



June 2015

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Director's Update



Fresh Changes Ahead

The Postharvest Technology Center welcomes new changes to support our growth and outreach.



We are very pleased to welcome Angelos Deltsides to the Postharvest Technology Center's team. Angelos will serve in the capacity of International Postharvest Specialist and will share time between the Postharvest Technology Center and [Horticulture Innovation Lab](#). Angelos will provide assistance in updating publications, website content, and on-line learning modules. Welcome Angelos!

Our Postharvest Technology Center Manager, Mary Reed, retired at the end of the month after many years of dedicated service. Mary has been the driving force behind the center's success in recent years and her hard work and dedication will be missed. Please join me in thanking Mary and wishing her a happy retirement.



Following Mary's retirement, Lori Carlson has stepped in as Center Manager. Lori has been working with the Center for the past year and comes from the produce industry with a strong background in food safety, quality management systems, and technical writing. Lori will provide oversight for management of the Center's workshops, publication sales, and [Produce Professional Certificate Program](#).

--[Beth Mitcham](#)

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Register by July 31st for the International Conference on Fresh-cut Produce: Maintaining Quality & Safety, September 13-18, 2015



Join us for this important international fresh-cut conference offering learning and networking opportunities for individuals from both academia and industry. The “regular” registration rate has been extended through July 31st. [Click here](#) to register now or contact Penny Stockdale at pastockdale@ucdavis.edu regarding registration.

Why attend the ISHS III International Conference on Fresh-cut Produce?

- 16 Keynote sessions from academic and industry experts
- Cutting-edge oral presentations from leading fresh-cut researchers
- ePoster sessions
- Industry-academic panel
- Optional technical tour

The conference is convened by Dr. Marita Cantwell with assistance from the Postharvest Technology Center under the aegis of the International Society for Horticultural Science (ISHS).

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-academic panel will discuss future industry needs and emerging fresh-cut product technologies.

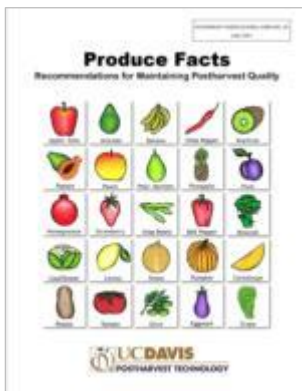
Special events will include a Welcome Reception and Gala Dinner at the California Railroad Museum with period entertainment. Thank you to all our [sponsors](#) for their generous support!

Enrollments Brisk for November Produce Safety Workshop

We welcome enrollments for the “Third Annual Produce Safety: A Science-based Framework Workshop”, November 3-5, 2015, organized by Dr. Trevor Suslow. This 2-1/2 day workshop will be held on the UC Davis campus, and enrollments will be capped to allow participants to fully benefit from the interactive structure of the workshop. Thanks to the support of the Western Center for Food Safety, we are pleased to offer a reduced enrollment fee of \$750 for 2015. [Click here](#) to learn more about this workshop and enroll.

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Featured Postharvest Bookstore Items



NEW! Now Available for purchase in Full Color! PRODUCE FACTS: Recommendations for Maintaining Postharvest Quality

We are very pleased to announce the release of the updated color edition of “Produce Facts: Recommendations for Maintaining Postharvest Quality.” The publication was updated from the original 2002 black and white, text-only publication.

This publication provides key postharvest information for 50 of the most popular fruit and vegetable commodities, including quality and maturity indices, storage temperature, rates of respiration and ethylene production, response to controlled atmospheres and ethylene, and key physiological and pathological disorders. A photo guide for each commodity is included as a reference for maturity stages, controlled atmosphere and temperature responses, and common disorders. [Order your copy now.](#)

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Postharvest Specialists' Updates & Other News



Cantwell invited speaker at Postharvest Technology Course at Wageningen UR

Dr. Marita Cantwell will travel to The Netherlands October 13-15, 2015 to serve as an invited speaker at the [Postharvest Technology Course](#) offered at Wageningen UR. The course will give participants an in-depth view of the latest insights in the biology of postharvest development, ripening and deterioration processes in fresh horticultural products, and will also include an excursion day. Cost for the 4-day course is 2095 Euros.



Cook presented at the 2015 London Produce Show And Conference

Dr. Roberta Cook presented on how demographics, market structure and evolving international trade flows are changing the face of the international fresh produce industry. In her talk, Dr. Cook examined the effect that a combination of mature food markets in Europe, USA/Canada and Japan coupled with the rapid growth of developing economies are having on trade. She further analyzed the modern supermarket sector and changing store formats in developed economies and the rise of supermarkets in the developing world. [Click here](#) to link to a pdf download of the presentation.



