



October 2008 News - UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

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News from the Center

Fresh Produce Microbial Pathogen Testing Webinar Set for November 20th, 2008

Starting November 20, 2008 you can keep up-to-date and current on various hot topic produce issues without ever leaving the comfort of your office. In our continuing effort to reduce postharvest losses and enhance the quality, safety and marketability horticultural crops, the UC Davis Postharvest Technology Research & Information Center is proud to announce the first in a series of new Produce Executive Forum webinars.

Produce Microbial Pathogen Testing: Program Components & Considerations

Microbial testing has become increasingly used in the fresh produce industry as a means of assuring the safety of fresh produce. How effective produce microbial testing is at enhancing the safety of fresh produce depends on many factors and considerations. Understanding what these key factors and considerations are and how they can most effectively be managed to design and implement a microbial pathogen testing program that makes sense for your enterprise is what this webinar is all about.

Who should participate: produce growers, shippers, packers, fresh-cut processors, distributors, retailers and food service operators. This webinar is intended to provide valuable information to food safety, quality assurance, operations and business management produce executives to allow them to make informed business decisions regarding produce microbial pathogen testing.

When: November 20, 2008 10:00 am Pacific Time / 1:00 pm Eastern Time

Duration: Approximately 90 minutes with an opportunity for participant questions and answers after each topic.

What Microbial Pathogen Testing Can and Can't Do

James R. Gorny, Ph.D. UC Davis

Key Factors & Considerations in Designing a Produce Pathogen Testing Program

Trevor V. Suslow, Ph.D. UC Davis

Legal & Regulatory Considerations of a Produce Pathogen Testing Program

Leslie Krasny, Keller & Heckman LLP

More detailed information about the UC Davis Fresh Produce Executive Forum Webinar Series: including on-line registration for the November 20, 2008 webinar on Fresh Produce Microbial Pathogen Testing: Program Components & Considerations may be found at: <http://postharvest.ucdavis.edu/Announce/executive-series.html>

Fresh Produce Marketing Strategies Short Course Premieres at UC Davis

The UC Davis Postharvest Technology Research & Information Center is proud to announce a new addition to its portfolio of produce industry educational course offerings: *Fresh Produce Marketing Strategies*. The three-day short course scheduled for March 24-26, 2009 will take place on the UC Davis Campus in the newly dedicated Robert Mondavi Institute Sensory Theater and is now open for registration, including online registration at: <http://postharvest.ucdavis.edu/Announce/marketing.shtml>

The program designed and delivered by Dr. Roberta Cook and other produce industry marketing leaders 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. The short course will focus on assisting participants in developing strategic thinking skills and developing fresh produce marketing strategies within real-world budget constraints. The program will include case studies and practical hands on examples presented by both UC Davis agricultural economists and fresh produce industry marketing leaders. Current up-to-date produce marketplace data from participating instructor organizations will provide the basis for classroom discussions and break out sessions. The program is designed for managers and executives from the fresh fruit and vegetable industry, such as grower-shippers, food retailers, wholesalers, distributors, fresh-cut processors and seed companies.

The short course faculty is made up of a veritable “who’s who” of produce marketing expertise including:

Roberta Cook, Ph.D., Dept. of Agricultural & Resource Economics, UC Davis

Leslie Butler, Ph.D., Dept. of Agricultural & Resource Economics, UC Davis

Don Goodwin, President, Golden Sun Marketing

Shermain Hardesty, Ph.D., Dept. of Agricultural & Resource Economics, U.C. Davis

Steve Lutz, Executive Vice President, Perishables Group

Jim Prevor, Founder and Editor, PerishablePundit.com

Richard Sexton, Ph.D., Dept. of Agricultural & Resource Economics, UC Davis

Kerry Tucker, CEO, Nuffer, Smith, Tucker, Inc.

Alison Worthington, Managing Director, The Hartman Group

This short course is simply 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.

We invite you to come listen, participate and learn! More detailed information about the UC Davis Fresh Produce Marketing Short Course Including on-line registration may be found at:

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

To assure an optimal learning environment in this interactive and dynamic course enrollment is capped at 45 participants so register soon!!!!!!

