report now [available on line](#) provides a prioritized list of lettuce and leafy greens food safety research priorities that were developed collaboratively by the more than 70 scientists who participated in the symposium. The two-day symposium focused on developing a common understanding of leafy greens food safety research priorities among all stakeholders to help ensure that limited research funds and efforts are devoted to the most critical research needs. As a follow up to the symposium, the United Fresh Produce Association recently shared the symposium report with panelists convened at the USDA’s Cooperative State Research, Education and Extension Service (CSREES) Plant and Pest Biology Stakeholders’ Workshop. “This is an excellent example of industry, academia and government collaboratively working together to identify and get answers to important and relevant produce related research questions that will benefit everyone from farmers to consumers” said Jim Gorny executive director of the UCD PTRIC.

## Dr. Suslow Appointed to the APS Public Policy Board

Congratulations to Dr. Trevor Suslow who was recently appointed to the American Phytopathological Society (APS) Public Policy Board in December 2007. The PPB provides scientific input on public policy issues to the society’s officers, federal policy makers and agency personnel, and works with other scientific organizations and coalitions to increase the awareness of the science of plant pathology. Dr. Suslow also recently addressed a plenary session of the 2007 APS Annual Meeting regarding “Plant Pathology: A key discipline for microbial food safety cross-talk”. This was an important event which brought APS members together with members of the food safety research community to discuss cross-domain bacteria (pathogens that infect plants and animals, including humans). Future PPB plans include working with the newly formed APS Food Safety Interest Group to create opportunities, via a national workshop, for synergism between plant pathology and food safety research communities. Dr. Suslow is working with PPB members to secure funding for a National Workshop on Food Safety to help define the roles that plant pathologists can play in research, detection/diagnostics and prevention of human food borne pathogens in the food. Workshop goals include setting research priorities, fostering cooperation among plant pathologists and food safety experts and identifying targeted research funding sources. For more information: [www.apsnet.org/members/ppb/](http://www.apsnet.org/members/ppb/)

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## Featured Postharvest Publication

We continue to feature our publication: **2007 Fresh-cut Products: Maintaining Quality & Safety Workshop Instructional Materials**. They are available for purchase from the UC Davis Postharvest Technology Research & Information Center for \$175.00. The 300 page binder includes lecture notes and demonstration materials with supporting in-depth background materials included on the CD for use whenever and wherever you need it. The instructional material portfolio also includes four supplemental stand-alone publications. To view the complete table of contents click [here](#), and to order a copy of this publication please use the UC Davis Postharvest Technology Research & Information Center’s [Order Form](#).

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## Postharvest Endowment

The Postharvest Technology Research & Information Center encourages you to become a Postharvest Endowment fund contributor, as proceeds from the Endowment Fund are used to keep the Center’s extensively viewed website refreshed with useful, practical and up-to-date postharvest information. We gratefully acknowledge the recent generous contribution from **Joan Rosen**. We invite contributors’ year-end tax-deductible (U.S.) donations to the Postharvest Program Endowment fund, and contributions may be made by visiting the [Postharvest Program Endowment](#) page.

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## Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- January 6-9, 2008. [International Symposium on the Application of Precision Agriculture for Fruits & Vegetables](#). Orlando, Florida.
- February 7-9, 2008. [Fruit Logistica](#). Berlin, Germany.
- February 12-15, 2008. [Better Process Control School](#). UC Davis campus.
- February 21-24, 2008. [BioFach 2008](#). Nuremberg, Germany.
- February 24-26, 2008. [California Small Farm Conference](#). Visalia, California.
- March 10-12, 2008. [European Short Course: Quality & Innovation of Fresh-cut Produce](#). Cordoba, Spain.
- March 19, 2008. RMI Center for Fruit and Vegetable Quality 2<sup>nd</sup> Symposium. UC Davis campus.
- May 5-7, 2008. [United Fresh Marketplace & United FreshTech](#). Las Vegas, Nevada.
- May 13, 2008. [14<sup>th</sup> Annual Management of Ripening and Ethylene Control Workshop](#). UC Davis campus.
- May 14-15, 2008. Aseptic Processing & Packaging Short Course. 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](#). UC Davis campus.
- June 21, 2008. [Retirement Celebration](#) for Dr. Adel Kader. UC Davis campus.
- August 11-14, 2008. [9<sup>th</sup> International Symposium on Postharvest of Ornamentals](#). Odense Conference Center.

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## Ask the Produce Docs

**Q:** I am horticultural student. I am searching for information about modified atmosphere packaging of pistachios. (M.D.)

**A:** Oxygen levels below 1% are very effective in delaying rancidity, staleness, and other deterioration symptoms of pistachios and other tree nuts. Packaging using vacuum or nitrogen flushing to reach such oxygen concentration is recommended to maintain quality of all tree nuts, including pistachio. Remember that maintaining optimal ranges of temperatures (0-10C) and relative humidity (55-65%) is far more important in preserving nut quality than modified atmospheres. --Adel A. Kader

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