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

The Green Scene

UCCE

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Horticultural Study Tour XI: May 2020

Our eleventh horticultural study tour is planned for May, 2020, to extraordinary gardens of Wales and Scotland. I'd like to thank Travel Gallery of Pasadena for again handling the business arrangements for our horticultural tour. The tour itinerary, pricing and registration information are available on the Travel Gallery website at https://www.travelgallery.com/hort-wales-2020. (If the link doesn't work, you can copy and paste, or just go to travelgallery.com and then "join your group" and you'll find it.)

In summary, we plan to begin in the London area with free time and then proceed west, first to visit Wisley Garden, the flagship garden of the Royal Horticultural Society. We continue west, stopping to see Stonehenge, perhaps the world's most famous prehistoric monument, and Salisbury Cathedral, begun 1220 AD, still a working church and one of the finest examples of gothic architecture in the UK.

We then proceed to Wales, which has quite a mix of gardens, promising to be scenic, interesting, and fabulous. Then, for those interested, we continue to Scotland, specifically Edinburgh, for several days, including a visit to the Royal Botanic Garden and the National Museum with its superb displays of geology and Earth history. We are then planning to go north to Crathes Castle with its outstanding formal and informal gardens, and then to Orkney Island to see the best-preserved prehistoric village in northern Europe, and also the Ring of Brodgar, both dated to about 3000 BC. Then, we work our way west and south to the Island of Skye and coastal gardens.

We have already reached our operating minimum for Scotland. If you haven't gotten around to registering but think you will (greater than 50% probability), I'd like to know about your interest for planning purposes.

2019 Horticulture Classes

It is likely I will offer a Horticulture I class this fall, beginning late August. I am also leaning toward offering a special topics class based on input received from attendees of past classes. That would also begin in late August. At the moment I'm working on syllabi with specific dates. More later.

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 a 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.

Dieback of Raywood Ash

Dieback of Raywood ash seems to be increasing in the Bakersfield area, perhaps because more of these trees have been planted.

In northern California, dieback of Raywood ash (*Fraxinus oxycarpa* 'Raywood') has been observed since the latter 1990s. As described by Ed Perry, a UCCE Advisor, "The main symptom of the disorder is a rapid dieback of branches throughout the crown. Branches die completely back to their points of attachment. Leaves dry rapidly and remain attached to the dead branches for a short time.

The pattern and extent of dieback varies from tree to tree. In some cases, only a few small branches growing along otherwise healthy and vigorous large branches are killed. In severe cases, major branches die back to the trunk. As the bark of affected branches dries and cracks, a distinct callus margin appears at the bases of branches, where dead and living tissues meet….Vigorous water sprouts often grow at the bases of large branches that have died. The symptoms appear in spring through early summer. In many cases, lightly affected trees recover completely. While most trees are not completely killed by the disorder, affected trees are disfigured and remain unsightly."

Insect borers have not been associated with the dieback problem in Kern County. Therefore, drilling holes in trees for insecticide implants, use of systemic materials, etc., is not warranted. Furthermore, the symptoms do not match those of leaf diseases, and leaf diseases are quite unlikely given the rain-free summer environment. Therefore, application of fungicides, especially after dieback is seen, does not make sense.

The cause of the problem remains elusive. The symptoms could be due to internal infection by fungi or bacteria, e.g., by wilt fungi such as *Verticillium*. A weaker surface pathogen affecting wood may be involved. The susceptibility of Raywood ash to dieback should be considered during tree species selection.

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