

December 2009 News from UC Davis

POSTHARVEST TECHNOLOGY

Research & Information Center

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News from the Center

Warmest Holiday Wishes...

from the UC Davis Postharvest Technology Center's Staff and Specialists. As you have likely noticed, we have delayed this December issue of our E-newsletter in order to put the finishing touches on two of our 2010 short courses. We have uploaded the complete event information to our web site, and just opened them up for registration. Thanks for your patience during this delay. We're looking forward to a great 2010, and hope you are as well.



Fresh Produce Marketing Strategies Short Course to be held at the San Francisco Grand Hyatt, May 5-7, 2010

Due to some scheduling challenges, we needed to look a little further afield for a theater style conference room that Dr. Roberta Cook, course organizer, preferred. Happily, we have reserved the San Francisco Grand Hyatt's Conference Theater, which provides the latest in meeting technology, with executive seating and microphones at each place to facilitate interaction between audience members and speakers. This course was very well received in 2009, and a number of the attendees plan to return in 2010. Produce marketing is a very fluid and dynamic arena, and new topics for this year will include social media, SKU rationalization, and managing shrink. Please see the [course web page](#) for more information about this exciting course.



[Register On-Line](#)

Postharvest Technology Short Course 2010 Open for Registration

With more interactive sessions planned than ever before, and keeping the same price as last year, the 2010 Postharvest Technology Short Course is a winner any way you look at it. Drs. Marita Cantwell, Trevor Suslow, Beth Mitcham, and Michael Reid will play leadership roles as this course is updated for the upcoming June 14-25, 2010 session. Research and extension workers, quality control personnel and other professionals interested in current advances in postharvest technology of horticultural crops are invited to attend this two-week intensive study of current technological procedures used for handling fruits, nuts, vegetables, and ornamentals in California. On-Line registration is now open, for complete information or to register, please see the [web page](#).



[Register On-Line](#)



[Register On-Line](#)

2010 Fruit Ripening & Ethylene Management Workshop to be held at the UC Kearney Agricultural Center

The staff of the Postharvest Technology Center looks forward to welcoming participants from the United States, Trinidad and Tobago, Belgium, and several other countries to the 2010 Fruit Ripening and Ethylene Management Workshop. Under the leadership of Dr. Carlos Crisosto, the 16th annual offering of this workshop will be held February 25-26, 2010 at the UC Kearney Agricultural Center located in Parlier, California. The workshop is intended for shippers and destination (wholesale and retail) handlers who are involved in ripening fruits and fruit-vegetables. The workshop focuses on how to increase profits by delivering ready-to-eat, delicious fruits and fruit-vegetables to the consumer. The registration price will be \$700 for this 2-day workshop, please see the event's [web page](#) for complete information. We thank our 2010 workshop sponsors: [Summeripe](#), [Agrofresh](#), and [Catalytic Generators, LLC](#).

Year-end Postharvest Endowment Contributions

Can you help us with our 2009 Postharvest Endowment goal as part of your end-of-year charitable giving? Please see our [Endowment web page](#) for additional information, or use our [printable form](#) to mail or fax in your contribution. Thank you.

See the Complete List of our [Endowment Contributors](#)

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What's New on our Website this Month

December Additions to our Postharvest Publications Organized by Topic data store

With well over 1,000 documents to choose from, our data store can serve as your personal postharvest library. It is searchable by author, topic, or title. Our new additions this month include:

- [Impact of Storage Conditions on Grape Tomato Quality](#), Marita Cantwell, Xunli Nie, and Gyunghoon Hong. ISHS Postharvest Symposium. 8 pgs. (2009).
- [Market Life Update for Peach, Nectarine, and Plum Cultivars Grown in California](#), C.H. Crisosto, G.M. Crisosto, and K.R. Day. 15 pgs. (2008).
- [Control of Citrus Postharvest Green Mold and Sour Rot by Potassium Sorbate Combined with Heat and Fungicides](#), Joseph L. Smilanick, Monir F. Mansour, Franka Mlikota Gabler, David Sorenson. Postharvest Biology & Technology 47:226-238 (2008).
- [Alternatives to Conventional Fungicides for the Control of Citrus Postharvest Green and Blue Molds](#), Lluís Palou, Joseph L. Smilanick, and Samir Droby. Stewart Postharvest Review 2:2 16 pgs. (2008).
- [Characterization of Fungicide-resistant Isolates of *Penicillium digitatum* Collected in California](#), Pervin Kinay, Monir F. Mansour, Franka Mlikota Gabler, Dennis A. Margosan, Joseph L. Smilanick. Crop Protection 26:647-656 (2007).
- [Control of Spoilage in Table Grapes](#), Amnon Lichter, Franka Mlikota Gabler, and Joseph L. Smilanick. Stewart Postharvest Review 6:1 10 pgs. (2006).
- [Pre- and Postharvest Treatments to Control Green Mold of Citrus Fruit During Ethylene Degreening](#), J.L. Smilanick, M.F. Mansour, D. Sorenson. Plant Disease 90:89-96 (2006).

...and 23 additional new articles on the topics of [strawberries](#), [citrus fruit](#) and [table grapes](#).

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Postharvest Specialists' Activities

Specialists Barrett & Mitcham travel to Chile

Drs. Diane Barrett and Beth Mitcham traveled to Chile in early December where they visited cherry and berry

operations, and they also spoke about “Technological Innovations in the Postharvest Handling of Berries and Cherries” at the University de Concepcion. Their visit was in support of the new Center of Food Engineering at the university. Read the [article](#) (in Spanish) about their visit. “It was interesting to see what technological and innovative strategies they are pursuing in Chile,” said Diane Barrett. “They are looking for steps all through the spectrum, from immediate postharvest all the way through processing, to better manage their temperature and quality of the produce.”

