

# Green Notes

## PRUNING AND TREATING WOUNDS IN LANDSCAPE TREES

Recent storms have left many trees with broken twigs and ugly gashes in trunks where branches have torn away. Many questions come in about whether to treat wounds in trees with pitch or other commercial applications. Early spring is an excellent time to address these issues of proper pruning, wound treatment and storm damage to landscape trees.

Wounds are actually ANY cut made into a tree's protective layers. Even proper pruning creates a wound that allows access to a tree's living tissues the same way a cut in your skin opens you up to infection. Just like you, trees are pretty good at healing themselves when wounded, but care should be taken to avoid unnecessary wounds and to prevent the entry of bacteria and fungi that can cause decay in the tree.

## HOW TREES WORK

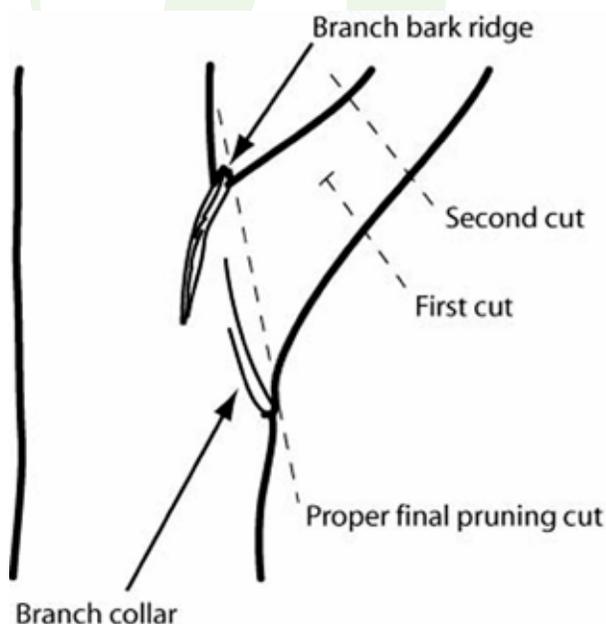
Two important factors of tree biology make it easier to understand the reasons behind proper tree care. The first thing to remember is that early in the spring, the stored carbohydrates from the roots begin to move in sap up into the branches to provide the energy needed to produce leaves. As this sap moves up, it can also provide the energy needed to heal wounds on the way. That's why the wounds that heal the fastest are those that are made in the few weeks before and after trees begin to leaf out in the spring.

The second thing to know is that tree trunks and branches have their living tissues that carry water and nutrients (called vascular tissue) right under the outer bark layer. Consequently, if you wound a tree there, you can stop the flow of nutrients to the branches above. This is why string trimmer damage to the bark of a tree around the base (called girdling) can kill the entire tree: the movement of all nutrients and water has been effectively cut off!

## PROPER PRUNING CUTS

While any extensive pruning should be done by a certified arborist, some cuts can be made with the proper tools by any careful professional. The illustration at the side shows the three successive cuts that will prevent the bark from tearing when the branch falls.

1. The first cut is an undercut halfway between the second and final cuts.
2. The second cut goes all the way through and removes the majority of the branch weight.
3. The third and final cut should be made carefully just outside the branch bark ridge and the branch collar. (Cont'd. on P. 2)





**This tree was pruned properly and the callous has completely closed off the wound.**

These two spots on the branch define where the branch ends and the trunk begins. Cuts made too far out leave an unsightly stub that cannot callous over. Cuts made into the trunk material leave a wound in the trunk and remove part of the tissue that forms the healing callous. This can leave a scar that is an entry point for infection for a long time. Properly made cuts can heal over amazingly well, especially if no infection is trapped inside the wound.

**A QUICK NOTE:** Heading cuts to top a tree's central leaders or main scaffold branches is NEVER a good practice. The vigorous re-growth that results is always weaker and usually results in the need for even more follow-up pruning. (The horti-torture done to most fruitless mulberries is a perfect example.) Additionally, the large flat wounds that result are prime entry points for infection, especially if done during the wet season. If done in summer, they are prone to sunburn as are the newly exposed branches and leaves below the cut.

#### TREATING BRANCH AND TRUNK WOUNDS

There are various kinds of wounds that occur in trees, and how they are treated depends on their severity. Pruning cuts that are properly executed require NO treatment whatsoever. If a branch breaks off leaving a stub beyond the branch collar, proper pruning cuts should be made to remove the stub back to the trunk according to the diagram. If part of a large branch breaks off, a clean cut should be made to a well-placed remaining smaller lateral that can take the place of the terminal at the end of the branch. If there are no such laterals, the branch may need to be removed. These wounds should never be treated with sealants, which actually slow or prevent proper callous formation. In the worst cases, they may trap

infection organisms underneath and allow decay to progress unseen – that is until the tree or branch fails!

