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Landscape & Turf News

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NEW CO-NEWSLETTER ISSUE

Welcome to the first issue of Landscape and Turf News, produced jointly by Ed Perry (UCCE Stanislaus County) and Chuck Ingels (UCCE Sacramento County). Many of you have received either the Landscape Hort Bulletin (Stanislaus-San Joaquin County) or Landscape & Nursery News (Sacramento County). Since Gary Hickman (UCCE San Joaquin County) transferred to UCCE Mariposa County, we have decided to produce this three-county newsletter twice a year to keep landscape professionals apprised of landscape management issues, resources, and upcoming meetings. We hope you find the information useful. The newsletters can also be found on our Web sites (see header above). If you have any questions about the content of the newsletter, feel free to call Ed or Chuck.

LET US KNOW WHAT YOU THINK!

UC Cooperative Extension, like many government agencies, is undergoing severe budget cutbacks, and entire programs are at stake. We need to show those funding our programs (i.e., the U.S. Department of Agriculture, the State of California, and individual counties) that we are having a meaningful impact. We want to know how to better serve you.

For these reasons, please fill out the brief questionnaire on the inside of the back page and mail or fax it back. Your participation will let us know what you think of the University of California Cooperative Extension program and will assist us in providing better service. Thank you for your assistance.

CONSIDER THE ROOTS

Managing landscape plantings in a way that favors tree root systems is a great challenge. Many people, especially novice gardeners, do not appreciate the important role that roots play in tree health, and the necessity of protecting and preserving roots.

One of the greatest misconceptions about roots is tree root depth. Roots will grow wherever the environment is favorable. A favorable environment contains adequate water, oxygen, mineral nutrients and moderate temperatures. These requirements are usually found in the upper few feet of soil. Few tree roots grow below 4 or 5 feet deep, where oxygen and often moisture are limited. Because of this, it's important to provide conditions beneath the tree that favor root development, and to avoid practices that damage roots. For example, soil compaction is one of the biggest problems tree roots can have. Water and oxygen become unavailable to roots when soil pore spaces are closed by compaction. Overwatering is just as serious, since oxygen in the soil is displaced by water, causing roots to suffocate. Avoid large grade changes around trees. Lowering the grade removes critical absorbing roots, and filling around trees causes root suffocation.

Avoid the use of impervious plastic as a mulch. Instead, use wood chip mulches or woven polypropylene weed barriers that allow water and air penetration. Understanding more about tree root systems and keeping the roots in mind as you maintain landscapes will help you grow healthier trees.

Soil Excavation May Help Control Root Rot

Oak root fungus (ORF) and Phytophthora crown and root rot can kill trees that have poor drainage and/or receive excessive irrigation, especially when the root crown area is kept too wet. Simply reducing the water applied can help, but more drastic measures may be needed if a tree is severely infected, if it can be saved.

Removing soil from the crown area (root excavation) has long been known to reduce Phytophthora damage, and now there is evidence that it can help with ORF as well. In research trials conducted on pear trees severely infected with ORF, soil was removed in a 3 ft. wide by 1.5 ft. deep area of the crown by water- or air-blast equipment. Although some trees were already too far gone to be saved, most of the trees showed drastically improved growth and production after 2 years and the ORF was virtually killed on the exposed tissues. Of course, tree health will once again decline by replacing the soil and overwatering again.

It's certainly best to simply avoid watering around the trunk of any tree, especially oaks. And trees should always be planted on a "pedestal" to prevent sinking or on a small mound to prevent creating a basin where water can collect. But if someone has a tree with a root crown disease, removing some soil can help – just don't fall in. And try to avoid nicking the roots so they don't get another dreaded disease, crown gall.

Crown Gall

Trees can be weakened or killed by crown gall. Crown gall is a bacterial disease that affects a wide range of woody plants, in which cells grow uncontrollably and form one or more large galls on the trunk. The bacteria are present in most soils and only require an injury on plant tissues to enter and begin the galling process. The galls are smooth at first and later become woody and rough. Secondary wood decay fungi can enter through the galls as they crack and slough off. Young trees can die fairly quickly, whereas older trees may live for some time, although they may become stunted for several years before they die.