Suslow active in development of Produce Safety Alliance Curriculum

Dr. Trevor Suslow remains active in his roles for content development and review of Produce Safety Alliance's (PSA) core curriculum and as appointed lead of the Train-the-Trainer Selection Committee. This June, the PSA held the first two Train-the-Trainer courses to train and certify individuals to deliver PSA curriculum to produce growers to meet the regulatory requirements as proposed in the FDA's Food Safety Modernization Act (FSMA) Produce Safety Rule. [Click here](#) to learn more about upcoming Train-the-Trainer events and the PSA.

Dr. Suslow also recently presented on Applied Research & Extension Outreach to Support Industry Best Management Practices (BMPs) and FSMA Compliance at an invitational seminar at the Centers for Disease Control (CDC) in Atlanta.



Harris presents on Pathogens in Postharvest Environment at the Center for Produce Safety (CPS) 5th Annual Produce Research Symposium

Dr. Linda Harris, co-Principal Investigator of the [Western Center for Food Safety](#), presented on "Sources and mechanisms of transfer of *Salmonella* in the production and postharvest tree nut environment" at CPS' annual research symposium.

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What's New on Our Website

Featured this Month on the Postharvest Technology Center's Website: Postharvest Publications by Topic

Did you know that the Postharvest Technology Center website houses a database of nearly 2,000 articles and presentations authored by UC Postharvest Specialists, USDA postharvest researchers, and others? The database is organized by topic and is searchable. [Click here](#) to get started.

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

Apple

Tonetto de Freitas, S., C.V. Talamini do Amarante, E.J. Mitcham (2015) [Mechanisms regulating apple cultivar susceptibility to bitter pit](#). *Scientia Horticulturae* 186:45-60.

Grape

Uzquiza, L., P. Martin, J.R. Sievert, M.L. Arpaia, M.W. Fidelibus (2014) [Methyl jasmonate and 1-aminocyclopropane-1-carboxylic](#)

[acid interact to promote grape berry abscission](#). Am. J. Enol. Vitic. 65:504-509.

Harvesting

Arpaia, M.L. (2014) [Harvesting, Shipping & Handling Concerns in International Perishable Shipping](#). Recorded at July 2014 American Society for Horticultural Science Conference.

Plum

Kim, H-Y, M. Faruch, Y. Cohen. C. Crisosto, A. Sadka (2015) [Non-climateric ripening and sorbitol homeostasis in plum fruits](#). Plant Science 234:30-39.

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Postharvest Calendar

- September 13-18, 2015. [III International Conference on Fresh-cut Products](#). ISHS. UC Davis campus
- October 13-16, 2015. [Postharvest Technology Course, Wageningen](#), The Netherlands
- October 23-25, 2015. [PMA Fresh Summit](#). Atlanta, GA
- November 3-5, 2015. [3rd Produce Safety: A Science-based Framework Workshop](#). UC Davis campus
- January 20, 2016. [Methods of Measuring Fruit and Vegetable Color, Flavor & Texture 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
- June 21-24, 2016. [VIII International Postharvest Symposium](#). Cartagena, Spain
- July 19-21, 2016. [IX Congreso Iberoamericano de Tecnología Postcosecha y Agroexportaciones](#). UC Davis campus
- September 13-15, 2016. [20th Annual Fresh-cut Products: Maintaining Quality & Safety Workshop](#). UC Davis campus

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Ask the Produce Docs



Q. I have been attempting to find literature on the hierarchy of Pak Choi Family. We have long used both Bok Choi and Tatsoi in our salads; however, I have never been able to distinguish which of the two is truly higher in order. Although most consumers would likely not have the visual background or taste profile experience to notice between the two, it is important to make sure our labeling is correct. Much like the old saying, “all frisée is endive, but not all endives are frisée.” So we label to frisée. I am looking for the same definition for bok choy and tatsoi.

Does anyone in the Postharvest Technology team know the difference, if any at all? (B.B.)

A. The hierarchy of the sub-species of *Brassica rapa* that I was able to determine is:

1. Pak-choi/Bok-choi - *Brassica rapa* sub species *chinensis* (leafy Chinese cabbages)
2. Wom-bok - *Brassica rapa* subspecies *pekinensis* (headed Chinese cabbages),
3. Tatsoi - *Brassica rapa* subspecies *rosularis* (spoon-leafed mustards)
4. Mizuna - *Brassica rapa* subspecies *nipposinica*
5. Mibuna - *Brassica rapa* subspecies *japonica*
6. Khomatsuna - *Brassica rapa* subspecies *periviridis*

So Tatsoi and Pak-choi/Bok Choi are on the same level - both sup-species of the same taxon. This leaflet:

http://www.lefroyvalley.com/Portals/1/Resources/Documents/Asian_Greens_leaflet.pdf

summarizes characteristics of the different subspecies of *Brassica rapa*.

Cheers,
[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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