



March 2008 News from UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

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Greetings from the Center

Registration for our Classes

Arriving via phone, fax, mail, wire transfer, and our on-line enrollment surveys, registrations for our [classes](#) have been keeping our office busy. With early enrollment representation from 7 states in the US, and 10 countries, we're looking forward to an outstanding year of improving postharvest technology around the world.

UC Davis Postharvest Center Hosts HortResearch Produce Packaging Update

Dr. Keith Sharrock of HortResearch New Zealand visited the UC Davis campus on Monday February 25, 2008 and gave an outstanding seminar entitled *Active & Intelligent Packaging*. Dr. Sharrock was joined by Dr. Gavin Ross, VP of Business Development for HortResearch (USA) whom is based in Davis. On going research and development efforts by HortResearch regarding two new innovative postharvest technologies that have been recently developed and commercially trialed were highlighted at the seminar. [RipeSense](#) technology allows consumers to easily determine the ripeness stage of fresh fruit via means of produce package indicator label which detects and turns specific colors when ripening associated volatiles are synthesized by ripening fruit such as winter pears. Dr. Sharrock also reported on a new Ethylene Release Canister (ERC) and pallet shroud system being tested to pre-condition and ripen fruit to positively enhance consumer fruit eating quality in the marketplace. A copy of Dr. Sharrock's presentation may be downloaded at: [click here](#) and short video about the Ripsense technology may be found under "Juicy Idea" at: [click here](#). For more information Dr. Sharrock may be contacted at: HortResearch Ruakura Research Centre email: <mailto:KSharrock@hortresearch.co.nz>

Produce Safety: Science & Law Discussed

The UC Davis Postharvest Center hosted a half day meeting of the State Bar of California Agribusiness Committee to discuss the science and law of produce food safety. Speakers, included Dr. Linda Harris and Dr. Jim Gorny of UC Davis who discussed 'New Approaches, Research and the Science Behind Safe Food'. Ms. Leslie Krasny, Esq., of Keller and Heckman LLP, a law firm specializing in food and drug law, provided a perspective on due diligence, regulatory and liability issues. The meeting was attended by about 20 attorneys from throughout Northern California. Special thanks goes out to Mr. Steve Tripp, General Counsel, Pacific International Vegetable Marketing, Inc. who chairs the group and helped organize the event.

Symposium: Fruit & Vegetable Health Claims

The Center for Fruit & Vegetable Quality, the Postharvest Technology Research & Information Center, and the Foods for Health Institute will be co-sponsoring a one-day symposium on May 15, 2008 on "Fruit & Vegetable Health Claims - What, Why and How" on the UC Davis campus. Registration information may be found at

<http://conferences.ucdavis.edu/Cofred/Public/Aca/ConfHome.cfm?confid=359>. Dr. Barbara Shneeman of FDA CFSAN and former UC Davis College of Agriculture & Environmental Sciences Dean will be the keynote speaker at this event.

Questions Regarding the Microbial Safety of Lemon Slices in Restaurant Served Beverages

In late February 2008, a number of news stories began to appear across the country regarding the supposed unsanitary lemon slices being served in restaurant beverages. The stories were based on a December 2007 publication in the Journal of Environmental Health. Linda J. Harris collaborated with Michelle D. Danyluk (University of Florida), Mickey Parish (University of Maryland), and Randy Worobo (Cornell University) to develop a detailed science-based response to the highly-flawed source article. The response is available at the WIFSS web site: <http://wifss.ucdavis.edu/pdf/responsetolemonarticle.pdf> and the original article by Loving and Perz, 2007 may be found at: http://www.thefreelibrary.com/_/print/PrintArticle.aspx?id=172839589

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What's New on our Website this Month

The Postharvest Library is Growing

Now featuring 660 articles and other postharvest documents, the “[Postharvest Publications Organized by Topic](#)” data store continues to become one of the best go-to resources for postharvest information. The following new articles were added last month:

- [Suspended Tray Package for Protecting Soft Fruit from Mechanical Damage](#) by J.F. Thompson, D.C. Slaughter, M.L. Arpaia. Applied Engineering in Agriculture 24:71-75 (2008)
- [Biochemical Factors Associated with a CO₂-induced Flesh Browning Disorder of Pink Lady Apples](#) by Elena de Castro, Diane M. Barrett, Jennifer Jobling, and Elizabeth J. Mitcham. Postharvest Biology and Technology 48:182-191 (2008)
- [Risky Eating Behaviors of Young Adults – Implications for Food Safety Education](#) by Carol Byrd-Bredbenner, Jaclyn Maurer Abbot, Virginia Wheatley, Donald Schaffner, Christine Bruhn, and Lydia Blalock. Journal of the American Dietetic Association 108:549-552 (2008)
- [The Intersection between Cell Wall Disassembly, Ripening, and Fruit Susceptibility to *Botrytis cinerea*](#) by D. Cantu, A.R. Vicente, L.C. Greve, F.M. Dewey, A.B. Bennett, J.M. Labavitch, and A.L.T. Powell. Proceedings for the National Academy of Sciences 105:859-864 (2008)
- [Silencing Polygalacturonase Expression Inhibits Tomato Petiole Abscission](#) by Cai-Zhong Jiang, Feng Lu, Wachiraya Imsabai, Shimon Meir and Michael S. Reid. Journal of Experimental Botany doi:10.1093/jxb/ern023:1-7 (2008)
- [Temperature and Postharvest Performance of Rose \(*Ros hybrida* L. ‘First Red’\) and *Gypsophila* \(*Gypsophila paniculata* L. ‘Bristol Fairy’\) Flowers](#) by F.G. Çelikel and M.S. Reid. Acta Hort 682:1789-1794 (2005)
- [Functional Analysis of Genes Associated with Flower Senescence](#) by C.Z. Jiang, J.C. Chen M.S. Reid, and D.G. Clark. Acta Hort 682:795-800 (2005)
- [New Strategies in Transportation for Floricultural Crops](#) by M.S. Reid and C.Z. Jiang. Acta Hort 682:1667-1674 (2005)
- [An Efficient Regeneration System for Four O’clocks \(*Mirabilis jalapa*\)](#) by Xinjia Xu, Donald Hunter and Michael S. Reid. Acta Hort 669:153-156 (2005)
- [Silencing a Prohibitin Alters Plant Development and Senescence](#) by Jen-Chih Chen, Cai-Zhong Jiang and Michael S. Reid. The Plant Journal 44:16-24 (2005)
- [Potential Application of Virus-Induced Gene Silencing \(VIGS\) in Flower Senescence Studies](#) by Jen-Chih Chen, Felicity Johnson, David G. Clark, Tim Gookin, and Michael S. Reid. 669:147-152 (2005)
- [Flower Development: From Bud to Bloom](#) by Michael S. Reid. Acta Hort 669:105-110 (2005)
- Trends in Flower Marketing and Postharvest Handling in the United States by Michael S. Reid. Acta Hort 669:29-34 (2005)
- [Storage Temperature Affects the Quality of Cut Flowers from the Asteraceae](#) by Fisun G. Çelikel and Michael S. Reid. HortScience 37:148-150 (2002)
- [Postharvest Handling of Stock \(*Matthiola incana*\)](#) by Fisun G. Çelikel and Michael S. Reid. HortScience 37:144-147 (2002)
- [Thidiazuron – a Potent Inhibitor of Leaf Senescence in *Alstroemeria*](#) by Antonio Ferrante, Donald A.

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Postharvest Workshops @ UC Davis

We continue to receive enrollments for the Center's Fruit Ripening & Ethylene Management Workshop and the Postharvest Technology Short Course. Both are more than half full. Early registration is suggested to ensure a spot at these popular workshops.

- May 20, 2008. 14th [Annual Fruit Ripening & Ethylene Management Workshop](#). UC Davis campus.
- June 16-27, 2008. [Postharvest Technology Short Course](#) (30th Annual). UC Davis campus.
- June 21, 2008. [30th Anniversary Celebration & Postharvest Technology Symposium](#). UC Davis campus.
- September 16 – 18, 2008. 13th Annual Maintaining the Quality and Safety of Fresh-cut Produce Workshop. UC Davis campus. (Note: Registrations will open soon.)