Crown gall bacteria can enter through wounds made in the wood. In a small walnut orchard several years ago, the owner had diligently hoed weeds around the base of the trees. Nearly all the trees had crown gall where the trunk was nicked. So be careful when working around trees to prevent injuring the trunks.

Once a tree or vine has crown gall, there may be little that can be done to get rid of it. One product, Gallex, can be applied to relatively small existing galls, but there are some limitations to its use. Commercial tree crop growers often dip roots of bare root trees in a solution containing a bacterial antagonist (Galltrol) that prevents crown gall from infecting the roots. Both products can be obtained through some landscape supply stores.

Know the Shrub Before You Prune

by Ed Perry and Judy McClure, UC Master Gardener Program Coordinator, Sacramento County

If you have shrubs that need pruning, know what you wish to accomplish before you go to work. In most cases you'll want to selectively prune branches without changing the plant's natural form. First remove dead and diseased branches, and thin out severely crowded branches. This allows sunlight to reach branches and leaves in the interior of the plant. Unless the shrub is part of a formal hedge, refrain from shearing it into a box or other shape. Such pruning results in dense growth around the outside of the plant, shading out the interior branches. If you need to reduce the size of an old, overgrown shrub, it's best to do so in stages, perhaps over a 2- or 3-year period.

Flowering shrubs are pruned in winter or spring, depending upon their blooming habits. The blooms of spring flowering shrubs are formed on growth produced the previous year. If you prune these plants in the winter months, you will remove many of the flower buds that would produce blooms the following spring. Spring flowering shrubs should be pruned as soon as the flowers fade, usually before new growth begins. Pruned plants will have larger flowers than unpruned plants. Some examples of spring flowering shrubs and their pruning requirements are:

- Rose of Sharon (*Hybiscus syriacus*) – Prune selectively after flowering; prune out old branches.
- Barberry (*Berberis* spp.)– Prune in late spring. Tends to get woody and unproductive in the center, so remove old wood and stimulate new inner growth. Alternatively, thin and shape for hedge or topiary

- Bridal wreath spirea (*Spirea prunifolia*) – Blooms on previous year's growth; prune after flowering. Do not prune into a box! Has a beautiful natural graceful arching form. When overgrown, remove oldest stems at the base.
- *Camellia* spp. – Prune before spring growth begins. Can be pruned anytime up to about mid September. To rejuvenate old plants cut just above swollen buds on inner growth of old wood.
- *Cotoneaster* spp. – Thin out by removing older stems if needed.
- Firethorn (*Pyracantha* spp.) – Prune after blooming to control shape and size; allow some berries to remain for winter display.
- *Forsythia* spp. – Prune after blooming in spring. Forsythia generally blooms on second year growth. Remove old wood to reduce size and promote new growth.
- *Hydrangea* spp. – Blooms on old wood; prune after flowering by removing old canes; cut stems that flowered back to next laterals.
- Honeysuckle (*Lonicera japonica*) – Prune to remove old wood, reduce size and promote new growth. Vine tends to get top heavy.
- Lilac (*Syringa spp*.)– Blooms on previous year's growth; prune oldest branches after flowers fade; remove seed pods, dead and diseased branches, and suckers growing below the graft union.
- Rose (*Rosa spp*.) – Prune before new growth begins in late winter. Shrub roses – Prune to shape the plant and thin crowded canes by removing old stems and leaving several 1-year-old stems. Pruning height depends on the specific variety and how big you want the shrub to get. Climbers – Leave 2 to 4 long branches, secured to fence or trellis. Canes usually bloom well for 2 to 3 years. Shorten branchlets on the canes to about six inches or 3 buds. On all roses, remove diseased/dead wood, old canes and shoots from below the graft union.
- *Rhododendron* spp. – Prune immediately after bloom. Remove faded blossoms before they seed for a better flower display the following year. Thin out branches as needed.
- *Weigela* spp. – After flowers fade, prune flowering branches to the next lateral; remove dead branches to the ground.
- *Wisteria* spp. – Prune after flowering, by pinching.

