



UC DAVIS

POSTHARVEST TECHNOLOGY

January 2011 News from UC Davis

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Director's Update

Greetings from the UC Davis Postharvest Technology Center!!! You may have noticed our new logo at the top of this email. It is the first of several changes to the Center's "look" that you will notice during 2011. In collaboration with several colleagues from the University of Florida, we recently presented a fully-subscribed and well-received workshop, "Delivering More Flavorful Produce" on the UC Davis campus. Participants engaged in two days of discussion about the opportunities and challenges to delivering better tasting produce to consumers. A similar workshop will be held in Gainesville, Florida May 4-5 and space is still available. Link to register: <http://ucanr.org/delivering-flavorful-produce>

--Elizabeth Mitcham



News from the Center



Starting Anew for 2011: Growing the Postharvest Endowment Fund

We're off and running on our efforts to grow our Endowment Fund in 2011. We are very appreciative of the generous gifts from the following endowment contributors:

- **Beth Mitcham & Steve West**
- **Dr. L.G. Wilson**
- **Julio Loaiza**
- **Diane M. Beckles**
- **Jeffrey A. Leshuk**
- **Craig N. Yuhara**

Contributions are greatly appreciated, and can now be made on-line by credit card using our [secure gift contribution site](#). Donations by mail or fax are still possible using our [handy form](#). To view the complete list of our generous contributors, visit: <http://postharvest.ucdavis.edu/about/contributors.shtml>.

Fruit Ripening Workshop Enrollments Continue

Facilitated by Dr. Carlos Crisosto, the April 26-27, 2011 “Fruit Ripening & Ethylene Management” workshop will be held on the UC Davis campus in the Buehler Alumni and Visitors Center. The workshop will provide useful information for shippers, fruit handlers (wholesale and retail) and produce managers involved in handling and 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. For complete information about this workshop, or to enroll, link to the web page: <http://postharvest.ucdavis.edu/Announce/fruitripening.shtml>



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Postharvest Workshops

We hope you will join us for our 2011 UC Davis Postharvest Learning Opportunities:

- *February 15-18, 2011: **Better Process Control School** – Activities & Recreation Center’s Ballroom on the UC Davis campus. [For more information](#).*
- *March 1-3, 2011 (California): **Advanced Topics in Microbial Safety of Fresh Produce**. This workshop is organized as part of a University of California/University of Florida project sponsored by a USDA Specialty Crops Research Initiative. A second session is also available in Florida on April 27-29, 2011. [Use the workshop brochure to submit your application for enrollment](#).*
- *April 26-27, 2011: **Fruit Ripening & Ethylene Management Workshop** - 17th Annual will be held on the UC Davis campus. [Registration is now open](#).*
- *April 27-29, 2011 (Florida): **Advanced Topics in Microbial Safety of Fresh Produce**. This workshop is organized as part of a University of California/University of Florida project sponsored by a USDA Specialty Crops Research Initiative. [Use the workshop brochure to submit your application for enrollment](#).*
- *May 4-5, 2011 (Florida): **Delivering More Flavorful Produce**. This workshop is organized as part of a University of California/University of Florida project sponsored by a USDA Specialty Crops Research Initiative. Following a successful, fully-subscribed first offering at UC Davis Feb. 1-2, 2011, we are accepting registrations for the second session that will be held in Florida.*
- *June 13-24, 2011: **Postharvest Technology Short Course** – 33rd Annual will be held on the UC Davis campus, with an optional field tour covering the San Joaquin Valley and Coastal California. [Registration is now open](#).*
- *September 13-15, 2011: **Fresh-cut Products: Maintaining Quality & Safety** – 16th Annual, at the UC Davis Buehler Alumni Center’s AGR Room.*

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Featured Postharvest Publications

Special 2011 Offer on Avocado Quality Resources

For the first time, we're offering a 20% discount on our "International Avocado Quality Manual" and the laminated "International Avocado Quality Pocketbook". Available in both English and Spanish, these comprehensive resources include sections on assessing quality, ripening external quality, internal quality, cultivars, and damage scenarios. To order a copy for your library, please use our [Order Form](#) by February 21, 2011 and be sure to note "AQR20" to receive your discount. For a complete listing of all our publications see: http://postharvest.ucdavis.edu/Pubs/pub_list.shtml.



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What's New on Our Website this Month

Updated: Most Useful Internet Sites for Postharvest Information

Compiled by Dr. Adel Kader, and recently updated, our "[Most Useful Internet Sites for Postharvest Information](#)" offers a comprehensive list of online postharvest resources.

Two New Articles Added to Postharvest Publications Organized by Topic

Our [datastore](#) contains over 1,300 postharvest documents, organized by topic, and is searchable by title or author. It is one of the premiere sources of comprehensive postharvest information.

- [Fruit temperature and ethylene modulate 1-MCP response in 'Bartlett' pears](#), Max G. Villalobos Acuña, William V. Biasi, Elizabeth J. Mitcham, Deirdre Holcroft. *Postharvest Biology and Technology* 60: 17-23 (2011).
- [Abscisic acid triggers whole-plant and fruit-specific mechanisms to increase fruit calcium uptake and prevent blossom end rot development in tomato fruit](#), Sergio Tonetto de Freitas, Kenneth A. Shackel, and Elizabeth J. Mitcham. *Journal of Experimental Botany*, 12 pages (2011).

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Postharvest Specialists' Activities

Barrett Presents at Pacifichem Meeting

Dr. Diane Barrett participated in the American Chemical Society 'Pacifichem' meeting in Honolulu, Hawaii from Dec. 14-20, 2010 and presented in two symposiums. One presentation was on tomato product consistency, and the other on the effects of processing and storage on plant cell integrity and changes in texture in particular.

