



July 2011

OLEANDER SCORCH

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. We have not confirmed the presence of oleander scorch here—until now. Thanks to the work of Joe Nunez, plant pathologist with UC Cooperative Extension, and his colleagues, oleander scorch has been confirmed in plant samples taken from oleanders at Bakersfield College. Polymerase chain reaction, a technique for amplifying DNA, and bacterial culture have 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>.

FALL 2011 MASTER GARDENER CLASSES

While we no longer have a formal (i.e. volunteer) Master Gardener Program, we continue to offer classes as an educational outreach, and we are pleased to again offer classes this autumn that discuss the science and culture of landscape and garden plants.

A Master Gardener I class will be offered Tuesday nights, 5:30-8:30 p.m., beginning August 23, 2011, and extending 16 weeks. Topics will include plant selection, soil science, landscape design principles, and pest management with an emphasis on organic and IPM methods, as well as sessions on vegetable crops, deciduous fruits, and citrus.

A Master Gardener III class is planned for Monday nights, also 5:30-8:30 p.m., beginning August 22, also for 16 weeks. Topics will be additions to those covered in MG I. Cost of each 16-week class session will be \$70, same price as in recent years.

We ask those interested in either class to contact the Cooperative Extension office at cekern@ucdavis.edu or 868-6200, to pre-register to reserve a space and help us track class size. Actual registration will be handled at the first class meeting.

SPRING 2012 HORTICULTURE TOUR

Every 10 years the Dutch host a horticulture exposition called the Floriade, and 2012 is again the year! It's a natural to combine a visit to the Floriade with a visit to the neighboring Keukenhof, said to be the most photographed garden in the world, with 7 million tulips, amaryllis, hyacinths, daffodils, and other bulbs. We plan to begin with a starting point in the south of France, to allow visits to selected gardens near the Mediterranean having a climate similar to ours. The tour start date is planned for April 15, 2012. Details to follow.

TIPS FOR SAVING WATER IN LANDSCAPE IRRIGATION

July is the month when water use rates for landscape plants are the highest in the calendar year. Almost all plant species need summer irrigation in Kern County landscapes, but too much irrigation can be as detrimental as too little. To maintain plant health and manage costs for outdoor water use, here are a few tips to consider.

It's helpful to walk through the irrigation system while it is running, perhaps every month or two, to check for coverage, to prune back plants that may block nozzles, to see that all valves come on and turn off, and that sprinkler heads are operating. Sometimes a pop-up head will need to be readjusted for height, or a taller sprinkler head substituted. Sometimes dirt plugs the nozzle so cleaning is needed.

The best time to irrigate in most home situations is dawn, or about 4-6 a.m. That is when winds diminish and temperatures are lowest so water does not blow away or evaporate quickly. Evening irrigation can lead to leaf diseases if water is allowed to stand on foliage during the night. During exceptionally warm weather, it is certainly okay to irrigate in the afternoon to cool turfgrass or give plants extra water. Water droplets do not focus the sun's rays and cause leaf burn.

A rule-of-thumb is to irrigate to fill the root zone, and that implies water delivery sufficient to penetrate soil to several inches to several feet, more easily accomplished in agriculture than in home landscapes. After irrigation, one can check water penetration with a screwdriver or a garden trowel or shovel. Frequent, short irrigations can lead to shallow root systems with little capacity to withstand dry conditions. Keeping plants wet can lead to root rot in many woody species.

Irrigation scheduling is about frequency—how often valves come on, and duration—the length of time each station runs. In general, it is best to set duration for each station so as to fill the root zone and then to add or subtract days depending on the season.

Home water bills often contain information, such as a bar chart, showing water use over the past year. Plant water needs in the southern San Joaquin Valley vary by about a factor of 10 during the year, with water needs almost zero in the winter months. If irrigation is turned off during winter, one can see what the indoor water use was during that period. If irrigation is matched to season there will be a climb in spring, highest water use in summer, and a decline in autumn. If the water bill shows the same amount of use for all 12 months, it is likely plants are being over-irrigated most of the year.

For the engineers among us, the baseline water use rate for plants in the Bakersfield area is about 0.25 inches per day in July—that's the average but daily use can be higher if temperatures are well over 100°F or drying winds are present. For the Ridgecrest or Mojave areas, the baseline can be 0.30 inches per day. Those values do not imply that 0.25 inches of water need be applied every day, but that value does allow us to estimate water needs over period of days or weeks. One can calculate the water needed by a landscape by measuring the square feet of the landscape and multiplying by water use as a depth, and then converting to volume with the appropriate unit conversions. By doing so and comparing with a water bill we can quickly see if we're about right in terms of water applied.

TREES AND SHRUBS FOR SUMMER FLOWERS IN KERN COUNTY

Unlike landscapes of the Midwest with their three-week spring bloom period, the climate of Kern County allows us to grow plants that feature bloom in mid to late summer, and even autumn. Some have become more frequently planted around the Bakersfield area since they perform so well in our climate.

Vitex or Chaste Tree, *Vitex agnus-castus*, is often grown as a large multi-trunked shrub but can be grown as a single-trunked tree of small to medium height (about 30 ft at maturity). Vitex blooms throughout the summer in shades of white, pink, or purple, depending on the specific plant. It handles summer heat and can be irrigated as part of a water-conserving landscape. Vitex is angular in its growing habit and needs pruning to attain the desired shape, but it's fun to prune since it has so many lateral buds. It does benefit from winter pruning to simplify the canopy and direct growth. Vitex seems to be exceptionally well adapted to the Bakersfield area.

Texas ranger or Texas sage, *Leucophyllum frutescens*, is native to the southwestern U.S. and is well adapted to warm, dry conditions. The species has small gray leaves and fine textured branches, and can easily be cut back or even hedged although I think it looks best in its natural form. Its flowers are pink, reaching a peak display in August. Even better in plant form are improved varieties, such as 'Green Cloud,' 'White Cloud,' and 'Silver Cloud.' Of these 'Green Cloud' is the most vigorous, and has a more regular growing habit than the species. 'Green Cloud' has leaves that are greenish-gray with purple flowers that begin to be seen in late June and will continue through the remainder of summer. Texas ranger does not like overwatering but can easily be irrigated via drip. There are other *Leucophyllum* species available, but *L. frutescens* and its cultivars seem to be the most vigorous.

Crape myrtle, *Lagerstroemia indica*, is common around Bakersfield, and the southern San Joaquin Valley is an ideal place in which to grow this plant, since we do not have the mildew problems found in coastal plantings. Crape myrtle can be obtained in shrub forms or as single-trunked trees. The tree form is not a fast grower, but it seems to be long-lived in our landscapes. The bark adds interest because of its varied colors.

Lantana is found as a groundcover or mounding shrub. The leaves and stems are fragrant when crushed. Two species are often seen around Bakersfield, but winters are too cold to keep this plant as a perennial in Tehachapi or the Kern Co. desert. *Lantana montevedensis* is a spreading groundcover with lavender flowers, often used in Phoenix as a ground cover and serving the same purpose here. *Lantana camara* is a bit more upright and denser with several cultivars available. I like 'Radiation' with its orange and red flowers. Lantana has been naturalized in Hawaii and can be found growing as a weed. Despite its adaptation to the tropics, lantana works well here as a border plant or groundcover in a water-conserving landscape. Winter temperatures below about 26°F will cause loss of the top of the plant but it will come back from the roots.

Roses, especially the landscape varieties, should also be mentioned as plants that add color through the summer. There are many other trees and shrubs that flower in summer, but those I've listed appear to be among the best adapted to Kern County, especially the Valley floor.

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