



November 2008 News from UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

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News from the Center

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

Registration is now open 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 a silver bullet "kill step" to assure produce safety can be found. 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. As with the first webinar, the format is convenient and provides cutting-edge information to busy produce industry professionals.

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

The UC Davis Postharvest Technology Research & Information Center is pleased to announce a new addition to its portfolio of produce industry educational course offerings: *Fresh-cut Fundamentals*. The intensive one-day workshop scheduled for Thursday March 5, 2009 in Yuma, Arizona is now open for registration, including online registration at: <http://postharvest.ucdavis.edu/Announce/Fundamentals.shtml>

The workshop curriculum provides information regarding underlying principles that govern fresh-cut produce quality while providing practical tools for application in the processing plant. Operations, quality assurance, manufacturing and maintenance managers, as well as anyone interested in assuring the quality of fresh-cut produce would benefit from this workshop. 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 is designed to be highly interactive and hands-on, with attendees sharing information and working in small groups throughout the day.

The program was designed and will be delivered by produce technical experts, from three nationally recognized Universities:

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

“This workshop offers an opportunity for anyone working in the fresh-cut produce industry to arm themselves with tools they can use to monitor and control fresh-cut produce finished product quality and ultimately reduce operating costs” said Jim Gorny, workshop director. “With rising production costs and downward price pressures from buyers, finding operational efficiencies while maintaining product quality is imperative for any fresh-cut produce enterprise.”

Attendees may register for this and other upcoming educational outreach activities sponsored by the Postharvest Technology Research & Information Center via their website at <http://postharvest.ucdavis.edu> or by contacting Ms. Pam Devine, registration coordinator, at (530) 754-4326 or pwdevine@ucdavis.edu.

Fresh Produce Marketing Strategies Short Course Registrations Continue

Registrations continue apace for the limited seats available for our new short course “*Fresh Produce Marketing Strategies*,” scheduled for March 24-26, 2009. This short course will be held in the Robert Mondavi Institute Sensory Theater, located on the UC Davis campus. The program is aimed at 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 veritable “who’s who” of produce marketing expertise. This course is a “must attend” event for any produce executive grappling with buyer consolidation, channel blurring, and proliferating consumer desires and profiles. Enhancing your ability to assess emerging marketplace complexities and adapt your enterprises marketing tactics and strategies to current market realities is what this short course is all about. Complete course information and on-line registration may be found at: <http://postharvest.ucdavis.edu/Announce/marketing.shtml>

Six More Weeks to Make your 2008 Tax-Deductible Endowment Gifts

We invite you to make a generous, and tax deductible, year-end contribution to the [Postharvest Program Endowment](#) fund, the interest from which is used to support our vibrant Web site activity. We appreciate your assistance in helping us beat the \$35,000 shortfall in our 2008 goal. Please make a contribution today!

UC Postharvest Activities Featured in the *Leaflet*

The activities and research endeavors of the various faculty associated with the Postharvest Technology Research and Information Center were highlighted in the recently published Autumn 2008 *Leaflet*, a semiannual newsletter from the Dept. of Plant Sciences. You can download a copy of the article in its entirety at: <http://postharvest.ucdavis.edu/datastorefiles/234-1201.pdf> This issue of *The Leaflet* also featured a very nice article describing the accomplishments and ongoing activities of Dr. Adel Kader who recently retired from UC Davis. Dr. Kader is still actively engaged in postharvest technology issues via the Postharvest Technology Center and the California Citrus Quality Council to name just a few of his ongoing activities.

National Vegetable Crop Initiative Strategic Plan Now Available Online

The goals and objectives of National Vegetable Crop Initiative (NVCI), which was collaboratively developed over the last two years by industry, academia and government, are now available on line at: <http://www.new-farm.com/nvci.html> The NVCI mission is “to enhance the sustainability of the U.S. vegetable industry and its capacity to provide a safe supply of high quality, desirable and highly nutritious vegetables that improves the health of all consumers” by identifying and prioritizing necessary research. Postharvest Technology Center executive director Jim Gorny has served on the steering committee which developed this initiative. The NVCI is one in a series of strategic plans that have been developed collaboratively for various specialty crops sectors including the National Berry Crop Initiative <http://www.nationalberrycrops.org/> and the Tree Fruit Technology Roadmap. The objectives identified in these strategic plans are used by the U.S. Department of Agriculture’s Cooperative State Research, Education and Extension Service to guide researchers to stakeholders’ needs when developing requests for proposal through the agencies competitive grants program.

