



December 2008 News from UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

QUICK LINKS

- [News from the Center](#)
- [What's New on our Website](#)
- [Postharvest Workshops @ UC Davis](#)
- [Postharvest Specialists' Activities](#)
- [Featured Postharvest Publication](#)
- [Postharvest Positions](#)
- [Postharvest Calendar](#)
- [Ask the Produce Docs](#)

News from the Center

Season's Greetings & Happy New Year's 2009

From the Postharvest Technology Research & Information Center at UC Davis

Once again, we are enjoying this Holiday Season, and like many others have taken stock of our past and are planning for the future. The Postharvest Technology Research & Information Center's faculty and staff participated in a half-day strategic planning session to review our efforts for 2008, and to improve and prepare for the future. The Center [faculty](#) and [staff](#) remain firmly committed to our mission to improve the quality, safety and marketing of fresh horticultural products to enhance consumer health and wellness and industry sustainability.

Registration Now Open for 2009 Courses

Enrollment for two of the Center's most popular annual courses is now open for registration:

- [15th Fruit Ripening & Ethylene Management Workshop](#). Join us on April 28 – 29, 2009 for an expanded two day course on the UC Davis campus offering more interactive hands-on opportunities than ever before to learn about providing consumers with ripe, flavorful fruit.
- [31st Postharvest Technology Short Course](#). This keystone short course of the UC Davis Postharvest Technology Center provides participants with a comprehensive overview of current and emerging postharvest technologies. An optional 5 day field tour of a wide variety of cutting edge postharvest handling operations throughout California provides course participants with an opportunity to see theory learned in the first week of the short course put into practice.

2nd Produce Executive Forum Webinar: Produce Irradiation: Food Safety Solution?

We're almost half-full for our second Produce Executive Webinar Forum, "*Produce Irradiation: Food Safety Solution?*" scheduled for January 12, 2009: <http://postharvest.ucdavis.edu/Announce/executive-series.html>.

Everyone in the fresh produce industry is wondering if the silver bullet "kill step" to assure produce safety is irradiation?

- Is produce irradiation a viable, cost effective tool that can be used to enhance the safety of fresh produce?
- How effective is irradiation at eliminating human pathogens on produce and what are its effects on produce quality?
- Will consumers accept this new technology and what are the regulatory and operational issues associated with using this technology?

For answers to these questions and others you may wish to consider joining us for this upcoming webinar. The Center's first webinar "*Produce Microbial Pathogen Testing: Program Components & Considerations*" was well received with positive reviews and feedback coming in from the capacity audience. The webinar format is convenient, and provides cutting-edge information to busy produce industry professionals.

Fresh-cut Fundamentals Set for March 5, 2009 in Yuma, AZ

Our new *Fresh-cut Fundamentals* intensive one-day workshop is scheduled for Thursday, March 5, 2009 in Yuma, Arizona. Registrations are now open, including online registration at:

<http://postharvest.ucdavis.edu/Announce/Fundamentals.shtml>

The workshop curriculum will provide information regarding the underlying principles that govern fresh-cut produce quality, and also provide practical tools for application in the processing plant. The training is geared to all levels of fresh-cut produce industry professionals—from small, local and regional produce processors to large businesses with nationwide distribution. The workshop will be highly interactive and hands-on, with attendees sharing information and working in small groups throughout the day.

The program will be delivered by the following produce technical experts:

Marita Cantwell, Ph.D., UC Davis, Department of Plant Sciences

Jorge Fonseca, Ph.D., MBA, University of Arizona-Yuma Agricultural Center

Jim Gorny, Ph.D., UC Davis, Postharvest Technology Research & Information Center

Bill Hurst, Ph.D., University of Georgia, Food Science & Technology Department

Jim Thompson, P.E., UC Davis, Biological & Agricultural Engineering

Registration Continues for the Fresh Produce Marketing Strategies Short Course

Registrations continue to arrive for the limited seats available for the *Fresh Produce Marketing Strategies* short course scheduled for March 24-26, 2009. This course will be held in the Robert Mondavi Institute Sensory Theater, located on the UC Davis campus. The program has been developed for fresh produce industry managers and executives who are interested in improving their ability to develop and execute innovative fresh produce marketing strategies. Dr. Roberta Cook, Cooperative Extension Marketing Economist and course coordinator, has assembled a top notch list of presenters in the realm of produce marketing expertise. This course will be helpful for any produce executive grappling with buyer consolidation, channel blurring, and proliferating consumer desires and profiles. Assessing emerging marketplace complexities and adapting marketing tactics and strategies to current market realities will be the primary focal points of the course. Complete course information and on-line registration may be found at: <http://postharvest.ucdavis.edu/Announce/marketing.shtml>

Eight Days Left to make your 2008 Tax-Deductible Endowment Gifts

Thanks to those who have recently responded so generously to our request for year-end contributions to the [Postharvest Program Endowment](#) fund. The interest from this fund is truly making a notable difference in our Web site. Our [monthly page views](#) have increased an average of more than 50,000 views per month in the past year! We truly appreciate your assistance in helping us meet our 2008 goals. If you haven't done so already, please consider making a contribution today!

