



April 2015

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Director's Update



Postharvest Technology of Horticultural Crops Short Course Nearly Full

We have just a few spaces left before we start a wait list for the 1-week session of the June 15-19, 2015 Postharvest Technology of Horticultural Crops Short Course. This is the 37th time this course has been offered at UC Davis and it just keeps getting better every year! We're always updating the content and looking for ways to make it fresh and meaningful for our participants.

We still have adequate spaces left for the 2-week session of the course, which runs from June 15-26, 2015. The 2 week session includes, in addition to the 1st week's lectures and demonstrations, a technical tour that visits a wide variety of postharvest operations located in Sacramento, assorted locations along the San Joaquin valley all the way south to Bakersfield, and then along the Central Coast of California including locations in Salinas, Monterey, San Juan Bautista, and the San Francisco Bay Area. It's a great opportunity to see these facilities and hear from key personnel about their opportunities and challenges. You don't want to miss it!!

Register now to secure your spot and join us for this excellent course.

--*Beth Mitcham*

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Postharvest Education at UC Davis

Limited Spaces Left! Postharvest Technology of Horticultural Crops Short Course

We're looking forward to welcoming everyone for the June 15-26, 2015 Postharvest Technology of Horticultural Crops Short Course! The team at the Postharvest Technology Center continues to work hard on the numerous details required to run a smooth event. The first week of the course will be held June 15-19, followed by the optional Field Tour scheduled for June 22-26. The first week of lectures and demonstrations is a prerequisite for attendance on the field tour. We anticipate it will be a sold-out course this year as it has often been in the past. This world-renown course is an intensive study of the biology and current technologies used for handling fruit, nut, vegetable and ornamental crops in California. The first week includes a broad spectrum of information about postharvest technology including lectures and hands-on demonstrations, and the popular 2nd week field tour will visit a wide variety of postharvest operations in California's great central valley and coastal regions. For more information or to enroll, visit the [webpage](#), or contact [Ms. Penny Stockdale](#).





Early Registration Rate Ends May 10th for the Third International Conference on Fresh-cut Products: Maintaining Quality & Safety, September 13-18, 2015

This important international fresh-cut conference is organized by Dr. Marita Cantwell, with assistance from the Postharvest Technology Center, under the aegis of the International Society for Horticultural Science (ISHS). The period for submitting abstracts closed on March 22, and authors will be notified of the results by April 15, 2015, however, it is not too late to register to attend. Many interesting abstracts were submitted for both oral and e-poster presentation.

The conference will be organized under the general topics of: Quality & Product Development, Temperature & Handling Logistics, Preparation & Processing, Packaging & Modified Atmospheres, Food Safety & Sanitation, and Marketing & Consumer Acceptance. An industry-academia panel is also planned, focusing on future industry needs and emerging technologies in fresh-cut products.

Special events will include a Welcome Reception, and a Gala Dinner at the California Railroad Museum with period entertainment.

The conference will be held on the UC Davis campus September 13-16, 2015, with an optional 2 day technical tour September 17-18. Conference attendance will be limited to 200 registrations. We appreciate the [sponsors](#) who with their generous support allow us to keep registration fees as low as possible.

To learn more about the conference, visit the [website](#). We welcome online registration using the [registration webpage](#). The discounted "early registration" period closes May 10th. The Registration Coordinator for the conference is [Ms. Penny Stockdale](#). This conference will take the place of the annual UC Postharvest Technology Center's [Fresh-cut Products Workshop](#) in 2015.

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Featured Postharvest Bookstore Items



Use Code "Avo25" to get 25% off our International Avocado Quality Pubs

The International Avocado Quality Manual and Booklets are available in both English and Spanish. These comprehensive avocado quality resources include high-quality photos and extensive information about all aspects of assessing avocado quality, avocado ripening, external quality, pre- and postharvest damage, and much more. The regular price for the manuals is \$45/each, and the regular price for the pocketbooks is \$15/each. Use the code "Avo25" to get a 25% discount off any of these avocado resources. See the complete table of contents at [this link](#).

