



August 2016

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Director's Update



Fresh-cut Workshop is Filling

This popular three-day workshop, held September 13-15, is intended for all levels of fresh-cut produce professionals. See below for more details. Don't miss out!

Drumroll Please!

You may have already noticed that we launched our remodeled website this week (postharvest.ucdavis.edu). With its improved navigation and user experience, the new mobile-friendly and streamlined site will get you to where you want to go quickly and easily. We're excited for you to experience and share the new website. If you have trouble finding anything, let us know. We would love to have your feedback!

Announcing New Postharvest Technology Center Director

After nearly eight years, I have decided to step down as director of the Postharvest Technology Center. I am very excited to announce that Dr. Trevor Suslow will be taking over this leadership position. Trevor has been a longtime member of the Postharvest Technology Center and will lead the team with new energy and vision. I will continue to be an active contributor to the programs of the center and assist Trevor in this transition. Please help me welcome him to this position!

--Beth Mitcham

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Postharvest Education at UC Davis



2016 Fresh-cut Workshop

September 13-15, 2016, UC Davis Campus. The fresh-cut industry and this workshop have changed considerably over the past 20 years. Join us if you are new to the fresh-cut industry, or if you want updates on many topics important to the success of the fresh-cut fruit and vegetable sector.

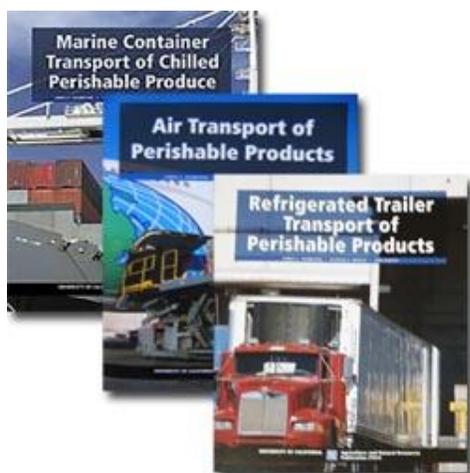
The workshop is relevant to all levels of fresh-cut produce industry professionals—from small, local and regional produce processors to large businesses with nationwide distribution. Food scientists, food engineers, quality assurance personnel and new product development staff as well as representatives from research institutions, the restaurant and institutional food industries, and equipment, packaging and ingredient suppliers will all benefit from attending.

The registration fee is \$1150, and participants may [register on-line](#), or contact our Registration Coordinator, [Ms. Penny Stockdale](#), for more information.

Produce Safety Workshop—Save the Date!

November 1-3, 2016. This workshop, developed and lead by produce safety expert Trevor Suslow, the new curriculum includes the Produce Safety Alliance accredited FSMA Produce Rule training modules for grower certification. In addition to the required components, leading academic and industry instructors will provide an expanded and interactive approach to building an improved understanding of the current scientific basis for produce microbial safety systems and introduction to preventive controls, validation, verification and environmental monitoring. Enrollments open soon!

Featured Postharvest Bookstore Item



Sale! Receive 20% off any of our Transportation Series Publications

Marine Container Transport of Chilled Perishable Produce

An indispensable guide for shippers, transport company personnel, inspectors, surveyors, insurers and receiving company employees. Inside you'll find comprehensive information on how to select the proper boxes for shipment, plan a load, select the correct temperature for loading, keep containers under optimum operating conditions, and monitor and record temperatures during transit.

This booklet includes two 22x34 inch color posters, one in English and one in Spanish, that summarize the major steps for successful loading.

Refrigerated Trailer Transport of Chilled Perishable Produce

This publication is a guide to the proper use of refrigerated highway trailers for shipping perishable products. The publication focuses on fresh fruit and vegetables but also contains information on the transport of meat, dairy and frozen items.

Air Transport of Perishable Products

This publication includes comprehensive information on protecting the product from the temperature extremes that are common in air freight, selecting the proper boxes for shipment, how to plan a load, product compatibility, loading air freight containers, and how to monitor and record temperatures during transit. The publication also describes the advantages and disadvantages of air freight and describes the services provided by freight forwarders.

Use sale code TS20 to apply your discount. And, as always, if you order the whole series, you are automatically given a 25% discount and an additional 10% during our promotional period.

For a complete listing of all our publications see our [bookstore](#).

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Postharvest Specialists' Updates & Other News



Trevor Suslow Invited Speaker

Trevor Suslow gave a presentation entitled "Whole Genome Sequencing as a Tool for Source Tracking Listeria in Produce Facilities" and was a panelist at the IFT 2016 in Chicago during the Genomics Day: Whole Genome Sequencing Enhances Food Safety by Rapidly and Accurately Detecting Pathogens in Food Products in late June. In July, at the YUM! Produce Industry, QSR, FCR Round-Table on Food Safety, Trevor gave a talk on "Current Research in Tomato Food Safety: A plain language overview."

Beth Mitcham Announces two Funding Opportunities from the Horticulture Innovation Lab

How to improve market opportunities for farmers growing tomatoes in West Africa and apricots in Central Asia are the main objectives of two new research grant opportunities from the Horticulture Innovation Lab.

September 12 is the deadline for research proposals for these two projects, each with funding up to



\$300,000 over two years. U.S.-based researchers are invited to apply in partnership with international scientists and organizations. Teams led by U.S. university researchers will be given preference, but proposals led by U.S. researchers at nonprofit and for-profit organizations will also be considered.

USAID mission staff in Burkina Faso and Tajikistan worked closely with the Horticulture Innovation Lab to develop these two grant opportunities to meet local needs.