- We extend a grateful thank you to [Maglio & Company](#) for their contribution to the endowment. We will list our more recent contributors in our January E-Newsletter.

Info Sheets from the University of California's Division of Agriculture & Natural Resources

UC's ANR offers a wide variety of free peer-reviewed information sheets. Below, we list just a few:

8318 *Nutrition and Health Info Sheet: Catechins*

<http://anrcatalog.ucdavis.edu/Items/8318.aspx>

7221 *Artichoke Production in California*

<http://anrcatalog.ucdavis.edu/Items/7221.aspx>

7208 *Cabbage Production in California*

<http://anrcatalog.ucdavis.edu/Items/7208.aspx>

7226 *Carrot Production in California*

<http://anrcatalog.ucdavis.edu/Items/7226.aspx>

7220 *Celery Production in California*

<http://anrcatalog.ucdavis.edu/Items/7220.aspx>

What's New on our Website this Month

New Produce Facts in French

We appreciate the translation assistance of Hala Chahine, Hông Hoa Nguyen Huynh, Ait-Oubahou Ahmed, and Mostafa Laamim for their assistance in translating the following Produce Facts into French:

- [Pois](#)
- [Maïs doux](#)
- [Artichaut](#)
- [Raisin](#)
- [Persimon \(Kaki\)](#)
- [Citron](#)

Additions to the Postharvest Library

Now coded with a “(PPT)” at the end of the title, we have made it easier to find the PDF handouts available from presentations our specialists have made available on our “[Postharvest Publications Organized by Topic](#)” data store. (Hint: use the link above, and type “PPT” in the “Search Database” field.) New documents posted this month include

- **Electricity Use in Produce Coolers (PPT)**, by Jim Thompson. Presented at the California Asparagus Day (December 2008)
- **Produce Food Safety Update & Outlook (PPT)**, by Jim Gorny. Presented to the California Agricultural Commissioners. (December 2008)
- **Effects of Organic and Conventional Production Systems on Quality and Nutritional Parameters of Processing Tomatoes**, by Joy Rickman Pieper, and Diane M. Barrett. *Journal of the Science of Food & Agriculture* 89:177-194 (2008)

New Broccoli Harvest Video Link

A new video link detailing broccoli harvest in Australia was added to the Postharvest Technology Center's [video library](#). These videos are a handy way to learn more about the practices utilized by some of the top producers in the world.

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

Postharvest Workshops @ UC Davis

2009 Postharvest Workshops and Webinars

Registration is now open for the following UC Davis Postharvest Technology Research & Information Center Courses:

- [Fresh Produce Executive Forum Webinar Series](#): January 12, 2009. Session #2 – “Produce Irradiation: Food Safety Solution?”
- [Fresh-cut Fundamentals](#). March 5, 2009. Yuma, Arizona
- [Fresh Produce Marketing Strategies Short Course](#). March 24-26, 2009.
- [Fruit Ripening & Ethylene Management Workshop](#). April 28-29, 2009. UC Davis campus.
- [Postharvest Technology Short Course](#). June 15-26, 2009. UC Davis campus.

The following course will open registration in late February:

- Fresh-cut Products: Maintaining Quality & Safety. September 22-24, 2009. UC Davis campus.

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

Postharvest Specialists Activities

Postharvest Experts Participate in Indian Postharvest Short Course

Dr. Adel Kader and Dr. Beth Mitcham traveled to India as invited instructors and participated in teaching the Postharvest Technology, Cold Chain Management, and Food Safety Short Course sponsored by Amity

University between November 14 and 20, 2008. Dr. Kader and Dr. Mitcham presented 7 lectures each to the 80 public and private sector participants who came from the various Indian States.