2008 Tax-Deductible Endowment Gifts Welcomed

In recent months our Web site has grown by over 100 pages, and over the past year we have averaged over 250,000 page views per month. We appreciate the recent contributions to the [Postharvest Program Endowment](#) fund, the interest from which is used to support Web site activity. Please consider making a generous, and tax-deductible, contribution today!

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What’s New on our Website this Month

NEW Produce Fact and Photos Added

A new Produce Fact sheet for [Pawpaw](#), the largest edible fruit native to the eastern United States is now available online. Douglas D. Archbold, University of Kentucky, and Kirk W. Pomper, Kentucky State University, kindly contributed this addition. Photos are by Kirk Pomper and Federica Galli.

New photos were added to our Produce Facts for [plantain](#), [pineapple](#), and [pomegranate](#).

Four New Produce Facts in French

We thank Shady S. Atallah and Marie Thérèse Charles for their assistance in translating the following four Produce Facts into French:

- [Tamarillo](#)
- [Pastèque](#)
- [Roses, Roses de Bouquet](#)
- [Gombo \(Okra\)](#)

Three Recent Additions to the Postharvest Library

Our specialists added three new articles to our "[Postharvest Publications Organized by Topic](#)" data store this month:

- [Energy Benchmarking of Warehouses for Frozen Foods](#) by B. Prakash, and R. Paul Singh. California Energy Commission, PIER Final Project Report. 24 pages, July 2008.
- [Benchmarking Study of the Refrigerated Warehousing Industry Sector in California](#) by R. Paul Singh. California Energy Commission, PIER Final Project Report. 26 pages, July 2008.
- [Combined Enzymatic and Colorimetric Method for Determining the Uronic Acid and Methylester Content of Pectin: Application to Tomato Products](#) by Gordon E. Anthon, and Diane Barrett. Food Chemistry 110:239-247 (2008)

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Postharvest Workshops @ UC Davis

2008-2009 Postharvest Workshops and Webinars

Now open for registration:

- [Webinar: Fresh Produce Microbial Pathogen Testing: Program Components & Considerations](#)
November 20, 2008. [Enroll On-Line.](#)
- [Fresh Produce Marketing Strategies Short Course](#)
March 24-26, 2009. [Enroll On-Line.](#)

Save the dates and plan on attending the following course offerings:

- Fresh-cut Fundamentals. March 5, 2009. Yuma, Arizona
- 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

Refrigerated Warehouse Energy Use Benchmarking Studies & Evaluation Tool Now Available

Dr. Paul Singh recently completed two projects supported by the California Energy Commission "Benchmarking of the Refrigerated Warehousing Industry Sector in California" and "Energy Benchmarking of Warehouses for Frozen Foods". The final reports for these projects are new additions to our library.

These projects evaluated the electricity consumption of public and commercial refrigerated warehouses used for storing frozen food and chilled products like a dairy, meat, and produce items. A model was developed to predict electricity use based on factors such as facility size, types of commodities handled and facility design. The model demonstrated that major electrical demands were from interior lighting and product cooling. A survey of existing facilities was also completed and provided data for benchmarking electricity use. It also catalogued information on the market penetration of eleven conservation technologies, revealing limited use of sensor controlled doors and extensive use of computer-based refrigeration control systems. A web site was developed to allow operators to compare their electricity use with the benchmark data:

<http://bae.engineering.ucdavis.edu/WarehouseEnergy.swf>

Produce Refrigeration Energy Efficiency Addressed at Emerging Technology Summit

The Emerging Technologies Coordinating Council who's mission is to promote new cost-effective, energy saving technologies and strengthen the region's economy while meeting the environmental challenges is convening an Emerging Technologies Summit (<http://etccconference.com/>) in San Diego October 26-28, 2008. The summit's objective is to promote smoothing the transition of promising technologies from the laboratory to the marketplace to help Californians save money and energy. An important session for the produce industry will be *Session 11. Energy Efficient Food Refrigeration* on Monday October 27, 2008, moderated by Dr. Jim Gorny, executive director of the UC Davis Postharvest Technology Research & Information Center. The session, organized by the UC Davis Energy Efficiency Center (<http://www.eec.ucdavis.edu>), will discuss the following topics.