The blooms of summer flowering shrubs grow on wood produced the same season. These shrubs should be pruned during the dormant season, usually in late winter before growth begins. Some examples of summer flowering shrubs and their pruning requirements are:

- *Abelia* spp. – Prune to control size and shape; prune out crowded branches to promote new growth.
- Butterfly bush (*Buddleia davidii*) – Cut back to 3 feet in late winter or early spring; can be cut back to the ground to renew the plant; pinch tips of new growth for more vigorous plants.
- Chinese hibiscus (*Hibiscus rosa-sinensis*) – Remove up to one third of old wood in early spring if not killed to the ground.
- Crape myrtle (*Lagerstroemia indica*) – Prune in winter to control shape and produce flowers; heavy pruning is needed for vivid flower displays. Light pruning makes a rounded canopy with substantial bloom, but less striking than with heavy pruning.
- Heavenly bamboo (*Nandina domestica*) – Prune before spring growth begins. Prune to remove old wood and promote new growth from crown area.

Pruning vs. Shearing Shrubs

If you have shrubs that need pruning, know what you wish to accomplish before you begin. In most cases you'll want to selectively prune branches without changing the plant's natural form. Shrubs pruned or sheared to unnatural shapes, such as in hedges or formal gardens, require much more work to maintain their size and shape. Also before pruning, determine if a flowering shrub blooms on new growth or last year's growth. If you prune such spring flowering shrubs as flowering quince or dogwood in winter, you will remove some of your flower display.

Most deciduous shrubs are best pruned by using "thinning" cuts. A thinning cut removes a branch completely back to its point of origin from the parent stem, or back to a side branch. This method of pruning results in a more open plant, and does not stimulate excessive new growth. You can remove a considerable number of branches without changing your plant's natural appearance or growth habit. You should also be able to maintain the plant's size for many years using thinning cuts. This type of pruning is best done with hand pruners, loppers or a pruning saw, but not with pruning shears.

Remember, there is a difference between pruning and shearing. Pruning involves the removal of individual branches or twigs, while shearing involves clipping or shaping by cutting off twig tips. A properly sheared shrub takes a good deal of effort, beginning when the plant is quite small. The key is to begin shearing when the plant is young to stimulate low branching, then remove half of the new growth for the next couple of years. By the third or fourth year you should have achieved the final size and shape that you have in mind. You should never allow the plant to grow untrimmed to its final height before shearing. By that time it's too late to get maximum low branching.

The best time to prune most shrubs and to shear hedges, except spring blooming shrubs, is just before the start of new growth in spring. The new spring growth quickly softens the plant somewhat and helps to prevent a severe, unnatural plant shape. In most cases you will want to prune spring blooming shrubs after they have bloomed.

Edema Outgrowth on Leaves

Over the last several weeks we've seen several examples of edema on leaf samples from camellias. Edema are small raised, corky outgrowths resembling lenticels that can develop on the undersides of leaves of a number of plant species, including camellia, hibiscus, privet, schefflera and yew. Edema typically develops in plants growing in waterlogged soils, especially when transpiration is reduced, such as during cloudy weather. Edema also develops under conditions of exceptionally high humidity, such as in greenhouses. The non-parasitic wartlike growths usually have a corky texture and are light brown or rust colored. They may occur in small groups or cover large areas of a leaf. The upper surfaces of leaves with edema are normal in size and texture, but often chlorotic. The corky eruptions may be mistaken for rust diseases caused by fungi. However, no diseases are involved, and controls are unnecessary.
(Source: Abiotic Disorders of Landscape Plants – A Diagnostic Guide [see next page for ordering]).