UC Davis Center for Produce Safety Awards Research Grants

The Center for Produce Safety at UC Davis recently announced the recipients of its first research awards aimed at providing the produce industry with the best science available to enhance food safety systems from field to fork. Postharvest Technology Center members Dr. Trevor Suslow and Dr. Jim Gorny currently serve on the Center for Produce Safety’s Technical Committee whose responsible it is to develop proposal RFA’s and to conduct proposal review. Over \$500,000 in research funds were awarded to the following recipients who will engage in critical research projects over the next year.

- "A Sensitive and Specific Molecular Testing Method for Live Salmonella in Produce", Principal Investigator: Beilei Ge, Louisiana State University.
- "Enhancing the effectiveness of human pathogen testing systems for the advancement of practical produce safety research and commercial management" Principal Investigator: Carol D'lima, University of California, Davis.
- "Environmental effects on the growth or survival of stress-adapted *Escherichia coli* 015:H7 and *Salmonella spp.* in compost", Principal Investigator: Xiuping Jiang, Clemson University.
- "Examination of the survival and internalization of *E.coli* on spinach under field production environments", Principal Investigator: Steven T. Koike, University of California Cooperative Extension.

More information about the UC Davis Center for Produce Safety may be found at:

<http://www.cps.ucdavis.edu/cps/> or contact Bonnie Fernandez at bfernandez@cps.ucdavis.edu to find out how you can get involved in the activities of the Center for Produce Safety.

New Zealand's HortResearch and Crop & Food Research To Merge

HortResearch, one of the world's leading postharvest technology research institutions, will merge on December 1, 2008 with New Zealand's Crop & Food Research into a new Crown Research Institute to be henceforth known as The New Zealand Institute for Plant and Food Research Limited. The merger will combine the two institutions knowledge and expertise in the areas of sustainable production, elite genetics and smart breeding, and food and health. HortResearch currently has 541 staff and revenue of \$65 million and is a world leader in integrated fruit research, responsible for a range of successful cultivars including the ZESPRI™ GOLD Kiwifruit and ENZA JAZZ™ apple. Crop & Food Research currently has 380 staff and revenue of \$56 million. Its key research focus is engaging with industry in producing and transforming high-quality raw materials into high-value foods. For more information: <http://www.hortresearch.co.nz/>

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What's New on our Website this Month

Small-Scale Postharvest Practices Publication now Available On-Line in Afrikaans, Indonesian, Khmer, and Vietnamese! This popular postharvest manual provides extensive information about reducing postharvest losses and maintaining the quality and safety of a wide variety of crops between harvest and consumption. Written and edited by Dr. Lisa Kitinoja and Dr. Adel A. Kader, this publication is a must have for anyone working with small scale produce farmers or handlers. It is now available for download free of charge online in these four languages.

- [Kleinskaalse Na-oes Hanteringspraktyke: 'n Handleiding vir Hortologiese Produkte](#) (Afrikaans)
- [Praktik-praktik Penanganan Pascapanen Skala Kecil: Manual untuk Produk Hortikultura](#) (Indonesian)
- [Small-Scale Postharvest Practices: A Manual for Horticultural Crops](#) (Khmer)
- [KỸ THUẬT XỬ LÝ VÀ BẢO QUẢN SAU THU HOẠCH MÔ NHỎ: TÀI LIỆU KỸ THUẬT CHO RAU QUẢ VÀ HOA CÂY CẢNH](#) (Vietnamese)

New Produce Facts in French

A warm thank you to Elian-Simplice Yaganza, Marie Thérèse Charles, Hala Chahine, and Caroline Lafond for their assistance in translating the following Produce Facts into French:

