

POSTHARVEST TECHNOLOGY CENTER

July 2010 News from UC Davis

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News from the Center



Fresh-cut Products: Maintaining Quality & Safety Workshop

We're getting ready to mail out a stack of invitational letters and brochures for our 15th Annual Fresh-cut Workshop, which is now accepting enrollments from those interested in learning more about fresh-cut products (cleaned, washed, cut, packaged and refrigerated fruits and vegetables). This rapidly expanding food category is of special interest for the produce industry, food processors, retailers, and food service operators. Dr. Marita Cantwell, course academic coordinator, has assembled a dynamic team of instructors who offer a wide range of fresh-cut expertise. A series of hands-on and interactive sessions will be included. The course will be held September 14-16, 2010 on the UC Davis campus. For more information or to enroll, please see the course [web page](#). Call or email us using the contact information below if you want us to mail you a copy of the brochure, too.

Rice Quality Workshop in Yuba City

Postharvest Specialist Jim Thompson, and Cass Mutters of the UC Cooperative Extension, will be presenting a Rice Quality Workshop on Wednesday, August 17, 2010. The workshop will be held from 9 a.m. – 4 p.m. at the Bonanza Inn Conference Center, 1001 Clark Avenue, Yuba City. The registration fee of \$100 will include all instruction, a copy of the recently published [Rice Quality Handbook](#), lunch, and coffee breaks. Online registration is available at <http://ucanr.org/rqw>.



Praise for the Field Tour Experience: 2010 Postharvest Technology Short Course

The participants who went on the optional field tour had a lot of positive feedback for us. Comments included the following:

- It was a fantastic opportunity to see so many things in few days. The organization was great.
- Great tour. A lot of value for the money. :)
- Good selection of places so that we saw many different types of operations.



What's New on our Website this Month

New Article Added to Postharvest Publications Organized by Topic

Our [datastore](#) contains over 1000 postharvest documents, organized by topic, and is searchable by title or author.

- **Reassessment of treatments to retard browning of fresh-cut Russet potato with emphasis on controlled atmospheres and low concentrations of bisulphite.** Yurong Ma, Qingguo Wang, Gyunghoon Hong, & Marita Cantwell. Food Science & Technology 45:1486-1494 (2010).
- **Reduction of *Salmonella* on inoculated almonds exposed to hot oil.** Du, W-X, S.J. Abd, K.L. McCarthy and L.J. Harris. Journal of Food Protection 73:1238–1246 (2010). *Note: To receive a PDF copy of this article, please contact contributing author Linda Harris (ljharris@ucdavis.edu).*

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Postharvest Specialists' Activities

Michael Reid and Michael Parrella to be Inducted into the California Floriculture Hall of Fame

Professors **Michael Parrella** and **Michael Reid** are due to be inducted into the California Floriculture Hall of Fame on August 8.

Parrella, chair of the Department of Entomology with a joint appointment in plant sciences, develops integrated pest management strategies for ornamental crops, with an emphasis on biological control. He initiated what has become an annual conference on insect and disease management on ornamentals, sponsored by the Society of American Florists and first held in 1985.

Reid, of the Department of Plant Sciences, is an expert in postharvest physiology and handling of ornamental crops, conducting research on the senescence of ornamental plants, particularly cut flowers and potted plants. With a partial appointment in Cooperative Extension, Reid's work covers the spectrum from studies of the biochemistry of senescence to application, in the field, of new methods in postharvest technology.

The names of hall of fame inductees are engraved on permanent plaques at the San Francisco Flower Market, the Los Angeles Flower Market and the San Diego International Floral Trade Center. *(Courtesy of UC Davis Dateline Staff)*

Eight from University of California Attend Gordon Research Conference on Postharvest Physiology

Drs. Arpaia, Cantu, deFreitas, Kader, Labavitch, Macnish, Mitcham, and Saltveit participated in the Gordon

Research Conference (GRC) on Postharvest Physiology held between 27 June and 2 July, 2010 at Tilton, New Hampshire. Under the leadership of Drs. Elizabeth Baldwin (Chair) and John Fellman (Vice Chair), an excellent program of interdisciplinary presentations and discussions in both the oral and poster sessions was enjoyed by the 110 participants who included many young graduate students and postdoctoral researchers. The group elected Allan Woolf as Vice Chair to work with John Fellman as Chair on organizing the program of the next GRC on Postharvest Physiology during early summer, 2014 in northern Italy.