New Water-Efficient Landscape at Horticulture Center

The UCCE-managed Fair Oaks Horticulture Center has a new water-efficient landscape demonstration. The project was funded by the Calif. Dept. of Water Resources, the County of Sacramento, the Slosson Endowment Fund (UCD Environ. Hort. Dept.), and the City of Folsom. The horticulture center is designed to educate home gardeners and landscape professionals in the planting and care of ornamental and edible plants. It also includes demonstration plantings of fruit trees, table grapes, berries, and vegetables, and includes arborsculpture structures (see below). Sacramento County UCCE Master Gardeners and horticulture advisor offer periodic workshops: A schedule of 2004 workshops can be seen on the Web at http://cesacramento.ucdavis.edu, or call our office at (916) 875-6913.

Arborsculpture: Horticultural Art

Arborsculpture is a method of bending and grafting shoots to create useful and eye-catching structures. A horticulturist in Williams, Oregon published a booklet in 1995 called, *How To Grow a Chair: The Art of Tree Trunk Topiary*, which describes how to use live trees as a building medium. Check out his Web site at http://www.wizzards.net/arborstu/index.html for more information. Some of the living structures that can be built include chairs, ladders, jungle gyms, and gazebos. You can also create unusual designs in tree trunks, such as cubes and circles. Trees sculpted by a master of the art in the 1940s and 50s will be on display in Bonfante Gardens Theme Park in Gilroy, which has a central theme based around these "Circus Trees," as well as beautiful gardens (Web site: http://www.bonfantegardens.com/).

Upcoming Eco-Landscape Meeting

Date: Saturday, January 10, 2004
Time 9am to 5pm
Place: Samuel Pannell Community Center, 2450 Meadowview Road, Sacramento, CA
Fee: Early registration (by 12/15/03) is $75.00 ($80.00 credit card) and $85.00 ($90.00 credit card) after 12/15/03 or at the door.
Topics: Speakers, workshops and mini-trade show. This conference will address the issues of sustainable landscape design, construction, and maintenance; water conservation, storm water pollution, pesticide and fertilizer reduction, and resource conservation.
Registrations & Information: Web site www.ecolandscape.org, E-mail info@ecolandscape.org. DPR and other credits applied for.

Publications

Many excellent publications are available for purchase or downloading from the Publications Unit of the University of California, Agriculture and Natural Resources Division. Call UC ANR Communications Services, (800) 994-8849, or visit the Web site: http://anrcatalog.ucdavis.edu.

Abiotic Disorders of Landscape Plants - A Diagnostic Guide
This new book contains a wealth of information to help you diagnose abiotic disorders in landscape plants - disorders caused by environmental, physiological or other nonbiological factors. You'll learn how to diagnose injury symptoms from over 20 different abiotic agents including water deficit, nutrient deficiencies, salinity, pH, sunburn, air pollution, herbicide and other chemical phytotoxicities, mechanical injuries, lightning, wind, and hail. Included are strategies, techniques, and tools you can use in diagnosing plant problems, common injury symptoms and their abiotic causes, and plant traits that can resemble abiotic disorders. Illustrated with 319 color photographs and 38 tables, this book is a "must-have" for the library of every landscape professional. UC Division of Agriculture and Natural Resources, Publication 3420. (See above for ordering.)

Integrated Pest Management for Floriculture and Nurseries.
This manual will help you apply IPM principles to your flower and nursery crops. Learn how to recognize and prevent damage to bulbs, cut flowers, potted flowering plants, foliage plants, bedding plants, and ornamental trees and shrubs. UC Division of Agriculture and Natural Resources, Publication 3402. (See above for ordering.)

Reducing Infrastructure Damage by Tree Roots
This compendium identifies and describes key strategies used to prevent or mitigate damage to sidewalks, curbs, and gutters by tree roots. Strategies include the use of root barriers, structural soil, species selection, alternative design, soil management techniques, and many others. The book offers solutions in three different categories: tree, infrastructure, and root zone. You can order the publication from the Western Chapter International Society of Arboriculture (WCISA) by calling (530) 892-1118.