The research will provide evidence-based analysis to help smallholder farmers better connect with agricultural markets, through practices that address fruit quality, food safety, packaging, handling, processing, transportation, market analysis and other postharvest issues.

Click [here to read the announcement](#).

[Browse the RFP documents here](#) for application details and directions.

Postharvest Technology Center Participating in Farm Tank Tour

The 1st annual Farm Tank Summit will start in Sacramento on September 22 2016 at the Hyatt Regency with interactive panels including researchers, farmers, chefs, policy makers, government officials and students. The second day will have participants traveling to sites around the area for custom-designed tracks that vary from farming operations to tech solutions. On that Friday, a number of Postharvest CE Specialists will be available to interact with participants and answer technical or programmatic questions. The Postharvest Technology Center, Linda Harris, Specialist in Food Safety, and new UCD Community Food Safety Specialist Erin Leigh Dicaprio will participate in the Hubs and Innovation Track Tour. For more information, click [here](#).



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On Our Website

Stay up-to-date with the Postharvest Technology Center by joining our [Linkedin Group](#)

New Publications on our Website

Ngamchuachit, P., Mitcham, E. J., & Barrett, D. M. (2016). [Spatial variance of physicochemical properties within mangos and the effect of initial ripeness stage on the quality of fresh-cut mangos](#). *Journal of the Science of Food and Agriculture J. Sci. Food Agric.*, 96(10), 3613-3620. doi:10.1002/jsfa.7597

Obenland, D., Cantwell, M., Lobo, R., Collin, S., Sievert, J., & Arpaia, M. L. (2016). [Impact of storage conditions and variety on quality attributes and aroma volatiles of pitahaya \(*Hylocereus spp.*\)](#). *Scientia Horticulturae*, 199, 15-22. doi:10.1016/j.scienta.2015.12.021

Donis-González, I. R., Guyer, D. E., & Pease, A. (2016). [Postharvest noninvasive assessment of undesirable fibrous tissue in fresh processing carrots using computer tomography images](#). *Journal of Food Engineering*, 190, 154-166. doi:10.1016/j.jfoodeng.2016.06.024

Postharvest Positions

Fresh Produce Group—Product Technologist

Fresh Produce Group is one of Australia's largest and most innovative fresh produce providers. With offices on the east and west coast of Australia, we employ over 200 people and distribute more than 40 produce categories. We thrive on promoting a passionate work culture and reward employees with development opportunities and competitive remuneration.

We are looking for someone who has a passion for fresh produce and is seeking an opportunity to both deploy and advance their technical capabilities in this exciting and fast paced industry. This role will enable you the opportunity to elevate your career skills and professional profile. In this role on the Technical Team as a Product Technologist you will be responsible for supply chain technical management of product categories and reporting to key internal and external stakeholders. See the [full announcement here](#).

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Postharvest Calendar

- August 7-12, 2016. [3rd All Africa Horticultural Congress of the ISHS](#). North East of Ibadan Township, Nigeria
- September 13-15, 2016. [Fresh-cut Products: Maintaining Quality & Safety Workshop](#). UC Davis campus
- October 17-21, 2016. [III Symposium on Horticulture in Europe \(SHE 2016\)](#). Chania, Greece
- November 1-3, 2016. [Produce Safety Workshop](#). UC Davis campus
- October 11-14, 2016. [Postharvest Technology Course](#). Wageningen Campus, The Netherlands
- February 7, 2017. [FRUTIC Symposium](#). Berlin Germany
- February 8-10, 2017. [Fruit Logistica](#). Berlin, Germany
- July 18-20, 2017. [IX Congreso Iberoamericano de Tecnología Postcosecha y Agroexportaciones](#). UC Davis campus

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Ask the Produce Docs



Q. We utilize your [compatibility chart](#) frequently as a guideline for produce storage, but due to limited storage rooms at each of our facilities sometimes we still have to mix high ethylene producers and ethylene sensitive produce and I would like to be as informed as possible when I make my mixing decisions. I note in many instances that ethylene levels should be below 1ppm, but looking at Zespri's regulations, kiwifruit, for example, has to be stored at a maximum of 0.02ppm, therefore kiwifruit is far more sensitive than "below 1ppm."

I am sure that produce such as Lettuce and Broccoli are far more sensitive than 1ppm and probably so are many more commodities. Are there any studies covering the actual sensitivity of each commodity? Fresh produce facts pages simply states these commodities are simply "sensitive, or "very sensitive" to ethylene, rather than "x" level is safe.

I am also looking for information regarding how quickly ethylene has an effect. Eg. a lettuce placed in a 2ppm environment for 1/2 a day – what has this done to the shelf life and quality for the consumer? My guess is that the supermarket wouldn't notice the damage, but the consumer has lost value.

Any feedback would be great, thanks. (B.R.)

A. We know that many products are sensitive to ethylene in the storage environment, and the negative effects of ethylene exposure include accelerated ripening, increased susceptibility to disease, accelerated yellowing, and increased bitterness (in carrots). However, this response is very much a time/temperature relationship. Thus, for lettuce, russet spotting is caused by ethylene at temperatures above 4°C, but storage at the proper temperature (0°C) eliminates the problem. Kiwifruit is a special case where even at 0°C ethylene at very low levels can result in accelerated softening. Our advice, where mixing ethylene producing and ethylene sensitive product is unavoidable, is to maintain the proper storage temperature (close to 0°C for temperate products, 10°C for chilling-sensitive products) and ventilate with at least one air exchange per hour of exterior air drawn from above the storage building. These two measures will reduce the sensitivity of the product to ethylene, and reduce the level of ethylene to which they are exposed.

--Michael Reid

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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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