



March 2017

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Director's Update



February was another intense month of activity, between extension support response due to heavy periods of rain in California (see image), FSMA Produce Safety and Preventative Controls trainings, and launching our industry outreach and research activities on Listeria Environmental Monitoring Baseline Surveys.



Environmental flooding hits CA coastal regions; tough crop and field disposition decision became necessary.

Therefore, this month I am turning my Director's Note over to PTC Program Associate Heidi Meier who has been pulling together an assessment and impact overview of our Short Course Scholarship Program. Please read her interview with our first scholarship recipient, Mekbib Hilegebriel Seife from Ethiopia in the Resource Spotlight section of this Newsletter.

Postharvest Short Course Scholarship applications for 2017 are closed and a recipient has been chosen. We look forward to hosting Bernard Rwubatswe from Rwanda. General Short Course registration information can be found [here](#).

Hot off the press! Helena Bottemiller Evich's [The vegetable technology gap](#) story was just published at Politico.com. It should be of interest to those of you who think Washington funding should be funneled toward getting consumers to eat more fruits and vegetables by making them more accessible and tasty rather than funding the foods we shouldn't be eating.

Postharvest Education at UC Davis



Register Soon to Secure your Spot in the Fruit Ripening & Ethylene Management Workshop

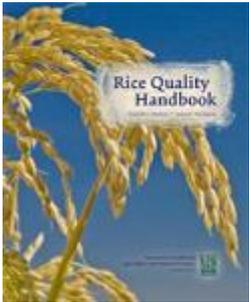
The 23rd annual Fruit Ripening & Retail Handling workshop will be held April 18-19, 2017 at the Conference Center on the UC Davis campus, and is intended for shippers, fruit handlers (wholesale and retail), and produce managers who are involved in the handling and ripening of fruits and fruit-vegetables. The workshop is coordinated by Drs. Mary Lu Arpaia and Florence Zakharov, and will focus on managing the effects of ethylene, reducing losses at the receiving end, and delivering ready-to-eat, delicious fruits and fruit-vegetables to consumers. Registration for this 2-day workshop is priced at \$885 and includes all instruction, instructional materials, morning and afternoon coffee, and two lunches. Space is limited. To register, or for more information, see the [webpage](#) or contact [Ms. Penny Stockdale](#).



Postharvest Technology of Horticultural Crops Short Course is Starting to Fill Up

This outstanding course is an intensive 2-day (June 19-20), 1 week (June 19-23), or 2-week (June 19-30) study of the biology and current technologies used for handling fruits, nuts, vegetables and ornamental crops in California. The first week includes the already-mentioned fundamentals and commodity profiles plus lectures and hands-on demonstrations, and the optional 2nd week is a field tour that will visit a broad spectrum 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](#).

Featured Postharvest Bookstore Item



Receive 25% off this month's featured publication: Rice Quality Handbook

Through the end of March, we're offering a 25% discount on the [Rice Quality Handbook](#). This 141 page handbook provides detailed information on how to produce high-quality rice from planting to postharvest. It was written primarily for the Sacramento Valley rice industry, but worldwide rice operations, including growers, buyers, operators of dryers, warehouses, and processing operations, will benefit from this handbook. It is illustrated with 39 color photographs, 58 graphs, and 35 line drawings. To order a copy, please use our [online order form](#) and note "RiceQuality25" to receive your discount.

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

Resource Spotlight

Short Course Scholarship recipient reflects on course's career impact

We have initiated a renewed effort to continually improve the Postharvest Technology Center's core curriculum, and its benefits and impact on the industry professionals who attend. In keeping with this goal, we reached out to past recipients of the Postharvest Technology of Horticultural Crops Short Course Scholarship to learn how their participation has enhanced their research capabilities, and contributed to their career success and community betterment. Each year, an all-inclusive Short Course Scholarship is awarded to a deserving horticulture innovator from a developing country who plans to bring home and disseminate knowledge gained from attending the Short Course.