Please use [this link](#) to order online for shipments to U.S. addresses. For international shipping addresses, please use our [PDF Order Form](#).

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Postharvest Specialists' Updates & Other News

Suslow Article in April / May Issue of *Food Quality & Safety*

Dr. Trevor Suslow's article "[Minimizing Microbiological Risks in Multiple-Use Containers](#)" appears in the current issue of *Food Quality & Safety*. The article addresses challenges, along with corrective measures, posed by multiple-use containers which are frequently used across commodity groups and locales, and often with limited traceability.

Barrett cited in *Consumer Reports* Article

Dr. Diane Barrett participated in an in-depth interview with *Consumer Reports* to talk with them about fresh produce, and is cited in their April 7, 2015 article about "[How to boost the health benefits of fruits and vegetables: Simple tips to get the most out of your produce.](#)"

Harris presents at Northwest Horticultural Council Food Safety Committee Meeting

On April 21st, Dr. Linda Harris gave a presentation to approximately 160 individuals from the apple packinghouse industry in Yakima, Wash. about the "Identification of high-risk areas for *Listeria monocytogenes* and verification of sanitation programs."

Harris one of three instructors at Microbial Challenge Testing for Foods Workshop

Dr. Linda Harris presented on "Pathogens of concern" and "Sampling intervals and test conditions" at the April 14-15 Microbial Challenge Testing for Foods Workshop held in Chicago, Illinois. The workshop was presented by the International Association for Food Protection.

Bruhn article in The Davis Enterprise

Dr. Christine Bruhn's article "Safe food handling could save your life" appeared in the April 8, 2015 issue of The Davis Enterprise. In the article she encourages readers to Keep it Clean, Keep it Cold, Separate Raw Food of Animal Origin and Ready-to-Eat Food, Cook Thoroughly, and Choose Food for Safety. She cites an observation study of 120 households where almost one-third of the cooks did not wash their hands after touching poultry while preparing dinner, and about half of the cooks undercooked their poultry, some by as much as 15°F. [Link here](#) to read the entire article.

Postharvest LinkedIn Group Growing by Leaps and Bounds

The UC Davis Postharvest Technology Center's LinkedIn group has quickly grown to over 400 members. We invite you to join in on the conversation at this new [LinkedIn Group](#)! You'll be the first to hear about new course offerings, website updates, and other postharvest information.

Postharvest Opportunities

Internship at INRA – Avignon, France

[Dr. David Page](#) is offering an internship opportunity working on global tomato quality issues "from field to cans". The internship will consist in measuring quality traits on tomatoes harvested from multi-location trials in France. Relationships between quality traits of fresh and processed tomatoes will be assessed. Competence in biochemistry and food technology are critical, along with an interest in agronomy and data management. The internship period will run from September 2015 – February 2016, and will pay 436 Euros/month and includes the possibility of accommodation at INRA. An internship agreement will be signed between the student, his/her university and INRA.

Post-Harvest Mango Specialist – Winrock International Volunteer Opportunity in Myanmar

The Asia Farmer-to-Farmer Program requests volunteer assistance to assess the quality of mangos in Myanmar, to develop Myanmar mango indices, and improve information on market opportunities in the region. The volunteer(s) should have a master's degree in horticulture with marketing or advertising experience/background. The volunteer(s) should have hands-on experience in mango grading, quality testing and quality control. The position is open for 1-2 volunteers starting mid-May 2015 for 2 months. Winrock arranges and pays for all travel expenses including meals, lodging, visa, and transportation. For complete information see [this webpage](#).

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What's New on Our Website

New in April 2015 in the "Postharvest Publications Organized by Topic" Library

This extensive [free postharvest resource library](#) currently offers more than 1,900 (pdf) articles on a wide variety of topics.

Avocado

Hodde, M.S. M.L. Arpaia, R. Hofshi (2009) [Mitigating invasion threats to the California avocado industry through collaboration](#). California Avocado Society 2009 Yearbook 92:43-64.