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Postharvest Center’s Workshops @ UC Davis

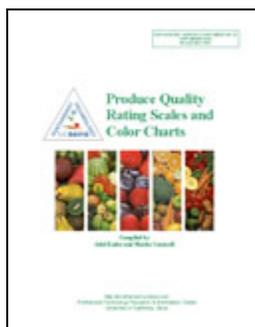
2010 UC Davis Postharvest Opportunities

- *February 9-12: **Better Process Control School*** – On the UC Davis Campus.
- *February 25-26: **Fruit Ripening & Ethylene Management Workshop*** - 16th Annual, scheduled to be held at the University of California’s Kearny Agricultural Center in Parlier, California. [Registration is now open.](#)
- *March 17-18, 2010. **Juice Processing Course***. 2nd Annual, scheduled to be held on the UC Davis Campus.
- *May 5-7: **Fresh Produce Marketing Strategies Short Course*** - 2nd Annual, scheduled to be held at the San Francisco Grand Hyatt in the Conference Theater. [Registration is now open.](#)
- *June 14-25: **Postharvest Technology Short Course*** - 32nd Annual, scheduled to be held on the UC Davis campus. [Registration is now open.](#)
- *September 14-16: **Fresh-cut Products: Maintaining Quality & Safety*** - 15th Annual, scheduled to be held on the UC Davis campus.

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Featured Postharvest Publication

Produce Quality Counts



This month we are offering a rare 20% discount on one of our Best Sellers, “Produce Quality Rating Scales and Color Charts.” Compiled by Adel Kader and Marita Cantwell, the printed version of this publication includes 78 pages in full color. The partnering CD version includes each of the illustrative slides in a convenient PPT format, easily accessible for a variety of purposes.

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

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- January 8, 2010. [Your Sustainable Backyard: Winter Fruit Tree Workshop](#). UC Davis campus, Foundation Plant Services.
- January 13, 2010. [Tomato Research Day](#). UC Davis Campus.
- February 1, 2010. [Tomato Processing School](#). Sacramento Convention Center
- February 3-5, 2010. [Fruit Logistica](#). Berlin, Germany.
- February 9-12, 2010. [Better Process Control School](#). UC Davis Campus
- February 25-26, 2010. [Fruit Ripening & Ethylene Management Workshop](#). 16th Annual. UC Kearney Agricultural Center.
- February 28-March 2, 2010. [2010 California Small Farm Conference](#). San Diego, California.
- March 17-18, 2010. [Juice Processing Course](#). UC Davis Campus.
- May 5-7, 2010. [Fresh Produce Marketing Strategies Short Course](#). San Francisco, California.
- June 14-25, 2010. [Postharvest Technology Short Course](#). 32nd Annual. UC Davis campus.

- June 27 to July 2, 2010. [Gordon Research Conference on Postharvest Physiology](#). Tilton, New Hampshire, USA
- August 22-27, 2010. [28th International Horticultural Congress](#). Lisbon, Portugal.
- September 14-16, 2010. [Fresh-cut Products: Maintaining Quality and Safety Workshop](#). 15th Annual. UC Davis campus.

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Ask the Produce Docs

Q. I attended your Postharvest Technology Short Course a couple of years ago. I have a question for you about grape tomatoes. I seem to remember a comment or reading that when tomatoes are held below 40F they will only last X number of days. We have a challenge here since we do not have a room that is about 45 F. Any recommendations? Is that temperature damage in the picture or perhaps aging? What is your recommended use from ripening to use or does this depend on stage of ripeness. (P.U.)



A. In general tomatoes should not be stored below 50F or 10C and that includes grape tomatoes. Water loss is a major cause of quality loss in grape tomatoes and the consequences of water loss is what you are experiencing, showing in your photo (sunken areas, some shriveling, softening). The water loss is cumulative but the higher the temperature, the faster the water loss (as occurs during harvest and initial handling).

Since the grape tomatoes are used as components of vegetable trays we have a temperature issue but also a potential problem with modified atmospheres. We conducted some studies on grape tomatoes and I recently [summarized our findings](#) in a paper for a conference. We discuss maturity, storage temperatures and impact of modified atmospheres on grape tomato quality. Once you review the paper, let me know if you have further questions. – [Marita Cantwell](#)

Q. We are being asked to airship about 500 Kg of a frozen item. Is there any information publication that talks about how much dry ice will keep the product frozen? There are recent limitations on dry ice usage so I wonder if this will be a problem. The flight itself is only about 1.5 hours but let's assume cargo has to be brought to the airport 4 hours before, and it takes another 4 hours to get out, so assume 10-12 hours is the time needed from freezer to freezer. (C.)

A. It is possible to estimate the amount of dry ice needed. One Kg of dry ice produces 614 kJ of cooling effect as it sublimates. The amount of dry ice needed will be equal to the amount of heat that penetrates the package. This will be an estimate based on product temperature, outside temperature and humidity, time the box is exposed directly to the sun, and insulation level of box (insulation is recommended).

Another option is to set up an experiment. Pack a typical box with product and a generous amount of dry ice. Weigh the ice just before packing. Then put the box in an environment that simulates the extreme conditions that may be encountered in a commercial trip and leave it there for the duration of a typical trip. Weigh the remaining dry ice at the end of the simulated trip. The difference in weight is the amount of dry ice needed. – [Jim Thompson](#)

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