Mekbib Hilegebriel Seife in Addis Ababa, Ethiopia was awarded the Scholarship in 2012 and is using gained knowledge, in conjunction with extramural research support, to combat malnutrition by developing Nutrition Sensitive Agricultural Approaches that decrease postharvest losses and increase access to nutritious fresh produce in his home country.

Postharvest Technology Center: What is your current role as a postharvest professional?

Mekbib Hilegebriel Seife: Currently, I am working in the resilience project of Feed the Future (FtF) in support of agriculture and nutrition linkage as a Field Level Nutrition and Behavioral Change Communication (BCC) Technical Advisor at Mercy Corps Ethiopia.

PTC: What are your responsibilities in that role?

MHS: My current role includes:

- Learning how agriculture activities can contribute to tackling malnutrition in Ethiopia. This includes postharvest activities such as storage, processing, preservation, food safety, cooking demonstrations and learning how technologies can enhance access, availability, and utilization of nutritious and safe food in the vulnerable community
- Developing and facilitating various participatory tools, facilitation guides and capacity-building processes in agriculture, nutrition and health for government and non-government partners at regional and local levels (Nutrition Sensitive Agriculture Approaches)
- Leading in the research design, pretesting, production, and distribution of Behavioral Change Communication (BCC) and Information, Education, and Communication (IEC) materials for both immediate and underlying causes of malnutrition such as maternal/child nutrition, household income, decision making, food security, etc.
- Facilitating and conducting trainings in agriculture (postharvest management, food safety, and food preservation), nutrition health for Development Agents, health extension workers, school teachers, and community

PTC: What is the most important thing you learned from attending the Short Course?

MHS: The supporting materials widened my knowledge and enabled me to get research awards at national and international levels. In addition, the field tour visit gave me fundamental knowledge in completing my MSc thesis research and different postharvest technologies research without any problems.

The one week practical visit started from small-scale agriculture producers, field harvesting, transporting, packaging and processing up to large scale processing, shipping/transporting, food safety practices, and marketing centers of different producers. I was very impressed with the practical visit and it gave me lifetime assets in advising/consulting my country in small and large scale food processing industries, practicing food safety, transporting, processing packaging of fruits and vegetables. It also gave me great insight in understanding the gap of the technology and skills in my homeland versus a developed country, and tools to consult and advise the areas that can be improved.

PTC: How did the Short Course help you become more qualified for, or proficient in, the role you hold now?

MHS: The short course not only made me qualified and competent in my organization but also a resource person in Ethiopia in the area of postharvest. I have been participating in strategy planning and designing of agriculture projects (postharvest technology) and nutrition linkage, developing research projects and awards, and adopting and introducing different postharvest technologies in the area of postharvest and nutrition linkage.

PTC: How has your gained postharvest knowledge helped you improve your community/region?

MHS: Ethiopia is one of the countries with the highest level of postharvest losses ever recorded. It is estimated to be 25-30% for non-perishable crops and 50% and above for perishable products. The Short Course was an eye-opener for me to see the gap of skill, knowledge and technologies of my community as well as my country in postharvest management. Some of my past and ongoing activities are:

- Translated the Postharvest Technology Center's "Small-Scale Postharvest Handling Practice: A Manual for Horticulture Crops (4th Edition)" to local Ethiopian language, Amharic
- Took the lead share of postharvest management and nutrition components in Nutrition Sensitive Agriculture manuals for DAs
- Was awarded research grant from Ethiopian Institute of Agricultural Research (EIAR) on Introduction and Adaptation of Postharvest Storage of fruits and vegetables under arid climate conditions
- Worked as a Board Advisor and International Conference Organizer at the World Food Preservation Center
- Development/innovation of Appropriate and Ventilated Onion Storage (AVOS) technology in Ethiopia
- Studied effect of rice parboiling on nutrition value improvement and breakage reduction during rice threshing
- Studied Effect of Zero Energy Cooling Chamber and Postharvest Treatments on Physico-Chemical Quality and Shelf Life of Tomato Fruits
- Adopting and Scaling-up Underground Pit Grain Storage and food preservatives
- Harvesting and postharvest Handling of Dates in Afar Region of Ethiopia
- Conducting trainings in postharvest management, food safety, and nutrition and food preservation for researchers, DAs, Agricultural Extension Workers, health extension workers, school teachers, and model farmers

