Care of Native Oaks

Best Management Practices

Watering Oaks:

Native oaks do not normally need water. During dry winters, early spring deep watering can be applied from March through May.

Root Protection Zone:

The root protection zone is 1.5 times larger than the area from the trunk to the drip line. Disturbances in the root protection zone should be minimized.

Planting Near Oaks:

Only drought-tolerant plants that require no summer water should be planted around oaks. Plants should be planted no closer than six feet from the base of the tree. Avoid planting grasses, ivy, ferns, or any other vegetation that needs summer watering. Do not plant Sudden Oak Death hosts such as camellia, rhododendron, or azaleas near oaks.

Surface Covers and Mulching:

Other types of ground cover can be used to landscape beneath oaks. Cobbles, gravel, and wood chips are good examples. Mulching under oaks with organic material is beneficial to oaks. Allowing the fallen leaves to accumulate under oaks creates a natural mulch layer.

Trenching and Grade Changes:

Trenching under oaks for the installation of utilities can kill the oak if large roots are cut. If utilities must impinge on the root protection zone, the trench should be dug by hand so that roots larger than two inches can be avoided. Utilities should be bored through the ground at least three feet below the surface to ensure that the roots are not damaged.

• Changes to the grade with fills or excavation can severely damage the roots.

Pruning:

• It is best to prune oaks when they are dormant.
• Live oaks, which retain their leaves year round, are dormant July thru October.
• Deciduous oaks, which lose their leaves in winter, should be pruned during the winter.
• Oaks do not tolerate severe pruning and can be killed if topped or severely pruned.
• Never prune out more than 15% of the green wood in a single pruning and avoid large wounds.

Diseases:

• The most serious diseases of native oaks are Sudden Oak Death, Phytophthora root and crown rot, and Armillaria root rot (the oak root rot fungus).
• *Phytophthora* and *Armillaria* are favored by summer irrigation or excess irrigation.

Insects:

• Numerous insects live on oaks but rarely cause significant damage.
• Small wasps cause galls on leaves and twigs where they lay their eggs but are insignificant and do not harm the tree.
• Oak moth can defoliate oaks when populations are high and treatment may be required.
• The oak twig girdler can cause numerous patches of dead leaves but does not adversely affect the trees health.
• Wood bores are common in the trunks of coast live oaks but they too do not adversely affect the trees health.

Fertilizing:

• Mature oaks need little or no supplemental fertilization.
• Light fertilization may be needed in landscaped situations to replace nutrients supplied by leaves that normally accumulate under an oak.

GUIDELINES FOR THE CARE OF NATIVE OAKS AND PREVENTION OF SUDDEN OAK DEATH

COUNTY OF LOS ANGELES

Department of Agricultural Commissioner and Weights and Measures
12300 Lower Azusa Road
Arcadia, California 91006-5872

What is Sudden Oak Death?

Sudden Oak Death (SOD) is a disease caused by *Phytophthora ramorum*, a new species that has killed large numbers of oaks and tanoaks in some areas of central coastal California. While there have been no oak tree deaths in Southern California due to SOD, the disease has now been found on camellias at some nurseries in So. California.

Temperature and humidity are limiting factors for the disease, so the potential of SOD becoming established in coastal areas is greater than inland areas.

It is likely that our climatic conditions will prevent the disease from becoming established in natural or landscaped areas of S. California. The pathogen that causes SOD also infects, but rarely kills, a number of other California native plants including rhododendron, huckleberry, California bay laurel, madrone and arrowwood. Several non-native plants are also hosts for SOD such as camellia, azalea, lilac and viburnum.

How do you recognize Sudden Oak Death?

If any susceptible oak species grows on your property, look for the following symptoms:
Bleeding or seeping of a dark viscous substance from the trunk or large branches.
Reddish or tan-white fine, beetle boring dust resulting from bark and ambrosia beetles tunneling into the bark and/or wood.
Appearance of hard, golf-ball size, dome-shaped fungal fruiting bodies, which are green when new and later turn charcoal black called *Hypoxylon*.
Laboratory culturing is the only way to confirm whether a symptomatic oak is infected with SOD.

Is Sudden Oak Death the only cause of oak mortality?

- No. Many other pathogens can also kill oaks.
- Phytophthora root rot fungus (*Phytophthora cinnamomi*) and oak root fungus (*Armillaria mellea*) are common in landscapes and gardens.
- In addition to pests and pathogens, improper cultural practices such as soil compaction, root pruning, over-watering and herbicide use may contribute to the death of oak trees.

Are all oak species susceptible to Sudden Oak Death?

- At this time three oak species, California coast live oak (*Quercus agrifolia*), California black oak (*Quercus kelloggii*), and Shreve oak (*Quercus parvula* var. *shrevei*), canyon live oak (*Q. chrysolepis*) and the closely related tanoak (*Lithocarpus densiflorus*), have been found to be killed by the new *Phytophthora* species.
- Other oaks, such as valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*) and many introduced ornamental oaks, have not yet tested positive for the new *Phytophthora*.
- Two species of oak native to the east coast, northern red oak (*Q. rubra*) and southern red oak (*Q. falcata*) have been diagnosed with SOD in England.

How does Sudden Oak Death spread?

- It is not currently known how the *P. ramorum* spreads from an infected tree to a healthy tree.
- Most species of *Phytophthora* are spread in soil and water or infected plant material.
- A few species are also known to be airborne.
- The new *Phytophthora* species can reproduce rapidly on the leaf surface of hosts such as bay laurel and madrone.
- These hosts may be important in that they allow for the build-up of *Phytophthora* spores and therefore serve as a source of infection.

What can you do for oaks that do not have symptoms of Sudden Oak Death?

- Focus on maintaining oak health through proper cultural practices.
- Avoid disturbance of the root zone.
- Avoid frequent irrigation.
- Minimize injuries to the stem and lower limbs.
- Prune oaks when they are dormant.
- Limit pruning to dead, dying and structurally unsound branches.

What can you do if trees are infected?

- Monitor oaks in urban settings for the bleeding symptom year round.
- If the bleeding symptom is detected, consult with a certified arborist or county agricultural department to find out whether the cause is the new *Phytophthora* species.
- If the new *Phytophthora* species is confirmed in a tree in an urban setting, application of insecticides and fungicides registered for woody ornamentals may be recommended.

Can the fungus be eradicated from California?

- No. Eradication of a pathogen on this scale is biologically and physically impossible

Where can you get more information?

Information about SOD can be obtained from your local University of California Cooperative Extension or County Agricultural Commissioner's office. The following websites contain up-to-date information about SOD and links to other relevant sites:

http://cemarin.ucdavis.edu
http://camfer.cnr.berkeley.edu/oaks
http://www.suddenoakdeath.org

The information in this brochure on Sudden Oak Death was excerpted and edited from Pest Alert #4a, published by the University of California Cooperative Extension in Marin County. Portions of the information on the care of native oaks was excerpted and edited from 'Care of California's Native Oaks" published by the California Oak Foundation.