

SPRING 2013 HORTICULTURE STUDY TOUR: IRELAND

Due to a confluence of circumstances, we offer a horticulture study tour, the seventh in a series, to Ireland beginning May 9 and lasting eight days. I realize this is short notice, but I've wanted for some time to visit several of the Irish gardens and the opportunity has arisen. The Emerald Isle is home to a number of large landscapes and noteworthy gardens, including national gardens and an island garden. We plan to begin on the East Coast (Dublin) and work west to the southwest corner. I have already made travel arrangements, and I invite any interested to join me. Please send me an email or give me a call if you would like to receive the itinerary. By coincidence, the Ireland has announced 2013 as The Gathering, inviting people with Irish heritage to visit. I don't have any Irish heritage, although some of my ancestors may have been there, arriving as unwelcome visitors on their long ships.

OLEANDER SCORCH

Oleander scorch has been positively identified in the Bakersfield area, and symptoms of a number of oleanders in various parts of the city suggest the disease is becoming widespread. There is no way of clearing plants of the disease once infected, but oleanders may live for awhile (perhaps a few years, but we don't really know for our area) after infection.

There are several plant diseases that can interfere with water uptake and movement within plants resulting in symptoms resembling those caused by drought, including wilt diseases and scorch diseases. Of greatest economic importance in Kern County is Pierce's disease of grapevines, caused by the bacterium *Xylella fastidiosa*. The disease is spread by glassywinged sharpshooter insects. Once injected into grapevines by feeding, bacteria multiply and plug xylem tissue, causing inability of the vine to move water to leaves, resulting first in leaf scorch and ultimately in collapse of the vine. There is no remedy once the bacteria are inside the vine; prevention of transmission by controlling sharpshooter populations is the management strategy currently employed.

In the early 1990's drought-stress and dieback symptoms were noticed on oleanders in the Palm Springs and Riverside areas. These symptoms were unusual since oleander is so well adapted to dry conditions because of its leaf structure, and we see the practical effect of its drought tolerance in the hundreds of oleanders in many freeway medians where irrigation is infrequent. Subsequent investigation in Southern California revealed the presence of *Xylella fastidiosa* in the affected oleanders, although not the same strain that affects grapevines. Therefore, infected oleanders cannot result in transmission to nearby grapevines or vice versa.

Although we have occasionally noticed dieback of oleanders in Kern County, particularly in the Bakersfield area, the incidence of dieback problems has seemed sporadic. Oleander scorch was not identified here until June, 2011. Thanks to the work of Joe Nunez, plant pathologist with UC Cooperative Extension, and his colleagues, oleander scorch was confirmed in plant samples taken from oleanders at Bakersfield College. Polymerase chain reaction, a technique for amplifying DNA, and bacterial culture has both confirmed the presence of *X. fastidiosa* in these oleanders.

The number of sharpshooter insects would be expected to affect the rate of transmission to oleanders around the county. Unfortunately, glassywinged sharpshooters are now frequently found throughout the Bakersfield area. If dieback of oleander is observed, pruning out affected branches may retard the spread of the bacteria within the plant.

There are other causes for dieback of oleanders, such as mineral toxicities and long-term lack of water. In colder-winter areas like China Lake oleander dieback is seen after winter. However, oleander has been one of the most persistent and durable plants in Kern County. Time will tell with regard to the disease impact of oleander scorch in the Bakersfield area.

There are UC IPM Pest Notes on both oleander scorch and the glassywinged sharpshooter, available at <http://ucipm.ucdavis.edu/PDF/PESTNOTES/index.html>.

PREVENTING NUISANCE FRUIT FORMATION IN SHADE TREES

Plants produce seed, and sometimes that seed comes wrapped in a fruit. In summer, sidewalks and driveways can become littered with seeds and fruit from plants such as purpleleaf plum, fruiting mulberry, and olive, and the messy pulp can be tracked into houses, leaving stains on floors and carpets. Can fruit development be prevented?

The answer is sometimes. There are at least three ways to prevent fruit formation that may be effective depending on the plant in question.

The first is variety selection when planting a new tree or shrub. Plant breeders have developed non-fruiting cultivars that can be grown in place of the species. Examples include fruitless mulberry, seedless ash, and liquidambar that does not produce spiny seed balls. If male and female flowers are found on separate plants, the male plant can be grown. Ginkgo is large tree where the male cultivar is desirable, since the female tree produces numerous and quite odiferous fruit.

For trees that are established, cultural practices may limit but don't usually prevent fruit formation. Heavy pruning can limit fruit formation both by reducing the amount of foliage and also by pushing the tree into a more vegetative state. A drawback is the deformed canopy and loss of shade that heavy pruning produces.

As a third approach, there are growth regulators that can limit or eliminate fruit formation. However, these don't work on all plants. For example, there is no growth regulator that can prevent fruit formation in mulberry and purpleleaf plum. However, for olive, crabapples, and liquidambar, the growth regulator ethephon is effective if applied at the right time (flowering) and the right concentration (per the label instructions). Ethephon breaks down to release the gas ethylene, which is a natural product responsible for fruit ripening—it's released by bananas, apples, and kiwis as they ripen, stimulating more ripening of surrounding fruit. One product that has been available with ethephon as its active ingredient is Florel™.

In addition to preventing fruit development in certain shade trees, ethephon can be used to remove mistletoe berries. Mistletoe is a parasitic plant living on a number of host tree species. There are two types of mistletoe found in Kern County: leafy mistletoe, often seen as green clusters of foliage among branches of native oaks, and dwarf mistletoe, found in conifers and much more destructive to its host than is leafy mistletoe. Application of ethephon in autumn can cause berry drop, limiting spread of mistletoe. However, unlike experiments in Northern California, we have not been successful in Kern or southern Tulare counties in causing leaf and stem abscission of leafy mistletoe with application of ethephon.

FALL 2013 HORTICULTURE CLASSES, I and IV

For more than 25 years we've offered horticulture classes to the community, and we are pleased to do so again this autumn. Upcoming classes can benefit homeowners by conveying knowledge of how to take care of turf and landscape plants as well as how to grow food, including vegetables and fruits, saving time and money. We emphasize water conservation and non-chemical alternatives to pesticides.

The classes have also been attended by many in the turf and landscape industry, since we offer research-based information on how plants grow and up-to-date information on pest management and irrigation practices. Representatives from homeowners associations and real estate professionals may also wish to attend to pick up tips on evaluating landscapes, using appropriate terminology to request work from landscape contractors, and evaluating work that is done.

We plan to offer Horticulture for Landscapes, Gardens, and Orchards, level I, as well as Horticulture IV. We have not offered the IV level class for several years. We have not yet chosen the nights for these classes, but expect to announce in later June or early July. Per our usual arrangement, we expect to begin in later August and conclude in December, with one class meeting per week, 5:30-8:30 p.m.

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