Mekbib shares some photos and descriptions of his regional work:



Evaluating Bako Mechanical Maize Sheller at field level (Dubti Woreda of Afar Region), Ethiopia to optimize knowledge transference parameters before adopting at farmers level.



Constructing 100 kg capacity of Zero Energy Cooling Chamber (ZECC) from bricks and river sand at Samara Agricultural Research Center Compound of Ethiopia, for fruits and vegetables storage. ZECC is well known for reducing physiological loss in weight and decay loss in fruits and vegetables by lowering the temperature and increasing the relative humidity as compared to ambient conditions.



Measuring relative humidity and temperature inside the Zero Energy Cooling Chamber (ZECC) using digital thermo-hygrometer at Samara Agricultural Research Center of Ethiopia. The average differences in dry bulb temperature between ambient and inside the ZECC were 15.34 °C, with the average difference in relative humidity of 56.6% during the 30 days of storage of tomato fruits.



Conducting training on Nutrition Sensitive Agriculture for agricultural and health extension workers at Awash town of Ethiopia. The training included basics of Food Handling, Storage, preservation techniques of Post-harvest handling and food safety action of agricultural produces.

On Our Website

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



New Publications on our Website

E.D. Pliakoni, A.I. Deltsidis, D.J. Huber, S.A. Sargent and J.K. Brecht, 2015. [Physical and Biochemical Changes in Broccoli That May Assist in Decision-Making Related to International Marine Transport in Air or CA/MA](#). Proc. XIth Int. Controlled and Modified Atmosphere Research Conf., Acta Hort. 1071, ISHS 651-658

Irwin R. Donis-González, Daniel E. Guyer, 2016. [Classification of processing asparagus sections using color images](#). Computers and Electronics in Agriculture 127 (2016) 236–241.

Postharvest Calendar

- March 28-31, 2017. [1st All Africa Postharvest Congress & Exhibition](#). Nairobi, Kenya
- April 18-19, 2017. [Fruit Ripening & Ethylene Management](#). UC Davis Campus
- June 19-30, 2017. [Postharvest Technology of Horticultural Crops Short Course](#). UC Davis Campus and Central CA
- July 2-6, 2017. [IX International Peach Symposium](#). București, Romania.
- July 18-20, 2017. [IX Congreso Iberoamericano de Tecnología Postcosecha y Agroexportaciones](#). UC Davis campus
- September 26-28, 2017. [Fresh-cut Products: Maintaining Quality & Safety Workshop](#). UC Davis Campus
- October 10-13, 2017. [Postharvest Technology Course](#). Wageningen, Netherlands
- October 17-20, 2017. [International Postharvest Unlimited Conference \(ISHS\)](#). Madrid, Spain

Ask the Produce Docs



Q. I am planting an acre of snow peas and an acre of edamame in the central coastal area of California with the idea of direct marketing the pods to Asian restaurants for fresh use. If they're sold in 5 to 10 lb quantities, should they be packed from the field in cardboard boxes, plastic clamshells, plastic bags? What would you recommend to reduce post harvest damage? (M.M.P.)

A. I suggest keeping them cold and dry. Therefore, forced air cooling in clamshells or boxes should work fine and would be preferable to plastic bags. If you use plastic bags, I would add a paper liner to absorb any condensed water. Snow peas are often packed in waxed cartons to reduce moisture loss, but if you market soon after harvest, this should not be an issue. Both should be harvested when as cool as possible to reduce quality changes before cooling. We have measured respiration rates of edamame and they are similar to peas and snow peas. I hope this is helpful.

Marita Cantwell, Ph.D.

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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