Mitcham Travels to Africa

Dr. Beth Mitcham traveled to Ghana and Senegal Nov. 27 – Dec. 11 to visit horticulture operations and attend an Urban and Peri-urban Horticulture Conference.

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- February 9-11, 2011. [Fruit Logistica 2011](#). Berlin, Germany.
- February 15-18, 2011. [Better Process Control School](#). UC Davis campus.

- March 1-3, 2011. **Advanced Topics in Microbial Safety of Fresh Produce Workshop**. (California Session on the UC Davis campus.)
- April 7-13, 2011. **V International Course on Postharvest Technology and Minimal Processing of Fruit and Vegetables**. Offered by the Postharvest and Refrigeration Group (GPR) of the Technical University of Cartagena, Spain.
- April 11-14, 2011. **International Congress of Postharvest Pathology**. University of Lleida, Lleida, Catalonia, Spain.
- April 26-27, 2011. **Fruit Ripening & Ethylene Management Workshop**. 17th Annual. UC Davis campus.
- April 27-29, 2011. **Advanced Topics in Microbial Safety of Fresh Produce Workshop**. (Florida Session in Wimauma, Florida)
- April 30-May 4, 2011. **IARW-WFLO Annual Convention & Expo**. New Orleans, Louisiana.
- May 2-5, 2011. **United Fresh 2011 Convention**, New Orleans, LA, USA; United Fresh Produce Association.
- May 4-5, 2011. **Delivering More Flavorful Produce Workshop**. (Florida Session at the University of Florida - Gainesville campus.)
- May 23-26, 2011. **Postharvest Unlimited 2011**. Wenatchee, Washington.
- June 13-24, 2011. **Postharvest Technology Short Course**. 33rd Annual, UC Davis campus/field tour.
- June 28, 2011. **2nd Annual Produce Research Symposium**. Orlando, Florida.
- July 17-21, 2011. **Second International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life**. Torino, Italy.
- September 13-15, 2011. **Fresh-cut Products: Maintaining Quality & Safety**. 16th Annual. UC Davis campus.
- October 14-17, 2011. **Fresh Summit International Convention & Expo**, Atlanta, GA, USA; Produce Marketing Association.
- December 3-6, 2011. **International Conference on Quality Management in Supply Chains of Ornamentals**. Radisson Hotel, Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or gmsco@kmutt.ac.th.
- December 3-6, 2011. **Southeast Asia Symposium on Quality Management in Postharvest Systems (SEAsia2011)**. Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or seasia@kmutt.ac.th
- December 3-6, 2011. **Asia Pacific Symposium on Postharvest Quality Management of Root and Tuber Crops**. Radisson Hotel, Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or sirichai.kan@kmutt.ac.th.
- June 25-29, 2012. **7th International Postharvest Symposium**. Kuala Lumpur, Malaysia.

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Ask the Produce Docs

Q. I have a customer that is considering freezing whole sweet corn in the husks for storage and use at a later time. He is interested in freezing this sweet corn utilizing a CO₂ freezer which operates at a temperature of -90F. I have several concerns with this process and would like your input if possible. First, what is the effect of freezing unblanched sweet corn on shelf life and quality, second, is there an issue with freezing the corn in the husk including the silks? Do you think that the corn will keep and that the enzyme activity will slow down and allow for storage longer than 20 days without blanching prior to freezing? (A.G.)



A. Freezing is a process commonly used to preserve vegetables, including sweet corn, and it can successfully retain the quality and nutrients in a safe manner, as long as there is not a lot of temperature fluctuation during frozen storage. For effective freezing, the lower the temperature the better. There may be some changes in texture, but these will be minimized if you are able to use a fast, low temperature process. The CO₂ is actually advantageous because this decreases exposure to air, which may promote oxidation. As far as freezing in the husks, this is not a common practice and unfortunately I don't have experience with this, therefore you may need to do some preliminary tests with a small amount of corn to try it. The enzymes will still be present if the corn is not blanched, but as long as you keep it cold they will have very low activity. That's why I said it's best not to have temperature fluctuations....if the temperature goes up the enzymes become more active. You need to reduce the time between when the corn is frozen, thawed and consumed. Otherwise that in-between period can result in quality loss. Please see papers on [vegetable blanching](#) and also on [corn enzymes](#) that I think will be helpful. --[Diane Barrett](#)



Q. About 40 years ago we purchased 35 pounds of dates, tightly packed in a plastic storage pail. From time to time we use them in cooking, such as stuffed cookies, cakes, etc. There is a certain amount of crystallization, but they are still edible. They are a very dark brown color now, and I'm not sure how dark they were when we first bought them. They are stored in a dry basement that never gets above 60-65 degrees in summer. Is there any danger in still eating them, cooked or uncooked? (L.B.)

A. That is an amazing amount of time to store food but so long as you are not seeing signs of mold (white fluffy material or other colors appearing on the surface of the dates), I believe they should be fine to eat. Since they are tightly packed, the moisture content may be relatively stable. I am copying this reply to my colleague, Linda Harris, who is a food safety expert to see if she has a different opinion. --[Beth Mitcham](#)

I agree with Beth. They probably are not the best flavor quality. I personally find dates within a couple of months of harvest are at their best quality – delicate flavor, soft texture. However, with "aged dates" there shouldn't be any safety issues if they have been kept dry. --[Linda Harris](#)

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*If you have a postharvest question that you'd like answered, please send it to postharvest@ucdavis.edu.
Link to a data store of all our previous "Ask the Produce Docs" questions and answers,
or link to archived copies of our [monthly E-Newsletter](#) as PDF documents.
Link to our [Postharvest Yellowpages](#), or email us with [additions or corrections](#).*

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