- **Electricity Use Modeling for Cold Storage Operations**
Paul Singh, Professor, Biological and Agricultural Engineering, UC Davis
- **Opportunities for Reducing Electricity use in Produce Coolers**
Jim Thompson, Extension Engineer, Biological and Agricultural Engineering, UC Davis
- **Automated Forced-Air Pre-Cooling**
Scott Hawkins, President, MACS Cool, Inc.
- **Motor Speed Control for Vacuum Cooler**
Ryan Matley, Industrial Portfolio Manager, Pacific Gas & Electric

Postharvest Expertise Provided in Afghanistan

Dr. Marita Cantwell recently traveled to Afghanistan to assess current postharvest handling practices and provide expert advice regarding means of reducing postharvest losses of perishable horticultural crops in the region. This project Accelerating Sustainable Agricultural Production (ASAP) Afghanistan is sponsored by the U.S. Agency for International Development (US AID) and is currently administered by Chemonics with UC Davis playing active role in providing technical expertise. Dr. Cantwell visited produce terminal markets, packinghouses and storage facilities with particular focus on melon, tomato, grape and apple and leafy vegetables to gain first hand knowledge of the perishables handling situation in Afghanistan.

Turkey Hosted Successful National Postharvest Symposium

Drs. Adel Kader and Beth Mitcham were invited speakers at the National Postharvest Symposium in Turkey, October 6 to 11. Adel Kader spoke on Postharvest Technologies in Developing and Developed Countries and Steps to Improve Flavor Quality of Fruits and Vegetables. Beth Mitcham spoke on Regulation of Ripening in Fruits. The symposium, organized by Professor Mustafa Erkan from Akdeniz University in Antalya, Turkey, was a huge success with nearly 140 attendees including academics and members of the horticulture industry in Turkey.

Center for Advanced Processing & Packaging Studies

Dr. Diane Barrett participated in the recent meeting of the Center for Advanced Processing and Packaging Studies (CAPPS) (<http://fst.osu.edu/capps/mission.html>) at the Ohio State University in Columbus, Ohio on October 1-3, 2008. The mission of CAPPS is to conduct industrially relevant research directed at developing methods and technologies for the production of safe, marketable, high-quality shelf-stable aseptic and refrigerated extended shelf-life products. CAPPS is an industry and academic consortium with three participating universities (UC Davis, Ohio State University & North Carolina State University). The next CAPPS meeting will be held on the University of California, Davis campus on April 14th – 16th, 2009. Many of the academic faculty and industry involved in CAPPS also met on September 30, 2008 to summarize accomplishments of a four year USDA-funded project targeting safety issues of advanced processing methods. Many of the same investigators recently received USDA funding for a two year project focused on optimization of quality in tomato products processed using advanced methods. For additional information about the next CAPPS meeting or the USDA projects, please contact Dr. Diane Barrett dmbartrett@ucdavis.edu.

Robert Mondavi Institute Opens on UC Davis Campus

On October 10, 2008 the Robert Mondavi Institute for Wine and Food Science celebrated its official dedication as well as a ceremonial groundbreaking for the new teaching and research winery and the Anheuser-Busch

brewing and food science Laboratory. In 2001, Mr. Robert Mondavi, renowned California wine producer, made a personal gift of \$25 million to establish the Robert Mondavi Institute for Wine and Food Science (RMI) within the College of Agricultural and Environmental Sciences, opening a new era of opportunity for UC Davis in its widely acclaimed wine and food programs. The Mondavi gift is the largest private contribution in UC Davis history. Congratulations to Center faculty members Dr. Diane Barrett, Dr. Linda Harris and Dr. Christine Bruhn who are now housed in these new state-of-the art facilities on the UC Davis campus.

