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University of California
Agriculture and Natural Resources
Making a Difference for California

The Green Scene

UCCE

February 2024

Meetings and Announcements

Annual Winter Pruning Demonstrations--January

Thanks for attending.

Master Gardener Program

UC Cooperative Extension in Kern County has received funding for a Master Gardener (MG) coordinator. The funding cycle began Oct. 1, and the wheels are turning to hire a coordinator. The timeline suggests we would begin the MG program next fall. The MG program offers classroom instruction in horticulture with a required volunteer-hour component. We have not had an MG program in Kern Co. since ca. 1993, when we moved to an educational outreach in horticulture without the volunteer component. I don't have plans for a horticulture class this spring and likely not until the MG program begins.

We live in hope this program will happen.

Next Horticultural Tour

Yes, we are working on an itinerary to northern Spain and Portugal in early autumn, 2024. The likely start date would be either September 8 or 15, depending on hotel availability and other logistics. We had a very good horticulture tour visit to Madrid and southern Spain a few years ago, so this itinerary would take us to areas we have not previously visited on a horticulture tour. There has been interaction between our business manager and an operator in Spain, but I don't have a summary to offer at the moment.

Ethylene, Flowers and Fruit

By coincidence, this newsletter is written at the time of Valentine's Day. Let me say something about cut flowers, since flowers are associated with the day.

Ethylene, C_2H_4, is a short-chain hydrocarbon with a central double bond that is a gas at normal room temperature. It is produced by ripening fruit and acts as a hormone to induce further ripening in that fruit and surrounding fruit. It also acts to promote senescence in flowers, senescence being the aging of the flower, which may include petal discoloration and petal drop as well as leaf abscission. Its production varies by plant part and plant species as well as temperature. Injury to plants, such as folding and breaking leaves, can result in ethylene emission. Many plants--and flowers--are sensitive at part-per-million concentrations in air.

Through its breakdown and release of ethylene, the growth regulator ethephon, various trade names, acts to cause immature fruit to drop. That can be desirable for ornamental olive trees as well as plant parasitic mistletoes.

Ethylene has been extensively studied because of its effects on cut flowers, such as roses. Many of the cut roses sold in the U.S. and Europe are produced in the high-altitude tropics and then shipped by air freight, so keeping ethylene levels low in the shipping process has been a key to preserving flower quality.

On a practical level, placing fruit in a ripening bowl (usually a plastic bowl with a cover) traps ethylene and promotes further ripening of kiwifruit, for example. (It is not necessary to place in a window or expose the fruit to light.) To slow down ripening, keep the fruit cool without confinement.

What about cut flowers? A key to maintaining vase life is keeping the flowers away from ethylene. The packets of preservative sold with cut flowers typically contain an ethylene scavenger as well as a plant food source, e.g., a sugar. After buying cut flowers or cutting them at home, it's helpful to recut them under hot water and then immediately place in a vase of cool water. Re-cutting opens the stem so water can be taken up, since cut stems still do this. And use the preservative if it came with the flowers.

Flowers sold in grocery stores are often held in proximity to the produce section, where apples, bananas, kiwifruit, and others are releasing ethylene—can't be helped, although cooler temperatures slow the rate of ethylene release. When I worked for a florist years ago, no one was allowed to store a lunch in the flower cooler so as to not to possibly introduce an ethylene source. Flowers purchased from a florist shop may offer longer vase life since ripening fruits are not close by.

John Karlik
Environmental Horticulture/Environmental Science

Disclaimer: Discussion of research findings necessitates using trade names. This does not constitute product endorsement, nor does it suggest products not listed would not be suitable for use. Some research results included involve use of chemicals which are currently registered for use or may involve use which would be considered out of label. These results are reported but are not a recommendation from the University of California for use. Consult the label and use it as the basis of all recommendations.

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