

Our first speaker for 2018, Tracey Kahn, provided us with an in-depth talk entitled “Citrus Appeal: Delving Into Citrus Diversity at UC Riverside,” which was not only informative as a presentation, but also provoked an enthusiastic question and answer session afterwards in part due to the timely subject matter she presented. Kahn is the curator and Givaudan Citrus Variety Collection Endowed Chair for the University of California, Riverside Citrus Variety Collection which is one of the world’s most diverse living collections of citrus and citrus relatives.

She began by informing us that within the Citrus genus, the number of species has always been controversial; and at UC Riverside (UCR) the Swingle System of taxonomic classification is the preferred one used for naming species. She then stated that research done since the 1980s has shown that there are four basic biological species within the citrus family: pummelo, mandarine, citron and papeda. There is much diversity within these groups, and the collection at UCR presently contains four specimens each of 1,038 varieties, ranging from pea-sized to the size of a human head, with most being inedible. Kahn explained that the major commercial cultivar groups are hybrids with diversity through mutation, and gave a brief history of the how the genus arrived (and thrived) in Southern California.

Citrus originally radiated out of east Asia in the Miocene or Pliocene period, eventually making its way to Mexico and then California via the missions. “Orange Fever” gripped California in the 1870s, and when the Washington Navel was introduced to Riverside in 1873, it was a great stimulus to the citrus industry. During the 1910s, Herbert J. Webber established a small grove at UCR which eventually grew into the Citrus Variety Collection of today.

Kahn then “toured” us through some of the many varieties of citrus grown

in Riverside, including: the Moro and Sanguinelli blood oranges; the Gold Nugget, Minneola, seedless Kishu and W. Murcott mandarins; the sour Chinotte, Seville and Bergamot oranges (typically used in jams); the Star Ruby, Red Blush and Duncan grapefruits; the popular Valentine pummelo; the virtually inedible citrons such as Diamante, Etrog and Buddha’s Hand; as well as assorted lemons and limes. Beyond these, she went on to show some of the many citrus relatives (which are from different genera), that are also a part of the UCR collection, such as *Poncirus trifoliata*, *Berbera koenigii*, *Severina buxifolia* and *Microcitrus australasica*. The collection is both a resource for research and conservation, as well as an institution that actively seeks to acquire, preserve and broadly distribute citrus varieties.



Photo credit: Elena Zhukova

UCR has been instrumental in the development of many new commercial cultivars currently used throughout the world, with many more potential varieties currently being tested. Most notably, they have had a 12-year collaboration with the Givaudan company, which globally holds the largest market share in the creation of flavors for citrus beverages. In addition to orange, lemon and lime, citrus flavoring is also found in colas, teas and fruit punch. Kahn and Mikeal Roose are the co-principal investigators at UCR on a grant funded by the market board for the citrus growers

in California (California Citrus Research Board), to conduct integrated citrus breeding and evaluation research for California.

In addition to holding a Ph.D. in Botany from UCR, in 2005 Kahn also graduated from the California Agricultural Leadership Program: a two-year development course focused on critical issues facing California agriculture and the leadership skills required to help resolve some of those issues. In the last few years, the threat of Huanglongbing (HLB) or Citrus Greening Disease, has been a major concern and spurred much research. It has been spreading rapidly throughout Southern California for the last few years, and in July of 2017, the first case was discovered in Riverside. Fortunately, UCR started a back-up collection of their trees in 2008, which are routinely tested for HLB, and to date have only tested negative. For the future, the university has a 2 Phase Plan to protect their collection: 1. CUPS (Citrus Under Protective Screens) are structures which will eventually house mature trees of all their cultivars, and 2. ongoing fundraising to continue research into other control measures. To date, there are no biological controls, although work is being done on developing methods for interrupting the reproductive cycle of the psyllid that carries the disease.

Kahn concluded her program by taking questions from the audience ranging from where the public can go to seek out specialty citrus varieties (Four Winds Growers), to taking precautions against HLB (careful, frequent and painstaking inspections), to whether UCR allow tours of their collection (usually limited to small groups, with special permission). Keeping in mind Kahn’s statistic of six out of 10 residential properties in Southern California growing some type of citrus, it was no wonder there were more unanswered questions on this topic than could be covered in one evening.

✂ Sabine Steinmetz

SHARING SECRETS RESPONSES

What garden-related gifts were you happy to receive for the New Year?

Begonia ‘Diane Parr’, Begonia ‘Mary Mauck’ and rose gauntlets!

- Lorraine Kasse

Begonia ‘Bubbles’ - a wonderful gift from a garden friend.

- Gloria Leinbach

My new, lightweight Water Right hose!

- Mary Harrison

Elbow-length garden gloves (leather for rose pruning) and two glass Christmas ornaments: a greenhouse and a bee skep.

- Shirley Marneus

My mother-in-law on the east coast usually sends me a gift certificate for Annie’s Annuals. I get to pick out the little plants in the spring and I send her pictures as they grow.

- Anonymous

Thanks to everyone who shares with us!



This month we are hoping to get even more member responses to our Sharing Secrets question about potential Horticulturalist of the Year (HOTY) candidates. The SCHS board will be making a selection in the next few months and welcomes your input.

For a list of past recipients, please check out the SCHS Events tab at www.socalhort.org. **Thank you!**