- [Oignon: Sec](#)
- [Oignon: verts](#)
- [Aubergine](#)
- [Poire: 'Anjou', 'Bosc' et 'Comice'](#)
- [Poire: Bartlett](#)
- [Pomme de terre, primeur](#)
- [Le tournesol](#)
- [La myrtille](#)

Two Additions to the Postharvest Library

Our specialists added the following new articles to our "[Postharvest Publications Organized by Topic](#)" data

store this month:

- **Development of ChillPeach Genomic Tools and Identification of Cold-Responsive Genes in Peach Fruit** by Ebenezer A. Ogundiwin, Cristina Martí, Javier Forment, Clara Pons, Antonio Granell, Thomas M. Gradziel, Cameron P. Peace, Carlos H. Crisosto. *Plant Molecular Biology* 68:379-397 (2008)
- **Refractometer Calibration, Use and Maintenance** by Stephen Vasquez and Shannon Mueller. University of California Cooperative Extension, Fresno County (2008)

New Video Links Added

Five new videos links detailing harvest and postharvest handling systems for the following crops have been added to the Postharvest Technology Center's video library: California romaine lettuce (heart and whole head) harvesting; automated cabbage harvest; artichoke harvest and spinach harvest. To view these, and all our other video links, go to: <http://postharvest.ucdavis.edu/Pubs/video-library.shtml> Check it out!!!!!!

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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?” [To learn More about this Workshop and to Enroll On-Line.](#)
- [Fresh-cut Fundamentals](#). March 5, 2009. Yuma, Arizona
- [Fresh Produce Marketing Strategies Short Course](#). March 24-26, 2009.

The following courses will open registration over the next few months:

- Fruit Ripening & Ethylene Management Workshop. April 28-29, 2009. UC Davis campus.
- Postharvest Technology Short Course. June 15-26, 2009. UC Davis campus.
- Fresh-cut Products: Maintaining Quality & Safety. September 15-17, 2009. UC Davis campus.

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Postharvest Specialists' Activities

Scholarship Students attend PMA Fresh Summit in Florida

Dr. Roberta Cook mentored four UC Davis Pack scholarship students at the PMA Fresh Summit in Orlando, Florida, giving them a fantastic opportunity to explore and become aware of job opportunities in the fresh produce industry. The PMA Foundation for Industry Talent (FIT), sponsors this program as part of its mission to attract, develop and retain new talent in the fresh produce industry. Fresh Summit took place from October 23-27.

Conservation and Production of Peaches Topic in Spain

Dr. Carlos Crisosto was an invited speaker in Mollerussa, Spain, presenting information on the evolving production and conservation problems facing the peach industry. He attended the XIII Jornada Frutícola (IRTA) on October 22-23. His peach expertise based in the high-production, and similar climate, regions of California permitted him to offer useful insights to the challenges Spain is currently facing.

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Featured Postharvest Publication

Grape Publications Featured

This month we are offering a 20% discount for customers who order any of our grape publications:

- [Harvesting and Handling California Table Grapes for Market](#)
- [Sulfur Dioxide Fumigation of Table Grapes](#)

- [Packaging California Table Grapes](#)

To order a copy for your library, please use our [Order Form](#), and be sure to note “*November Grape Discount*” on the order form.

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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 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.

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Ask the Produce Docs

Q. I recently encountered a quality issue with bananas held in a low oxygen controlled atmosphere during sea transit in a reefer container. Due to an air compressor failure, hydrocarbons produced from burned lubricating oil were injected into the compartment. I am interested in knowing if these hydrocarbons could affect the ripening of the bananas, similar to the effects of ethylene. (N.S.)

A. Yes, hydrocarbons such as from exhaust fumes or in this case "burned lubricating oil" can and will mimic the effects of the plant ripening hormone ethylene, which is, in and of itself, a simple hydrocarbon molecule. In fact in developing countries acetylene is sometimes used as a substitute for the ripening gas ethylene as it is often readily available at welding supply outlets. Ethylene is the most powerful hydrocarbon gas that promotes fruit ripening and other hydrocarbon analogs (i.e. similar type of hydrocarbons) are less efficient and must be used at higher concentrations than ethylene to get the same effect. However, banana ripening can be accelerated by parts per million levels of ethylene in the atmosphere around them. – [Jim Gorny](#)

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