

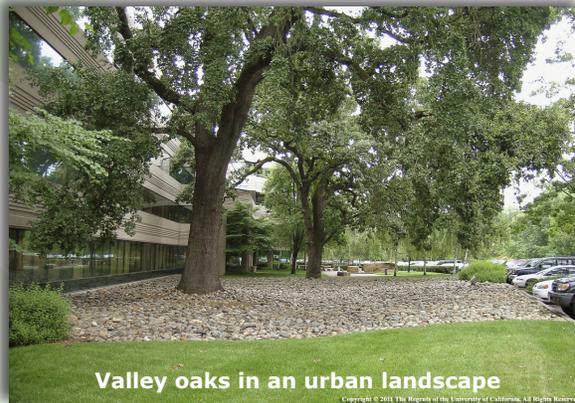
Green Notes

LANDSCAPING WITH NATIVE OAKS

One of our greatest horticultural treasures in the Central Valley is the wealth of heritage oaks that remain as majestic centerpieces of our urban landscapes. Whether in business districts, parks or home gardens, there is nothing that lends a sense of comfort, security and beauty to a place like the spreading canopy of a mature tree. A conscientious landscape manager or home owner will do well to learn the management practices that preserve these beauties in good health for as long as possible. Sadly, the cause of most old oak failures is the mismanagement of their environment by people.

COMMON REASONS FOR TREE FAILURE

- *Massive root cutting for trenches, footings or pavements:* the loss of water-absorbing roots and anchorage causes stress, canopy loss, and contributes to decline and an early death.
- *Extensive paving over the root zone:* compaction (which can also be caused by excessive foot traffic) reduces air exchange capacity for roots, and the impermeable surface *reduces the amount of water and air available in the root zone.* Additionally, the increased heat from the pavement is fatal to roots near the surface.
- *Excessive warm weather irrigation:* this usually occurs when a lawn or landscape is installed under an older tree in heavy soil, and is then watered heavily throughout the summer. The warm wet soil, to which the tree is not accustomed, is an ideal environment for the root-rot fungi to which oak tree roots are susceptible, especially *Armillaria* and *Phytophthora*. Loss of roots may be slow, and it may be many years before the irreparable damage is noticed.



Valley oaks in an urban landscape

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Managing Existing Trees

Assess the health of trees- Trees that show signs of dieback may be restored by correcting the conditions that have led to their decline. If you are fortunate enough to have healthy trees, do everything you can to preserve conditions conducive to continued vitality. Mature native oaks do not require or benefit from regular pruning. Only remove hazard or diseased branches or those hanging too low over walks, streets or buildings. If very mature trees require crown reduction to reduce weight on aging branches, always use a certified arborist and insist that pruning be done to ANSI 300 Standards.

Preserve the root zone- Though the root zone may have been compromised by pavement or buildings, work with the area you have available. Where possible, remove turf under the canopy and replace with organic mulch 3-4 inches thick, but do not pile the mulch against the trunk. If other landscape plants are used under oaks, they should be very low water-use plants kept away from the trunk to minimize the risk of trunk rot from watering this area.

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Supplement water when necessary- Although our native oaks vary in the kind of soil they tolerate and the amount of water they need, they are all accustomed to cool season rain and summer drought. Because our rainfall can be unpredictable from year to year, irrigation should be provided during unusually dry fall or spring conditions. Blue oaks (*Quercus douglasii*), for example, are adapted to shallow, poorly drained soils in the hot foothills, and may tolerate some urban conditions without supplemental water better than valley oaks (*Quercus lobata*). Since valley oaks are accustomed to shallow water tables and deep, loamy soils they may benefit from supplemental deep monthly irrigation in exposed, dry urban settings, or where their roots have been restricted by surrounding hardscape. Never irrigate right next to the trunk; keep the water closer to the dripline, where most of the trees water-absorbing roots are found.

Using Oaks in New Plantings

If we plan our landscapes with an eye to the future, we can use our native oaks in thoughtful applications so future generations can enjoy the same lovely trees that have graced our valley cities for so long.

- 1. Select the best species for the application-** Consult print and online resources for mature size, cultural requirements, growth habit, deciduousness, and other attributes. It is important to anticipate the needs of the tree canopy and roots as it grows to full size.
- 2. Shop for high quality container stock-** Do not purchase or plant trees with girdling, matted, or rotting roots. Go for the smallest sized tree that will suit your purposes: trees are healthiest when they can establish their root system on site, and larger trees may take up to 5 years to develop adequate roots before the canopy begins to add growth. Look for trees that have temporary branches left on the lower trunk and that have sufficient taper to stand upright without a stake.
- 3. Plant with care-** Fall is the best time to plant, while the soil is still warm to jumpstart root



Newly planted oak with irrigation

growth, but cooler temperatures and fall rains minimize stress. Keep the root crown 1-2 inches above the surrounding soil level to prevent crown rot which can happen if the tree settles below grade and water puddles next to the trunk. Use only native soil for backfill, and add a 3-4 inch layer of organic mulch to at least a 2-foot radius, but keep it very thin next to the trunk. Fallen leaves can be left as a natural mulch. Stake if necessary using proper staking technique. Use a berm to hold water around the root zone for the first year.

- 4. Establish carefully-** Irrigate sufficiently during the first few years to allow the development of a deep, healthy root system. Slow, deep watering is preferable, with a dry-down allowed between irrigations. The irrigation zone should expand each year to provide water to the actively growing root system. Prune young trees for the first few years to develop a central leader and good branch structure.
- 5. Manage for the future.** Be prepared to adjust the irrigation, mulch diameter, and permanent branches as the tree grows. Keep these things in mind when choosing species, planting, and establishing the landscape, and future generations will enjoy the same rich oak heritage we have now.