Central Valley Postharvest News – July 2010 Issue Available

Carlos Crisosto's July 2010 Central Valley Postharvest News is available at <http://www2.uckac.edu/postharv/PDF%20files/CVPN%20July%202010.pdf>

Center for Produce Safety – First Funded Projects' Final Reports Posted

The reports from the first eleven projects funded by the Center for Produce Safety, including "Comparison of surrogate E. coli survival and epidemiology in the phyllosphere of diverse leafy green crops" by Trevor Suslow, and "Survival of attenuated Escherichia coli O157:H7 ATCC 700728 in field-inoculated lettuce" by Linda Harris, have been posted to the internet. Link to the [complete announcement](#).

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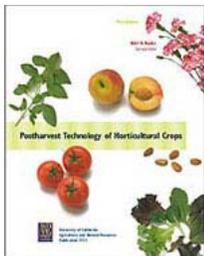
Postharvest Center's Workshops @ UC Davis

2010-2011 UC Davis Postharvest Learning Opportunities

- **September 14-16: Fresh-cut Products: Maintaining Quality & Safety** - 15th Annual, at the UC Davis Buehler Alumni Center's AGR Room. [Registration is now open.](#)
- **October 26: Advanced Process Technologies Short Course** – at the UC Davis Buehler Alumni Center's AGR Room. [For more information.](#)
- **November 30-December 2: Advanced Topics in Microbial Safety of Fresh Produce Workshop** – at the UC Davis Buehler Alumni Center's AGR Room. [More details coming in next month's newsletter.](#)
- **February 15-18, 2011: Better Process Control School** – Activities & Recreation Center's Ballroom on the UC Davis campus. [For more information.](#)
- **April 26-27, 2011: Fruit Ripening & Ethylene Management Workshop** - 17th Annual, at the UC Davis Buehler Alumni Center's AGR Room.
- **May 10-12, 2011: Methods of Measuring Fruit and Vegetable Quality** - at the UC Davis Buehler Alumni Center's AGR Room. [For more information.](#)
- **June 13-24, 2011: Postharvest Technology Short Course** – 33rd Annual, on the UC Davis campus, with the optional field tour covering the San Joaquin Valley and Coastal California. [For more information.](#)

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Featured Postharvest Publication



Special SUMMER Discount for "Postharvest Technology of Horticultural Crops"

Continuing through August 31st, a special 30% Discount is being offered on our cornerstone publication, the "[Postharvest Technology of Horticultural Crops](#), 3rd Edition." This amazing book offers readers the A-Z of Postharvest Technology, and this is a great discount, too! To order a copy for your library, please use our [Order Form](#) and be sure to note "30% Summer Special" to receive your discount.

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Postharvest Positions

Postharvest Plant Physiologist/Food Technologist Position at ARS, Beltsville, MD

The USDA/ARS is seeking a scientist to conduct postharvest plant physiology and food technology research focusing primarily on maintaining food quality of fresh-cut produce. Specific research objectives will focus on improving product quality and marketability of value-added fresh-cut produce via integrated microbiological and physiological approaches and through innovations in postharvest handling, sanitation and active and intelligent packaging technology. Analytical techniques will be used to assess important quality attributes, including color, texture, flavor and taste of fresh and fresh-cut fruits and vegetables. For questions about the position contact Dr. William S. Conway (william.conway@ars.usda.gov). To apply, go to USAJOBS and search Job Announcement Number ARS-X10E-0174. USDA is an Equal Opportunity Provider and Employer.

