Here in California, signs of spring are everywhere if one looks closely. The almonds are blooming, bulbs are flowering and the grass is starting to grow again. In your area, it may be time to decide what crops to plant for upcoming harvests. The selection of variety can have a large influence on product yield, disease resistance and quality. In addition to field performance, postharvest quality, performance and shelf life are strongly influenced by variety selection. Published studies can be found that outline these postharvest characteristics for various crops, but more work is needed. I recommend that growers reach out to research and extension personnel in their area to learn about the latest relevant studies, and consider the results in their decision process.

It is my distinct pleasure to announce that our colleague Irwin Donis-Gonzalez has agreed to serve as Associate Director of the UC Postharvest Technology Center. Irwin is a Cooperative Extension Specialist in the Department of Biological Engineering at UC Davis. Dr. Donis-Gonzalez’s expertise includes improved food processing technologies, refrigeration and drying processes, and food safety.

Finally, we are excited to open registration for our first two extension courses for 2021. See the details below and consider joining us!

Beth Mitcham

Interim Director, Beth Mitcham

Associate Director, Irwin Donis-Gonzalez

Fruit Ripening and Ethylene Management Workshop

Virtual, April 13-22, 2021

Live Sessions twice weekly for two weeks.

This popular workshop focuses on how to increase profits by reducing losses at the receiving end, and delivering ready-to-eat, delicious fruits and fruit-vegetables to the consumer. Topics will include ripening facilities and equipment, maturity and quality relationships, biology of ethylene production, sensory quality, temperature management, retail, physiological disorders and other losses, and demonstrations on measuring sensory quality, instrumental quality, and environmental parameters. Please visit our website for more information.
Postharvest Technology of Horticultural Crops Short Course

Virtual, June 3-June 24, 2021

Live Sessions twice weekly for four weeks.

This course is an intensive study of the biology and current technologies used for handling fruits, nuts, vegetables and ornaments in California. It is designed for research and extension workers, quality control personnel in the produce industry, and business, government or academic professionals interested in current advances in the postharvest technology of horticultural crops. Please visit the website for more information.

Our Website & Social Media

Highlights of New Publications on our Website


The primary goal of this research was to gain a better understanding of avocado flavor, specifically which volatiles make a significant contribution to the flavor, how the flavor changes over the harvest season, and how the volatile odor profile is linked to oil and water contents. The study characterized avocado’s aroma-active volatiles and used information about its overall composition, such as lipid profile, to discuss likely biosynthetic origins. To achieve this, two varieties, “Hass” and “3-29-5” (GEM), were evaluated during their commercial harvest period for dry weight, moisture content, oil content, fatty acid composition, and aroma profile. Oleic acid (>50%) was the prominent fatty acid in the oil of both varieties. The majority of the aroma active compounds in avocado are lipid-derived. The most notable compounds are 1-octen-3-one (mushroom; with a flavor dilution factor as high as 8192), hexanal (grassy), (Z)-4-decenal, an unknown, and (E,E)-2,4-nonadienal. Over the mid-to-late harvest season, a decline in hexanal and an increase in octanal were observed. In contrast to “Hass”, the hexanal content was relatively stable in “3-29-5”.


This article provides a short overview of important quality factors of stone fruits and a nice review of the response of peaches, plums and apricots to controlled and modified atmospheres, including an extensive list of references.

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Postharvest Calendar

Q. I work in a factory where we process frozen broccoli, we receive the raw material from fields and it is in storage about 4 or 5 days before we process it. I need information about the consequences of presence CO2 (around 800 ppm) and CO (around 100ppm). The temperature in the cold storage is around 10 C and the humidity around 85%.

A.A.

A. The CO2 and CO levels will not detrimentally affect the quality of the broccoli, however storage at 10C for 4-5 days will result in some loss of nutrients even if yellowing is not yet visible. Dropping the temperature to 5C or lower would be beneficial. See the graph below to put temperature into perspective. The relative humidity is of importance only if you are getting dehydration of some of the product during that period. Often the top crates in a room will suffer dehydration and may need to be covered (with empty containers or carton covers). Slight dehydration is not an issue if the broccoli is frozen. I am mainly thinking about the quality of the product for fresh market.

Also since CO is toxic to humans, there are guidelines about worker exposure in relation to concentration. Although you are no doubt aware of this, here is a link to an OSHA fact sheet about CO. I hope this is helpful.

--Marita Cantwell