Date

Bessi, H., S. Bellagha, K. Grissa Lebdi, V. Bikoba, E.J. Mitcham (2015) [Ethyl formate fumigation of dry and semidry date fruits: experimental kinetics, modeling, and lethal effect on carob moth](#). Journal of Economic Entomology 1-7 DOI: 10.1093/jee/tov032

Quality Evaluation

Shiu, J.W., D.C. Slaughter, L.E. Boyden, D.M. Barrett (2015) [Effect of the shear-to-compressive force ratio in puncture tests quantifying watermelon mechanical properties](#). Journal of Food Engineering 150:125-131.

Onion

Lieberman, V.M., I.Y. Zhao, D.W. Schaffner, M.D. Danyluk, L.J. Harris (2015) [Survival or growth of inoculated *Escherichia coli*](#)

Q157:H7 and Salmonella on yellow onions (*Allium cepa*) under conditions simulating food service and consumer handling and storage. Journal of Food Protection 78:42-50.

Walnut

Frelka, J.C., L.J. Harris (2015) Evaluation of microbial loads and the effects of antimicrobial sprays in postharvest handling of California walnuts. Food Microbiology 48:133-142.

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Postharvest Calendar

- June 3-4, 2015. MRL Harmonization Workshop. San Francisco, CA
- June 7-11, 2015. III International Symposium on Postharvest Pathology. Bari, Italy
- June 8-10, 2015. United Fresh Produce Association Convention and Exhibition. Chicago, IL
- June 15-26, 2015. 37th Annual Postharvest Technology of Horticultural Crops Short Course. UC Davis
- September 13-18, 2015. III International Conference on Fresh-cut Products. ISHS. UC Davis campus
- October 23-25, 2015. PMA Fresh Summit. Atlanta, GA
- November 3-5, 2015. 3rd Produce Safety: A Science-based Framework Workshop. UC Davis campus
- March 15-16, 2016. 22nd Fruit Ripening & Ethylene Management Workshop. UC Davis campus
- June 13-24, 2016. 38th Postharvest Technology of Horticultural Crops Short Course. UC Davis campus
- July 19-21, 2016. IX Congreso Iberoamericano de Tecnología Postcosecha y Agroexportaciones. UC Davis campus

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Ask the Produce Docs



Q. I receive the Postharvest newsletter, and find it very interesting! I would like to know if any research has been done on the use of ethylene absorbers for apples, and the efficacy thereof or not.

If so, would this differ for certain varieties, e.g. Royal Gala, Golden Delicious, Granny Smith or Red Delicious? (C.F.)

A. Research has been done on ethylene absorbers for apples, and a number of strategies have been tested, with some success. I'm familiar with the use of potassium permanganate absorbers and catalytic oxidizers (Swingtherm). Ozone lamps (which absorb ethylene by oxidation by singlet oxygen at the lamp surface, sometimes mediated by a titanium glass catalyst) might also be effective. As you probably know, apples produce a lot of ethylene in storage if they are harvested close to the ideal maturity. CA storage greatly reduces production and response to ethylene and this is probably one of the reasons that it is so effective. The spectacular effects of 1-MCP on quality of stored apples is another demonstration of the importance of reducing the effects of ethylene in apples. I'm copying Beth Mitcham on this reply - she is closer to the current state of play than I.

--Michael Reid

I agree with Michael's comments. The trick with ethylene scrubbing is to get the ethylene concentration low enough. Usually it must be below 1ppm for benefit. This can be challenging for varieties that produce more ethylene, such as Royal Gala, and easier for those that produce less ethylene, such as Granny Smith. The temperature of the fruit will also influence ethylene production. You will want to have the fruit temperature at 0 degrees Celsius or very close to that temperature.

--Beth Mitcham

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End Notes and Disclaimers

Postharvest Questions. If you have a perplexing postharvest question you'd like answered, please send it to postharvest@ucdavis.edu, and we'll see if one of our specialists can help.

Archived Items. Link to a data store of all our previous "[Ask the Produce Docs](#)" questions, or link to [archived copies](#) of our monthly e-newsletter as PDF documents.

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