Trunk wounds can take place when a large branch breaks away and pulls the bark with it. Of course, the aforementioned string trimmer, a mower, or even a car may be the culprit! Here is where some special care should be taken to help the tree heal. First, all dead or loose bark should be removed carefully with a sharp knife. If there are “peninsulas” or “fingers” of live bark extending into the wound, they should be left attached; don't try to shape the wound perfectly. If the bark at the edge of the wound is somewhat loose and you catch it very soon after the injury, you may be able to re-attach it if: 1) there is no debris between it and the tissue underneath, and 2) it is early in the spring. The bark may re-attach if you seal it back down with small aluminum or lacquered nails, or wrap it tightly with plastic wrap and/or duct tape to hold it in place. You may place a pad of moist cloth or peat moss under the plastic and remove it within a week or two. If the bark has not re-attached, it should be removed as described above. Loose bark provides a hiding place for insects, and a reservoir for moisture-loving decay organisms.

These are the basics of dealing with spring pruning and unintentional tree wounds. For more details, check the reference and links lists on the SJ County EH website under the Trees tab.

<http://ucanr.org/sites/sjcoeh/Trees/>

### Right Tree, Right Place



MOST pruning of mature trees could be avoided by careful selection of trees for their site. The MATURE size of the tree should not be so tall as to interfere with utility lines, buildings, or pavement. For a list of small trees, check out this link on our website:

**TREES FOR UNDER UTILITY LINES**

## Water Efficiency: today's hot button

Even in a wet year like this one, water will continue to dominate landscape discussions in California for a number of reasons:

- State legislation mandates that all water providers reduce their use of urban water 20% by the year 2020.
- Landscape water comprises 50-70% of all residential water use, and at least 30% of ALL urban use, including commercial and industrial.
- State legislation requires all cities and counties to adopt and enforce landscape water efficiency regulations that at least equal the State's Model Water Efficient Landscape Ordinance.
- The California Department of Water Resources economic analysis has determined that the areas for greatest potential water savings are in urban efficiencies and recycled water usage.

There are two primary ways to reduce water use in landscapes while still maintaining their aesthetic value, their ecosystem functions, and their contribution to the

## GREEN NOTES

fair market value of property (as much as 20%). The first is by utilizing plant materials that require less water to maintain a healthy, attractive appearance, replacing or reducing lawn whenever it is not serving a purpose. The second is by increasing the efficiency and scheduling of irrigation systems.

UCCE's Environmental Horticulture Program is hosting a workshop for landscape professionals to explore these issues.

### Water Management for Landscape Professionals

**Tuesday, April 12, 7:30 am - 1:30 pm**

Please see the website below for more information and to register:

<http://ucanr.org/sites/sjcoeh/?calitem=132388>

## Plant This

*Heteromeles arbutifolia*, commonly called toyon, is a beautiful and hardy California native shrub. This evergreen beauty grows 6-10 ft. tall as a dense shrub, but can be trained into a multi- or single trunked small tree 15-25 ft. tall at maturity with an equal spread.

Toyon has beautiful dark, glossy green leaves 2-4 in. long with toothed edges. In winter, its bright red berries make a cheerful addition of color, and are a favorite of the migrating Cedar waxwings and other berry-eating birds. Toyon makes a handsome landscape shrub that is a low water user in summer, needing only weekly or twice-monthly deep watering once it is well established. It is also somewhat flexible about light, tolerating anything from full sun to light shade.



# NEW ADVISOR

MARCH

4

2011

My name is Karrie Reid, and I am the new Environmental Horticulture Advisor for San Joaquin County. I am happy to be returning to the area where I grew up and started my family, and am looking forward to serving this community with the quality outreach and research they've come to expect from Cooperative Extension.

I have a background in general biology (B.S., UCSC), plant science, and ornamental horticulture (M.S., UC Davis), as well as both elementary and secondary education. I have come most recently from UC Davis Plant Sciences where I worked with Specialist Loren Oki on two projects related to landscape water conservation and quality. On one of these I have been running irrigation and climate zone trials on landscape ornamental plants; in the other we have been characterizing the constituents of urban runoff water from single-family homes and attempting to influence homeowner practices to mitigate the negative impacts to local waterways.

As the EH Advisor I will be working with public agencies, private companies, the nursery industry, and the general public on the horticultural issues most critical to our urban environments: water conservation, reduction of pollutants in urban runoff, best management practices for healthy landscape maintenance and nursery production, reduction of green waste production and landfill disposal, and reduction of urban landscapes' negative impacts on neighboring non-urban environments. Please feel free to contact me at 209-953-6109 with questions or concerns.



**Karrie Reid**

**Environmental Horticulture Advisor**  
**UC Cooperative Extension, San Joaquin County**  
**2101 E. Earhart Ave., Ste. 200**  
**Stockton, CA 95206-3949**  
**209-953-6109**  
**[skreid@ucdavis.edu](mailto:skreid@ucdavis.edu)**

The University of California prohibits discrimination against or harassment of any person on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam-era veteran or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized). University Policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200 (510) 987-0096. For assistance regarding our programs, please contact us.

University of California  
Agriculture and Natural Resources **UC**  
**CE**  
UCCE San Joaquin County  
2101 E. Earhart Ave, Ste. 200  
Stockton, CA 95206-3949

**Company Name**  
**123 Everywhere Avenue**  
**City, ST 00000**