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Postharvest Specialists' Activities

Produce is on Food Safety Summit Agenda

Dr. Jim Gorny, Executive Director, Postharvest Technology Research & Information Center at UC Davis organized and moderated a technical session on Produce Food Safety for Retail and Food Service Operators at Food Safety Summit which was held on March 17-19, 2008 in Washington, D.C. The technical session explored how leading produce suppliers and buyers are working together to assure mutual success in the marketplace by assuring consistent high-quality and safe products that meet consumer expectations. Session participants included Steve Grover, VP Food Safety QA & Regulatory Compliance for Burger King Corp., Drew McDonald, VP National Quality Systems, Taylor Farms and Courtney Parker, Ph.D., National Food Safety Manager, Fresh Express.

Christine Bruhn Appointed to FDA Risk Communication Advisory Committee

Congratulations to Dr. Christine Bruhn, a cooperative extension specialist in the Dept. of Food Science & Technology at UC Davis and a member of the Postharvest Center who was recently appointed the FDA Risk Communications Advisory Committee. Dr. Bruhn will be working with other committee members to counsel the U.S. FDA on how to strengthen the agencies communication of risks and benefits of FDA-regulated products to the public. Dr. Bruhn's research has focused on consumer issues in food safety and quality, including consumer attitudes toward new food production methods or processing as well as investigating consumer food handling practices.

Final ICPT Activity

Drs. Jim Gorny, Trevor Suslow and Beth Mitcham traveled to Cordoba, Spain to participate in a Fresh Cut Short Course March 10-12 along with colleagues from the University of Florida, Texas A&M, University of Foggia, Italy, University of Thessaly, Greece, and University of Cordoba, Spain. The course marked the final activity of the International Certificate in Postharvest Technology (ICPT) program.

Dr. Barrett Attended Frozen Food, and Advanced Processing & Packaging Meetings

Dr. Diane Barrett attended the American Frozen Food Institute meeting on Feb. 25, 2008 in San Diego. She serves on their Scientific Advisory Committee. Dr. Barrett also attended a meeting of the Center for Advanced Processing & Packaging, which she serves as UC Davis Site Director for, in Raleigh, NC from March 4-7, 2008.

Central Valley Postharvest Newsletter

The February 2008 issue of Dr. Carlos Crisosto's Central Valley Postharvest Newsletter is now available. Current and previous issues can always be found at his website at www.uckac.edu/postharv.

Recent Developments in Postharvest Presented in Cairo

Dr. Adel Kader presented two lectures about recent developments in postharvest technology of horticultural crops at the Horticultural Exports Improvement Association (February 19) and the Agricultural Research Center,

Ministry of Agriculture (February 20) in Cairo, Egypt.

Cold Chain Topics of Workshops in India

Drs. Adel Kader and Lisa Kitinoja participated in teaching a one day workshop about horticultural cold chain management at Amity University (March 4) and two 3-day workshops (about the role of maintaining the cold chain in preserving quality and safety of fruits and vegetables) in New Delhi (March 5-7) and Kolkutta (March 10-12), India as part of the US Trade Development Agency-sponsored and World Food Logistics Organization-implemented India Cold Chain Training Program.

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Featured Postharvest Publication

Tecnología Postcosecha de Cultivos Hortofrutícolas

This month we're offering a special 25% discount on our newest publication, [Tecnología Postcosecha de Cultivos Hortofrutícolas](#) (CD). This CD features the comprehensive postharvest content found in the English printed version, "Postharvest Technology of Horticultural Crops", sometimes fondly referred to as the "Postharvest Bible." Please use our [Order Form](#) and note "25% March Discount."

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Postharvest Endowment

With Appreciation

We extend a warm "thank you" to [Catalytic Generators](#) for their recent contribution to the Postharvest Endowment Fund. Thanks for your generous support that will be used to keep our Web site growing.

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Postharvest Positions

Postharvest Physiologist - Assistant/Associate/Full Professor (Position # 01-10-0713):

Conduct translational research on the biochemical and molecular bases for ripening, senescence and quality changes of horticultural crops in the postharvest environment. The specific research area is flexible, but should focus on understanding the mechanisms that contribute to preserving full bioactive health benefits of fruits and vegetables pre- and postharvest with the ultimate goal of improving produce quality for the consumer. Additional duties include establishing collaborative partnerships, provide input to NC commodity industries, establish a nationally recognized extramurally funded research program, publish research results, and serve on graduate student committees. Applicants should apply online at <https://jobs.ncsu.edu> (refer to the appropriate position number). Attach a cover letter and CV to the online applicant profile, and include the names and contact information for at least three references. For more information, contact: Dr. Julia Kornegay, Professor and Head, Department of Horticultural Science, Box 7609, NC State University, Raleigh, NC 27695-7609; Phone: 919-515-3131; Fax: 919-513-3191; Email: julia_kornegay@ncsu.edu. Review of applications will begin February 29, 2008, and continue until an acceptable candidate is identified.