Recommended Resources

Available from the ANR Catalog:
<http://anrcatalog.ucdavis.edu/>

- *Oaks in the Urban Landscape: Selection, Care and Preservation* by Costello et al.
- *A Planner's Guide for Oak Woodlands*
- *Living Among the Oaks* (free download)
- *Planting Landscape Trees* (free download)

Other free resources:

[Training Young Trees-](#) (YouTube video series)

[Specifications for Nursery Tree Quality](#)

<http://ucanr.edu/sites/sjcoeh/files/74012.pdf>

4 Oaks for Valley Landscapes

<i>Quercus agrifolia</i> (Coast live oak)	40-80' H	evergreen
<i>Quercus douglasii</i> (Blue oak)	20-65' H	deciduous
<i>Quercus lobata</i> (Valley oak)	90'+ H	deciduous
<i>Quercus wislizeni</i> (Interior live oak)	30-75' H	evergreen

SOME PLANTS COMPATIBLE WITH NATIVE OAK TREES

When planting under oaks, it is advisable to keep plants near the dripline, and at least 10 feet from the trunks of mature trees. If incorporating companion plants into a new design, plant sparingly, and bear in mind that as the tree grows it will shade out plants that need full sun. These can then be replaced with more shade-tolerant species. California native species naturally associated with oaks are usually good choices. The plants listed below tolerate or prefer at least partial shade in the San Joaquin Valley, and will perform on a relatively low water regime.

Free download: [Compatible Plants under and around Oaks](http://www.californiaoaks.org/)
<http://www.californiaoaks.org/>

SHRUBS

- Berberis aquifolium* and 'Compacta' (Oregon grape)
- Heteromeles arbutifolia* (toyon)
- Rhus ovata* (sugar bush)
- Ribes sanguineum* (red-flowering currant)
- Ribes viburnifolium* (evergreen currant)
- Sollya heterophylla* (bluebell creeper)



Iris 'Canyon Snow'

HERBACEOUS PERENNIALS/GRASSES

- Elymus condensatus* 'Canyon Prince' (wild rye)
- Festuca californica* (California fescue)
- Hellebore spp.* and hybrids (Lenten rose)
- Heuchera spp.* and hybrids (coral bells and alum root)
- Iris douglasiana* and the PCH hybrids
- Monardella macrantha*, *M. villosa* (coyote mint)

GROUNDCOVERS

- Salvia spathacea* (hummingbird sage)
- Mahonia repens* (creeping mahonia)
- Ceratostigma plumbaginoides* (dwarf blue plumbago)



Toyon



dwarf plumbago

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2014 GREEN GARDENER QUALIFICATION TRAINING

FEBRUARY 11- APRIL 1
Tuesdays, 6-8:30
1 Saturday, 8 am- Noon

An 8-week course to increase your
KNOWLEDGE
SKILLS &
MARKETABILITY
as an environmentally friendly
landscape professional

WHO IS IT FOR?

- Residential and commercial gardeners
- Parks and school grounds workers
- Landscape maintenance contractors

Benefits of Becoming a Green Gardener:

- Improve the health of landscapes
- Improve efficiency with water, time, chemicals, and money
- YOUR NAME on the Green Gardener website of qualified professionals
- A qualification that can help you enhance your value to your current clients and attract new ones

**CEUs approved for pesticide applicators
and ISA Certified Arborists.**

FOR MORE INFORMATION:
[http://ucanr.org/
GreenGardener](http://ucanr.org/GreenGardener)



CONGRATULATIONS TO OUR 2013 GRADUATES!

Anthony Cabrera	City of Galt - Public Works Dept.
Ruben Colin	San Joaquin Regional Conservation Corps
Matthew Cunningham	Precision Landscape Repair
Miguel A. Diaz	Monterey Landscape & Maintenance
Juan Esquilin	California State University Stanislaus
Salvador Franco Jr	Franco's Landscape Maintenance Service
Jose Gomez	self employed
Josh Gosnell	Silverado Landscape Concepts
Craig Heitman	Keeper of the Green
Melanie Hernandez	Eco-scape Garden Consulting
Heather Holtsman	San Joaquin Regional Conservation Corps
Ben Huerta	Meadow Landscape
Rick John	Bluegrass Landscaping
Marc Parker	San Joaquin County Sheriffs
Tomas Paulino	St. Michael's Church of Stockton
Jesus Penaloza	Horizon Distributors
Juan Romero	D & J Landscape Management
Dan Sams	Silverado Landscape Concepts
Richard T. Seward	Alameda County Water District
Michael Totten	San Joaquin Regional Conservation Corps
Chao Sung Tseng	Escalon Unified School District
James Wicke	The Weed Whisperer
Robert Yoshino	San Joaquin County Sheriff's Dept.

PLANT THIS

Crataegus phanaeopyrum (Washington hawthorn)

Washington hawthorn is a medium-sized tree with year-round interest: white spring flowers, dense summer foliage that turns red and gold in fall, and bright red berries that hang on through the winter.

Its dense branch structure makes it a favorite for nesting birds, and the abundant berries provide fall and winter food for them. If properly established to have a deep root structure, it requires low amounts of supplemental summer irrigation. Prune it carefully in the first 5 years to establish a central leader and good branch structure, but watch for thorns!

This can be seen growing with a full crown of berries in the demonstration gardens at the Robert J. Cabral Agricultural Center's Learning Landscape, 2101 E. Earhart Ave., Stockton.



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