Postharvest Expertise Provided in Japan

Dr. Marita Cantwell recently traveled to Japan to assess current postharvest handling practices and provide expert advice regarding means of reducing postharvest losses of perishable horticultural crops imported from the United States. This educational outreach project to one of California's major produce trading partners was sponsored by USDA Foreign Ag Service (FAS) and coordinated by Western Growers. Dr. Cantwell visited produce terminal markets and supermarkets in Tokyo and Nagoya and then met with importers and produce handlers to discuss current production and postharvest handling practices in California and Japan. She also discussed with key Japanese industry members, means of improving postharvest handling practices to assure consumer satisfaction with California grown produce in Japan.

Consumers Perceptions of New Food Technologies

Dr. Christine Bruhn was an invited speaker at the Innovative Applications of Nonthermal Technologies in Foods held November 19-22 held in Madrid, Spain. Dr. Bruhn addressed Consumer Perceptions of Non-Thermal Processing Technologies including Food Irradiation.

California Ag Commissioners Focus on Produce Food Safety

Dr. Jim Gorny was invited speaker at the California Agricultural Commissioners and Sealers Association 2008 Winter Conference, which was held December 8 – 12, 2008 in Sacramento, CA. An *Update on Food Safety Issues, other than Leafy Greens* was provided by Dr. Gorny and is available on the Postharvest Technology Center website at: <http://postharvest.ucdavis.edu/datastorefiles/234-1205.pdf> "This was an excellent opportunity to enlist the support of all of California's Agricultural Commissioners in ongoing efforts to enhance produce safety on the farm and bolster consumer confidence in the produce supply", said Dr. Gorny.

Saving on Postharvest Energy Use Discussed at Asparagus Day

Jim Thompson was an invited speaker at Asparagus Day in Stockton, CA where he discussed *Electricity Use in Produce Coolers*. Enhancing energy efficiency in postharvest pre-cooling and cold storage operations is a great opportunity for postharvest handling operators to reduce operating costs and demonstrate their commitment to sustainability. Jim Thompson's presentation is available on line on the Center's website at: <http://postharvest.ucdavis.edu/datastorefiles/234-1204.pdf>

Tomato Quality Addressed in Napa, Calif.

Dr. Diane M. Barrett attended the California Processing Tomato Conference in Napa on November 23-25, 2009. This invitation-only meeting was an informal gathering of the University of California Cooperative Extension Farm Advisors and Specialists, along with processing industry representatives and processing tomato growers.

Dr. Harris Presents at the University of Florida

On Tuesday, November 17th, [Dr. Linda J. Harris](#) spoke to the [Food Science and Human Nutrition Department](#) about *Salmonella* throughout history and its changing epidemiology. She discussed her research on *Salmonella* in the almond's production and processing environments to illustrate the ability of the organism to survive for long periods of time in the environment and its long-term survival and heat resistance in dried foods.

The following day, Dr. Harris gave a presentation to the newly established [Emerging Pathogens Institute](#). This institute brings together faculty from across the campus to work on emerging plant, human, and animal pathogens and issues related to food safety. Dr. Harris presented an overview of lettuce and leafy greens outbreaks and her current research on the survival of attenuated *Escherichia coli* O157:H7 in field-inoculated lettuce in a talk entitled, *E. coli O157:H7 and leafy greens: Lessons learned - Data gaps*.

On Friday, November 20th, Dr. Harris spoke to faculty, staff, and students at the [University of Florida's Citrus Research and Education Center](#). Her presentation entitled, *E. coli O157:H7 and Salmonella: Survival in the Produce Production Environment* was an overview of her lettuce and almond research. Dr. Harris has been collaborating with UFL faculty since 1996 on both research and extension projects surrounding the safety of fresh produce.

Dr. Crisosto offers Series of Presentations

On November 10, 2008, Dr. Carlos Crisosto gave a presentation at the Volcani Center in Israel on "Peach

chilling injury: Traditional and novel approach to understand the problem.” He gave a presentation to 80 people on November 12th, at Alexander University in Thessaloniki, Greece on the topic of the “Tree fruit industry in California.” At the December 3rd, University of California Cooperative Extension (UCCE) *Winter Tree Fruit Meeting* at Kearney Agriculture Center in Parlier, California, Dr. Crisosto’s topic was “Inking and skin discoloration of peaches and nectarines – its cause and control.”

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

Postharvest Positions

FDA CFSAN Seeks Senior Produce Food Safety Advisor

The U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition is currently recruiting for a Senior Advisor for Produce Safety (Vacancy Announcement: HHS-FDA-CFSAN-OFS01). This position will advise the Director of the Office of Food Safety on policies and programs involving the most complex and highest priority scientific matters affecting safety of fresh produce. This full time permanent position located in College Park, MD will report to the Director of the Office of Food Safety. Applications for this position are now being accepted until Friday, January 16, 2009. More detailed information about this position may be found at: <http://jobsearch.usajobs.gov> or by contacting Dana Ballou at Tel: 301.436.1698 or email: Dana.Ballou@fda.hhs.gov.