Dole: Vice President, Research and New Produce Development

Located in Kannapolis, NC, this position will form, organize, and lead a small team to research & develop new and innovative products for current Dole business units. This will include conducting analytical research to support line extensions, formulations and new product development, supporting business units in offering new packaging formats through research and testing, and exploring the potential for a new line of Dole products outside our traditional business units. There will be a strong nutritional research focus to this department and expectation of close collaboration with Dole business units, co-packers, the scientific community in the North Carolina Research Campus, and with key research scientists in other university and public research institutions who work in areas that are compatible with Dole's business interests. 20 – 40% travel is required, and a PhD is preferred, with a minimum of 20 years experience, at least 5 of which include managing an applied research department. For additional information select "Kannapolis, NC" as the location at their Career Opportunities Web page: <http://www.dole.com/CompanyInfo/Careers/Opportunities.jsp>

Vacancy at the Post-harvest Department at IRTA (Lleida, Spain)

The Postharvest Department of IRTA in Lleida, Spain is currently recruiting for a researcher to study the postharvest technology of pip and stone fruit. Research at this laboratory focuses on the effects of postharvest treatments and storage conditions on the final quality of fruit, including biosynthesis of aroma volatile compounds, texture and sensory acceptance. Candidates should have attained a Ph.D. no more than 10 years ago, or be finalizing a Ph.D program by 5 June 2008. Additional information about this vacancy may be obtained at: www.inia.es or by emailing your CV to Isabel Lara Ayala at: lara@quimica.udl.es

Grapery Research & Quality Development Manager

The Grapery, a table grape grower/shipper in the San Joaquin Valley, is currently recruiting for a Research & Quality Development Manager. Their primary responsibilities will be to: develop research plans and projects, implement projects, oversee all farming operations that affect quality, oversee harvest quality, oversee cold storage product quality and optimize growing, harvesting and handling practices for new varieties. For more information contact: Jim Beagle, President, Grapery, Inc. Tel: 661.326.8004 or email: jbeagle@grapery.biz

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- April 23-29, 2008. 2nd International Course on Postharvest Technology and Fresh-cut Produce (II Curso Internacional de Tecnología Postcosecha y Procesado Mínimo Hortofrutícola) Cartagena, Spain. www.upct.es/gpostref/
- May 5-7, 2008. [United Fresh Marketplace & United FreshTech](#). Las Vegas, Nevada.
- May 15, 2008. [RMI Center for Fruit and Vegetable Quality Spring Symposium](#). UC Davis campus.
- May 20, 2008. [14th Annual Fruit Ripening and Ethylene Management Workshop](#). UC Davis campus.
- June 16-27, 2008. [Postharvest Technology Short Course - 30th Annual](#). UC Davis campus.
- June 21, 2008. [30th Anniversary Celebration & Postharvest Technology Symposium](#). UC Davis campus.
- June 21, 2008. [Retirement Dinner](#) for Dr. Adel Kader. UC Davis campus.
- August 11-14, 2008. [9th International Symposium on Postharvest of Ornamentals](#). Odense Conference Center.
- April 4-7, 2009. [10th Controlled and Modified Atmosphere Research Conference](#). Antalya, Turkey.
- April 8-12, 2009. [6th International Postharvest Symposium](#). Antalya, Turkey.

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Ask the Produce Docs

Q: I am hoping you can answer a question for me regarding the color standards for tomatoes, crushed tomatoes and tomato paste. Are there any actual physical representations of the colors for these products (e.g. color swatches or tiles)? C.B.

A: The USDA actually has vinyl color standards that they use to identify Class A and C tomatoes. These can be found on their website and pertain most to tomato paste. The University of California also established a 'soft standard' which is a can of tomato sauce manufactured and distributed every year. The California League of Food Processors now coordinates this activity, but UC Davis is still involved in 'validating' the standards prior to release. In Europe there is actually another physical tile standard used, again for paste. – [Diane Barrett](#)

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