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Featured Postharvest Publication

Fresh Off the Press

The 2008 updated [Fresh-cut Products: Maintaining Quality and Safety](#) binder, CD and portfolio is now available for purchase. This binder contains all instructional and supplemental materials used in the Fresh-cut Products: Maintaining Quality & Safety workshop which was held September 16-18, 2008 on the UC Davis campus. It is an excellent technical reference resource for anyone working in the fresh-cut produce industry. The binder, portfolio, and CD at \$175 is an excellent value considering the comprehensive contents included in this publication. To order a copy for your library, please use our [Order Form](#).

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Postharvest Positions

Massey University Postharvest Professorship Available

Massey University New Zealand's premier food science/technology university is seeking to appoint a Professor / Associate Professor to lead the research and education activities of the Postharvest Group and teach at the tertiary level. The successful candidate will need to demonstrate leadership and strategic qualities, and have a successful track record of securing international/national funding for industry relevant research programs. Experience in several of the following is required: fruit and vegetable physiology, storage and packaging technology, supply chains, ripening of fresh produce, food quality assessment, shelf-life prediction and stability, bioactive determination and isolation. For further information: see the following Massey University web site <http://jobs.massey.ac.nz/positiondetail.asp?p=5545> or contact Professor Richard Archer, Head of Institute of Food, Nutrition and Human Health, Tel: +64 6 350 5104, email: r.h.archer@massey.ac.nz

Contract Analyst-Floriculturist Position with TransFresh Corporation Available

A contract Research & Development Analyst-Floriculturist position with TransFresh Corporation, a division of FreshExpress/Chiquita Brands International is available.

The Agronomist would be responsible for implementing existing technology to marine transport of flowers and would be responsible for identifying new technology and procedures that would continue to enhance the companies flower offerings. This person would be less of a lab-based R&D resource and more a practical, on-the-ground resource responsible for fully understanding the key drivers of delivering quality performance while moving flowers via marine containers.

- Required Experience: BS (w/ 4 to 5 Years Experience) or MS (w/2 to 3 Years Experience) in agricultural related field (floriculture, post harvest, plant pathology, horticulture). Strong technical background with a business perspective.
- Technical ability to design protocols, conduct tests and report results.
- Independent worker with skills to execute with minimum or remote supervision
- Excellent people skills and experienced networking skills.

This position may be located in Florida or California with potential domestic and international travel. Interested candidates should forward their letter of intent and resume to Agarnica@Freshexpress.com.

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- November 20, 2008. Webinar [Fresh Produce Microbial Pathogen Testing: Program Components](#)

and Testing

- January 5-9, 2009. [Frutic Chile 2009](#). **8th Fruit, Nut, and Vegetable Production Engineering Symposium**. Concepción, Chile
- March 5, 2009. **Fresh-cut Fundamentals**. Yuma, Arizona.
- March 24-26, 2009. [Fresh Produce Marketing Strategies Short Course](#). UC Davis campus.
- 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 15-17, 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. It has been suggested to me that it is essential to avoid loading pineapple with citrus fruits in the same shipping container due to allelopathy. Could you please tell me more about allelopathy?

A. Allelopathy means that one species has either positive or negative effects on another, but I am not aware of allelopathic interactions among harvested fruits.

However, incompatibilities among fruits and vegetables can occur during postharvest transport or storage. Compatibility of harvested fruits during transport and storage depends on their optimal temperature and relative humidity ranges, ethylene production rates, sensitivity to ethylene action, production of odor-active volatiles that can be absorbed by other commodities, and whether the commodities are conventionally or organically-produced. I am unaware of any reason why pineapples can not be loaded together with citrus fruits except if the citrus fruits have biphenyl-generating pads in their shipping containers since the pineapples will absorb the biphenyl odor. However, inclusion of biphenyl pads in citrus shipments to prevent *Penicillium* rots is no longer practiced in the US due to “odor” issues associated with their use.

Also, if the temperature to be used during transport is outside the optimal range for either the pineapples (8-10C) or the specific citrus fruit (12-14C for grapefruit and lemons; 8-10C for limes; 5-8C for Valencia oranges; 3-5C for mandarins and Navel oranges), mixing may be detrimental to one of the fruits, depending on the duration of transport. –*Adel Kader & [Mary Lu Arpaia](#)*

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