Post-doctoral Fellowship Opportunity in France

A postdoctoral position in molecular Plant-Virus interactions of stone fruit is available at INRA Bordeaux. The applicant will focus on the genetic analysis of the different resistance mechanisms identified in *Arabidopsis thaliana*. He/She will also take in charge the positional cloning of one of the rpv genes, ultimately allowing the identification of orthologs in *Prunus* cultivars for the development of new resistance strategies. The project is due to start early 2009. Applicants should have completed their PhD less than 5 years ago. A strong background in molecular biology, genetics and/or plant-virus interactions will be appreciated. Former experience in positional cloning is not required but would be appreciated. The position is available as early as possible for a period of one year, with the possibility to extend it to an extra year. Salary: 2 200 €/ month. For more information please contact Dr. Véro Decroocq (decroocq@bordeaux.inra.fr) Phone: (+33)(0)557122383 Fax:(+33)(0) 557122384.

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

Featured Postharvest Publication

Pear Production Publication Featured

This month we are offering a 20% discount for customers who order the “[Pear Production and Handling Manual](#)” by E.J. Mitcham and R. Elkins (2007) for their library. Please use our [Order Form](#), and be sure to note “*December Pear Discount*” on the order form to receive your discount.

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

Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- January 12, 2009. Webinar #2 “[Produce Irradiation: Food Safety Solution?](#)” in the series [Fresh Produce Executive Forum](#).
- January 5-9, 2009. [Frutic Chile 2009](#). 8th Fruit, Nut, and Vegetable Production Engineering Symposium. Concepción, Chile
- February 10-13, 2009. [Better Process Control School](#). UC Davis campus.
- March 5, 2009. [Fresh-cut Fundamentals](#). Yuma, Arizona.
- March 17, 2009. [Aseptic Packaging and Processing Course](#). UC Davis campus.
- March 24-26, 2009. [Fresh Produce Marketing Strategies Short Course](#). UC Davis campus.
- March 26 – April 1, 2009. [III International Course on Postharvest Technology and Minimal Processing of Fruits and Vegetables](#). Cartagena, Spain.
- April 4-7, 2009. [10th Controlled and Modified Atmosphere Research Conference](#). Antalya, Turkey.
- April 8-12, 2009. [6th International Postharvest Symposium](#). Antalya, Turkey.
- April 13-17, 2009. [Postharvest Technology Short Course for Enterprises in Developing & Emerging Economies](#). Antalya, Turkey

- April 14-16, 2009. **Center for Advanced Processing and Packaging Studies (CAPPS)**. UC Davis campus.
- April 28-29, 2009. [15th Annual Fruit Ripening & Ethylene Management Workshop](#). UC Davis campus.
- June 15-26, 2009. [31st Annual Postharvest Technology Short Course](#). UC Davis campus.
- June 21-25, 2009. [The 8th International Symposium on the Plant Hormone Ethylene](#) at Cornell University in Ithaca, New York.
- September 22-24, 2009. [Fresh-cut Products: Maintaining Quality & Safety](#). UC Davis campus.
- November 15-19, 2009. **Australasian Postharvest and Managing Quality in Chains Conference: “Postharvest Pacifica-Pathways to Quality”** Napier War Memorial Conference Centre, Napier.

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

Ask the Produce Docs

Q. I am working on the storage of mango under controlled temperature (10C) and humidity (85%). I have gotten a life of 34 days with good color and firmness. Unfortunately on some mangoes black spots appeared which have penetrated into the flesh by 3-5 mm. I think this is a problem with *Achaetomilla*, and would appreciate some suggestions from you. (A.R.K.)

A. It sounds like you are seeing the symptoms of anthracnose disease, caused by a fungus *Colletotrichum gleosporioides*. The fungus is especially a problem in humid growing regions where the infection begins in the field and then the symptoms develop after the fruit begins to ripen. This problem can be reduced by bagging fruit on the tree with a specialized paper bag to reduce spore load on the fruit, hot water treatment after harvest (50 to 53C for up to 5 minutes) or a combination of hot water with fungicide (imazalil) treatment.

You can find photos of anthracnose on mangoes on our Postharvest Technology website at the following link: http://postharvest.ucdavis.edu/Produce/Producefacts/Fruit/mango_graphics.shtml -- [Beth Mitcham](#)

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

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