



August 2008 News-UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

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News from the Center

Time is Getting Short to Join Us for the Fresh-cut Workshop in September

We have several spaces left at the September 16th -18th [Fresh-cut Products: Maintaining Quality and Safety Workshop](#). This course will offer the latest information on Fresh-cut products from academic and industry leaders, and an excellent opportunity to interact with course instructors as well as network with industry leaders from around the world. Enrollments are requested by September 2nd. Please pass the word about this opportunity to your colleagues, as well. Thanks.

Now Available

The following four publications (in French) are available from the Centre de Référence en Agriculture et Agroalimentaire du Québec (CRAAQ) in Canada:

Two are solely postharvest:

Asparagus: <http://www.craaq.qc.ca/Publications?p=32&l=fr&IdDoc=1969>

Berries: <http://www.craaq.qc.ca/Publications?p=32&l=fr&IdDoc=1118> .

Two others have a postharvest component:

Herbs: <http://www.craaq.qc.ca/Publications?p=32&l=fr&IdDoc=1968>

Leaflet to evaluate apple maturity: <http://www.craaq.qc.ca/Publications?p=32&l=fr&IdDoc=1925>

Latest Edition of Tomato Food Safety Guidance Document Now Available

Dr. Trevor Suslow and more than 40 scientists and experts from academia, government and the fresh tomato industry contributed to the recently published Second Edition of the [Commodity Specific Food Safety Guidelines for the Fresh Tomatoes Supply Chain](#). This document published by the United Fresh Produce Association (United Fresh) and the North American Tomato Trade Work Group (NATTWG), provides the latest food safety guidelines for the fresh tomato industry, and it includes components for companies along the entire supply chain, including retailers and foodservice distributors.

Endowment Thanks, and an Invitation

We are continuing to press hard towards our goal of increasing the [Postharvest Program Endowment Fund](#) by \$100,000 in 2008. We especially encourage those who benefit from the Web site, which the endowment supports, to contribute as generously as they are able. Please use our [special form](#) to make your contribution, and don't hesitate to contact us if you have any questions about the endowment fund.

A very special thanks to the contributors listed below, who made their contributions in honor of Dr. Adel Kader's career and accomplishments:

Individuals

- Jim Thompson
- Jim Gorny
- Roberta Cook
- Beth Mitcham
- Louise Ferguson & John Gardener
- Yu Mei Wu
- Sam Liu
- Dangyang Ke
- Jingtair Siriphanich
- Betty Hess-Pierce
- Julio Loaiza
- Roger Romani
- Gary & Penny Stockdale
- Veronique Bikoba
- Craig Yuhara
- Diane Beckles
- Mary Reed
- Jim Hill
- Kawita Sukjamsai
- Kietsuda Luegwila

Companies

- [POM Wonderful](#)
- [Monsanto Corporation](#)

Good-bye, Penny

We are sad to say “adieu” to Penny Stockdale who has been the friendly person many of you have spoken with while registering for our workshops or purchasing one of our publications. We will miss her, and offer her best wishes in her new position.

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What's New on our Website this Month

New Photos

We added a few new photos to our [Date](#), [Pineapple](#), and [Pomegranate](#) Produce Facts: Recommendations for Maintaining Postharvest Quality.

Brief Book Reviews

Dr. Adel Kader provided us with a brief synopsis of the following three new books in our [Brief Book Review](#) data store:

- Color Atlas of Postharvest Quality of Fruits and Vegetables
- Improving the Health-promoting Properties of Fruit and Vegetable Products
- Fruit and Vegetable Flavour: Recent Advances and Future Prospects

New Resources Added to our Postharvest Library

Over the past few weeks we have been busy adding quite a bit of new information to our Web site. Our “[Postharvest Publications Organized by Topic](#)” data store grew by more than a dozen articles. This searchable resource is one of the best resources for postharvest information. The following new articles were added:

- [Perspective: Flavor Quality of Fruits & Vegetables](#) by Adel A. Kader. Journal of the Sciences of Food and Agriculture 88:1863-1868 (2008)