Web Sites of Horticultural Interest

Urban Tree Web Sites:
Center for Urban Forest Research. UC Davis. (http://cufr.ucdavis.edu/index.html). This Web site, sponsored by the U.S. Dept. of Agriculture and the U.S. Forest Service, provides scientific evidence that the benefits of urban forests add real value to communities.
Tree Foundation Web Sites
These Web sites provide valuable information on urban trees, including species, planting, watering, news, events, and useful links.

Sacramento Tree Foundation. Sacramento, CA. (http://www.sactree.com/)
Tree Fresno. Fresno, CA. (http://www.treefresno.org/index.html)
Tree Foundation of Kern. Bakersfield, CA. (http://www.urbanforest.org/index.html)
Urban Tree Foundation. Visalia, CA. (http://www.urbantree.org/)

Pest Management Guidelines and Pest Notes
The UC *Pest Management Guidelines* and *Pest Notes* are now available as free downloadable HTML and PDF documents on the UC IPM Web site. To access these useful references, point your browser to www.ipm.ucdavis.edu. Click on "Pests of agricultural crops, floriculture, and ornamental nurseries, and commercial turfgrass" or "Pests of home and landscape – Pest Notes".

Crop Protection Product Labels And MSDS
You can look up labels and MSDS sheets of virtually any registered pesticide, as well as product news, online at http://www.cdms.net/pfa/LUpdateMsg.asp. Click on US - T&O Non-Crop and enter your product name of interest.

Sudden Oak Death Web Sites
Sudden oak death (SOD) has not been found in the Central Valley or anywhere besides the North and Central Coast regions, but we still receive requests for identification of tree decline. Fortunately no tree deaths in our region have been diagnosed as SOD. For information on the disease, visit the Calif. Oak Mortality Task Force at http://www.suddenoakdeath.org/, or the UC Monitoring Sudden Oak Death Web site: http://kellylab.berkeley.edu/SODmonitoring/links.htm

Olive Fruit Fly
Olive growers throughout the state now have to contend with olive fruit flies, and so do landscapers and homeowners. Several excellent Web sites provide information on the pest and how to control it. The UC IPM Web site (www.ipm.ucdavis.edu) provides methods for controlling olive fruit fly and many other pests, both of crops and around the home and landscape. The UC Fruit & Nut Research & Information Center Web site (http://fruitsandnuts.ucdavis.edu/) gives a wealth of information on many tree crops, including the UC statewide olive fruit fly project. Paul Vossen, UCCE Sonoma County farm advisor, has a handout on the Spanish "Olipe" trap for organic control (http://cesonoma.ucdavis.edu).

UC Turfgrass Resources
The UC Riverside turf Web site (http://ucrturf.ucr.edu) has research reports and educational materials available for both professional turfgrass managers and homeowners. The periodical, "California Turfgrass Culture", which dates back to 1951 and was terminated with the current issue (Vol. 53), is available on this Web site and on the UC Davis Ornamental Horticulture Research & Information Center's Web site (http://ohric.ucdavis.edu/).

Bonsai
For people with a passion for very small trees, Bonsai Web contains a very large selection of information, advice, articles, and pictures. The site features an attractive collection of photographs of members' treasured trees, three thriving forums, and a useful collection of links to suppliers. In case you've ever wondered what bonsai was all about, or what it takes to grow one of your own, the following site also offers a well-written set of beginner's guides: http://www.bonsaiweb.com/.

Gardens Online Plant Search
This is a specialized search engine of value to gardeners. The Gardens Online database is full of information, advice, hints, tips, photos, whether you are an expert or novice. Searches can be expanded to several categories or they can be simple and fast. http://www.gardensonline.com.au/PlantSearch/PlantSearch.asp