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- August 2-4, 2010. **Asia Pacific Symposium on Postharvest Research Education and Extension.** Bangkok, Thailand
- August 22-27, 2010. **28th International Horticultural Congress.** Lisbon, Portugal.
- September 8-10, 2010. **Asia Fruit Logistica 2010.** Hong Kong.
- September 14-16, 2010. **Fresh-cut Products: Maintaining Quality and Safety Workshop.** 15th Annual. UC Davis campus.
- September 27-29, 2010. **Fourth edition of the European Short-course on "Quality & Safety of Fresh-cut Produce"** Brindisi, Italy.
- October 25-28, 2010. **International Workshop on Biological Control of Postharvest Diseases: Challenges and Opportunities.** Leesburg, Virginia.
- October 26, 2010. **Advanced Process Technologies Short Course.** UC Davis Campus.
- October 26-30, 2010. **Second International Fruticultura 2010.** La Habana, Cuba.
- November 4-7, 2010. **IACSC Conference and Expo.** San Antonio, Texas.
- November 30-December 2, 2010. **Advanced Topics in Microbial Safety of Fresh Produce Workshop.** UC Davis Campus.
- February 6-9, 2011. **WFLO Institute.** Atlanta, Georgia.
- February 9-11, 2011. **Fruit Logistica 2011.** Berlin, Germany.
- February 15-18, 2011. **Better Process Control School.** UC Davis campus.
- April 26-27, 2011. **Fruit Ripening & Ethylene Management Workshop.** 17th Annual. UC Davis campus.
- April 30-May 4, 2011. **IARW-WFLO Annual Convention & Expo.** New Orleans, Louisiana.
- May 10-12, 2011. **Methods of Measuring Fruit and Vegetable Quality.** UC Davis campus.
- June 13-24, 2011. **Postharvest Technology Short Course.** 33rd Annual, UC Davis campus/field tour.
- July 17-21, 2011. **Second International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life.** Torino, Italy.

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Ask the Produce Docs

Q. I'm looking for a recommendation on a humidity sensor for some long term grape storage rooms. After talking with a few people I'm told the humidity sensors for this duty will have to be something special. The combination of high humidity and low temperature environments is tough duty for a sensor, along with being able to withstand the sulfur dioxide atmosphere. (R.R.)



A. Good quality humidity sensors cost at least \$500. Two companies with good equipment are Vaisala <<http://www.vaisala.com/instruments/products/humidity.html>> and Omega Engineering <<http://www.omega.com/>>, but there are others. Be sure to buy the calibration kit so you can periodically check the instrument. SO2 is a problem. I doubt any sensor will stand up to this, but you can ask the company reps about this. You will probably need to locate the sensor so you can remove it or seal it from the storage air during fumigation. You may also be able to set the sensor up so that a time clock controlled peristaltic pump brings storage air to the unit at programmed times. The pump and piping system will affect your RH reading so you would need to control/measure humidity on the basis of dew point temperature. –Jim Thompson



Q. Is there a standard method for measuring oil content in avocados? I have customers inquire about a device to do this all the time. (R.H.)

A. The standard protocol these days for determining maturity of avocados is using DRY WEIGHT not oil. There is a very close relationship between oil and dry matter. The switch for the California industry came in the mid-80's when the protocol for oil determination, the Hallowax method, was deemed carcinogenic. Most industries now use dry matter although some industries will report in oil content since there is such a close correlation. They do this by generating a regression analysis and using the regression equation to determine oil after determining the dry matter.

Basically dry matter is very easy to determine. All you need is freshly harvested fruit, a scale that can measure to 0.01 g and a good microwave oven.

The California state standard protocol for dry weight determination changed in 2001. I have pasted below the link to the article which describes this method in great detail comparing it to the older method. I also have provided the link to the 1983 paper which served as the foundation for our current use of dry weight. These papers and others pertaining to avocado maturity determination can be found at www.avocadosource.com. Use the search function to look at articles on this topic.

Sampling paper for current California method:

http://www.avocadosource.com/CAS_Yearbooks/CAS_85_2001/CAS_2001_PG_153-178.pdf

The "foundation" paper:

http://www.avocadosource.com/Journals/ASHS/ASHS_1983_108_PG_390-394.pdf

--Mary Lu Arpaia

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.

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