- [Status of Energy Use and Conservation Technologies used in Fruit and Vegetable Cooling Operations in California](#) by James F. Thompson and R. Paul Singh. California Energy Commission. 53 pages (2008)
- [Impact of Ripening & Storage Conditions on Ripe Tomato Quality](#) by Marita Cantwell. A PowerPoint presentation from the International Tomato Congress. (2008)
- [San Joaquin Valley Blueberries Evaluated for Quality Attributes](#) by Vanessa Bremer, Gayle Crisosto, Richard Molinar, Manuel Jimenez, Stephanie Dollahite, and Carlos H. Crisosto. California Agriculture Journal. July-September 2008, pages 91-96.
- [Evaluation of the Effect of Different Modified Atmosphere Packaging Box Liners on the Quality and Shelf Life of 'Friar' Plums](#) by Celia M. Cantín, Carlos H. Crisosto, and Kevin R. Day. HortTechnology 18:261-265 (2008)
- [Leucoanthocyanidin Dioxygenase Gene \(PpLDOX\): A Potential Functional Marker for Cold Storage Browning in Peach](#) by E.A. Ogundiwin, C.P. Peace, C.M. Nicolet, V.K. Rashbrook, T.M. Gradziel, F.A. Bliss, D. Parfitt, and C.H. Crisosto. Tree Genetics & Genomes 4:543-554 (2008)
- [Application of Abscisic Acid \(ABA\) at Veraison Advanced Red Color Development and Maintained Postharvest Quality of 'Crimson Seedless' Grapes](#) by Celia M. Cantín, Matthew W. Fidelibus, and Carlos H. Crisosto. Postharvest Biology and Technology 46:237-241 (2008)
- [Novel 1-methylcyclopropene Immersion Formulation Extends Shelf Life of Advanced Maturity 'Joanna Red' Plums \(*Prunus salicina* Lindell\)](#) by G.A. Manganaris, C.H. Crisosto, V. Bremer, and D. Holcroft. Postharvest Biology and Technology 47:429-433 (2008)
- [Predicting Pitting Damage During Processing in Californian Clingstone Peaches Using Color and Firmness Measurements](#) by C.H. Crisosto, C. Valero, and D.C. Slaughter. Applied Engineering in Agriculture 23:189-194 (2007)
- [Cell Wall Modifications in Chilling-injured Plum Fruit \(*Prunus salicina*\)](#) by G.A. Manganaris, A.R. Vicente, C.H. Crisosto, and J.M. Labavitch. Postharvest Biology and Technology 48:77-83 (2008)
- [Combination of Postharvest Antifungal Chemical Treatments and Controlled Atmosphere Storage to Control Gray Mold and Improve Storability of 'Wonderful' Pomegranates](#) by Lluís Palou, Carlos H. Crisosto, and David Garner. Postharvest Biology and Technology 43:133-142 (2007)
- [Improvement of Storability and Shelf-life of 'Blackamber' Plums Treated with 1-methylcyclopropene](#) by A.P. Candan, J. Graell, C. Crisosto, and C. Larrigaudière. Food Science and Technology International 15:437-444 (2006)
- [Peach Quality and Postharvest Technology](#) by C.H. Crisosto. Acta Hort 713:479-488 (2006)
- [Genetic Control of Internal Breakdown in Peach](#) by C.P. Peace, C.H. Crisosto, D.T. Garner, A.M. Dandekar, T.M. Gradziel, and F.A. Bliss. Acta Hort 713:489-496 (2006)
- [Understanding Tree Fruit Quality Based on Consumer Acceptance](#) by C.H. Crisosto, G. Crisosto, and F. Neri. Acta Hort 712:183 (2006)
- [Early Harvest Delays Berry Skin Browning of 'Princess' Table Grapes](#) by Pablo M. Vial, Carlos H. Crisosto, and Gayle M. Crisosto. California Agriculture Journal April-June 2005, pages 103-108.
- [Influence of Irrigation Method and Scheduling on Patterns of Soil and Tree Water Status and Its Relation to Yield and Fruit Quality in Peach](#) by David R. Bryla, Elizabeth Dickson, Robert Shenk, R. Scott Johnson and Carlos H. Crisosto, and Thomas J. Trout. HortScience 40:2118-2124 (2005)

June 2007 – July 2008 Addendum Available

Dr. Adel Kader has compiled Addendum #5 listing recently-published postharvest publications by category, and it has been added to our "[List of Selected References](#)" Web page.

Postharvest Yellowpages Updated

With the help of three of our great student assistants, we went through every business listed on our [Postharvest Yellowpages](#) and updated their information. This is an excellent tool if you need anything from ethylene absorbers to orchard ladders, and the list of over 500 businesses is constantly growing.

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Postharvest Workshops @ UC Davis

Please Join Us ...

- September 16 – 18, 2008. 13th Annual Workshop on [Fresh-cut Products: Maintaining Quality and Safety](#) at the UC Davis campus.

Registration for our 2009 Postharvest Workshops will begin opening this Fall. We'll include full announcements as they open for registrations in future issues of this E-Newsletter.

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Postharvest Specialists' Activities

Postharvest Technology Center offers Expertise at Congressional Hearings

Jim Gorny, executive director of the Postharvest Technology Research & Information Center, recently appeared as an expert witness before the U.S. House of Representatives, Committee on Agriculture, Subcommittee on Horticulture and Organic Agriculture. The public hearing on July 30, 2008, explored the legal and technological capacity for full traceability in fresh produce. Also speaking were expert witnesses from the U.S. Food and Drug Administration, the Centers for Disease Control and Prevention as well as produce industry executives whose companies have been adversely affected by recent nearly nationwide Salmonella Saintpaul foodborne illness outbreak associated with fresh produce consumption. "We can never forget the real human impact when something goes wrong in our food supply and I'm here to assist in developing solutions to enhance consumer and marketplace confidence in our nations food supply," Gorny told the committee. Dr. Gorny provided an overview of current produce industry postharvest handling practices and their implications on produce traceability during a food borne illness outbreak investigation. He also provided numerous potential means by which industry, academia and government could better cooperate and coordinate efforts to enhance produce food safety and public health in the future.

Dr. Michael Reid had the opportunity to travel to Italy in July where he lectured at several universities and had the opportunity to visit a number of innovative floral production areas. He found a rose facility heated with hot water from a nearby processing plant especially fascinating.

León, Mexico was the location of the July 23-25, 2008 International Tomato Congress, where **Dr. Marita Cantwell** was invited to present a talk on the "Impact of Ripening and Storage Conditions on Ripe Tomato Quality." She told the audience that, "Appearance, Freshness and Ripeness, Taste and Flavor are the top factors that influence U.S. consumers' produce purchases."

Center for Produce Safety Announces a Request for Research Proposals

The Center for Produce Safety has announced a "Request for Research Proposals" directed to enhance the safety of fresh fruits and vegetables. This is a system-wide University of California effort through Agriculture and Natural Resources (UCANR), being administered through the Center for Produce Safety. The completed proposal is to be uploaded to the CPS Grant Site, no later than 5:00 p.m. (PST) on August 31, 2008. Any individual or group affiliated with a university or governmental agency that has appropriate research capabilities is eligible and encouraged to apply. Total funds available: \$1,000,000. For additional information, please contact Bonnie Fernandez at: Tel: (530)757-5777 or email: bfernandez@cps.ucdavis.edu

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Featured Postharvest Publication

We still have a few too many copies of this updated publication created for our workshop last September, so this month we are offering an even better discount on our "[Fresh-cut Products: Maintaining Quality & Safety \(2007\)](#)" publication. This title includes a large binder, a CD, and a portfolio and is regularly priced at \$175. This month we are offering a whopping 30% discount (a savings of \$52) on this great title. To receive your discount, please note "30% August Fresh-cut Discount" on the [Order Form](#).

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Postharvest Positions

AgroFresh is seeking a Research Assistant

AgroFresh is seeking a full time, temporary research assistant to provide technical support to the R& D program for evaluating various postharvest technologies, including SmartFresh™ and EthylBloc™ technology, on fruits, vegetables and flowers. This position will be based at the research lab in Davis, CA. The research assistant will

be responsible for execution of experiments in the lab, and to a lesser extent, in the field. The job will include fruit/vegetable/flower quality measurements, collecting produce from pack houses, assisting in field trials in both pack houses and orchards, data collection and analysis e.g. working with Excel, JMP statistical program, preparing graphs, and tables, writing reports, preparing powerpoint presentations, managing databases. The research assistant will be required to maintain lab equipment, help manage lab inventory and help supervise temporary lab employees e.g. summer assistants. For more information please contact Dr Deirdre Holcroft, 620 Cantrill Drive, Davis, CA 95618, dholcroft@agrofresh.com

Salad Cosmo seeks Food Safety & Quality Assurance Manager

Salad Cosmo of Dixon, CA is currently recruiting for a Food Safety & Quality Assurance Manager to lead the development and implementation of quality programs, organize investigations to diagnose quality problems throughout the production process and ensure that records and documentation are maintained. For more information about this position please contact Yoji Nakada Tel: 707-678-6633 ext.15.

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- August 22, 2008. Research Update Seminar – Keeping Trees Short. UC Kearney Agricultural Center. For information contact Scott Johnson (559-646-6547) or Kevin Day (559-685-3309 x 211).
- September 16-18, 2008. [13th Annual Fresh-cut Products: Maintaining the Quality and Safety Workshop](#). UC Davis campus.
- January 5-9, 2009. [Frutic Chile 2009](#). 8th Fruit, Nut, and Vegetable Production Engineering Symposium. Concepción, Chile
- March 24-26, 2009. Produce Business and Marketing Strategies. 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 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.

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Ask the Produce Docs

Q: We are blanching broccoli florets for 2 minutes in lightly salted water, then cooling. Recently, the broccoli is turning to an awful shade of yellowish brown. Any idea on why?

A: The green color of freshly harvested broccoli is due to the green pigment, chlorophyll. When you heat chlorophyll it may be changed into a yellow or 'pea green' pigment. This also happens as the broccoli ages - there is generally loss of chlorophyll and development of less desirable colors. You can possibly avoid this by reducing the blanching conditions (lower temperature and/or less time) so that there is less exposure to heat. In addition, using younger broccoli will help because there will be more chlorophyll than in older broccoli. – [Diane Barrett](#)

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