

## Pruning Shade Trees

Autumn days bring cooler temperatures, fall color development in the landscape, and the sound of chain saws echoing through city streets. Although shade trees may be pruned in autumn as a matter of routine, pruning should not be considered an annual necessity, especially if structure has been established when trees were young. Many shade trees will grow well without annual pruning, and severe pruning is damaging to most tree species. The first question to ask before pruning is "Why?" Pruning should proceed only if specific reasons exist and clear goals have been established.

Pruning may be required for the following reasons:

- **Structure:** Shade trees should have a central leader with scaffold branches spaced one to three feet apart. Branches should have wide angles of attachment to the trunk. Competing branches should be removed. Establish a dominant leader by shortening competing leaders, especially in young trees.
- **Health:** Diseased, damaged or rubbing branches can be removed.
- **Safety:** Branches which pose a hazard should be removed. Examples are branches that interfere with driver visibility at street corners and those which hang low over sidewalks. The sail area of trees may also be reduced to lessen the chances of uprooting during windstorms.
- **Appearance:** Many trees have interesting trunk and scaffold forms. Exposing the form of the tree can enhance its appearance. Trees that have been pruned correctly retain a 'natural' appearance and often don't obviously look as though they have been pruned.

Two types of pruning cuts, *heading* and *thinning* cuts, should be used. These have opposite effects on tree structure, and in most situations pruning should be done with a combination of both. A heading cut shortens branches and removes the terminal bud. The terminal bud (at the end of a branch) is dominant (apical dominance) and governs growth of laterals. If the terminal bud or shoot is removed, lateral buds will break and lateral branches will grow faster; therefore, bushy growth results. Heading main branches to the same point every year, as is often done with mulberries, is known as pollarding. The resulting numerous branches are weakly attached and do not extend to great height nor block out much sky. In northern Europe, sunlight is at a premium and pollarded trees provide ornament in city squares. However, pollarding dwarfs trees and limits shade, and some species can be killed outright by this practice. The popularity of the pollarding style in Bakersfield is perhaps a triumph of tradition over thinking.

A thinning cut removes a smaller branch at the place of attachment to a larger branch. Thinning opens the tree crown while retaining larger limbs, and preserves a "natural" appearance of the crown. Many trees, including pines, oaks, and magnolias, respond poorly to heading cuts and new branches originate with difficulty. These tree species, especially, should be thinned and not headed, if pruned at all. Keep the central leader and key structural branches to preserve a framework within the tree crown.

The placement of the pruning cut directly affects how much decay may later occur in the trunk. Trees do not have a healing process comparable to what occurs in animals or people. Damaged tissue is not repaired but rather sealed, i.e., compartmentalized, followed by growth of replacement tissue. The first line of defense of trees against decay fungi is a layer of tissue identified by the branch bark ridge, visible in some species as a raised collar close to the trunk around each branch. A cut should be made just outside this ridge. The former practice of cutting branches as closely as possible to the trunk did produce callus growth, but the first line of defense was breached, allowing decay-producing organisms to enter. When a tree is topped, several lines of defense are breached, and direct entry to the heartwood of the tree is possible for decay fungi. Therefore, topping should be avoided unless absolutely necessary. If severe topping is necessary, perhaps tree removal is a better choice followed by replanting of a smaller species.



*On left: Dieback of a broken branch to the branch bark ridge, the tree's natural line of defense, where a pruning cut should be made. On right: Well-pruned trees retain a natural appearance without obvious signs of pruning.*

## Redhumped Caterpillar

In autumn, the redhumped caterpillar reaches its greatest numbers and may be seen as a nuisance pest, especially of liquidambar (*L. styraciflua*) (sweetgum) trees. The insect does not result in long-term injury to trees. The adult is an inconspicuous moth. The larvae (shown left) eventually develop the distinctive red head capsule (shown right).



There are four generations of this insect in the Bakersfield area, each larger than the previous, so in most years larvae may be seen dropping out of liquidambar trees just before leaf fall in October. By the time the larvae are obvious they are difficult to kill, and the large stature of many liquidambar

trees makes treatment difficult. For high-value trees, it is possible to treat with a product containing *Bacillus thuringiensis*, but good leaf coverage is needed since this product is effective after being eaten. For more information, please see the UC IPM Pest Note found at <http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7474.html>.

## Tips for Selecting an Arborist

Although we may have the tools to prune smaller trees, for pruning of larger trees it may be advisable or necessary to hire an arborist. I often receive calls asking for a recommendation of specific companies or individuals. While I don't offer such recommendations, here are a few tips that can help you find the expertise you need. Since the basic entry requirements for tree work are a pickup truck, a chain saw and a business card, it is no surprise the backgrounds and skill of arborists vary.

- ISA (International Society of Arboriculture) certification is an indication that an individual arborist has passed a test covering knowledge of tree care.
- Can you communicate clearly with the potential arborist about the tree work you want? The more specific you can be, the easier it is to see whether the potential arborist is competent and the greater the likelihood you will obtain what you want. Does he or she seem to understand and is able to repeat your request?
- Does the arborist know the common name of your tree?
- Can the arborist explain how your tree will respond to pruning?
- Does the arborist have proper safety equipment? As a rule of thumb, if a tree is big enough to climb, it is big enough to tie into. Chain saws and ladders are a bad combination. (It is astonishing how often one sees workers in trees without any sort of safety harness.)
- What about insurance?
- What about a landscape contractor's license?
- Of course, you can ask for references for other work that has been done.

Based on experiences of Kern residents, I think the homeowner should be present while tree work is being done. If things don't seem to be going well, one should be prepared to terminate the work, pay for what has been done, and get someone else to finish the job.

## Tree Care Accidents

Below is a chart released by the Tree Care Industry Association showing fatal accidents from 2009-2013. We might suppose that for each fatal accident there were several others in the same category that were non-fatal. These data show the types of situations that must be avoided, whether working on trees at home or as a professional. As we might expect, falls are important causes of fatalities, and that includes from trees as well as from aerial lifts. Proper harnesses are a must! More numerous than falls are accidents resulting from being struck by trees or limbs. Once trees or branches begin to move it is difficult or impossible to change their direction and speed. When trees are being felled, the trunk often moves in unpredictable directions and the butt end may jump backwards or sideways when the top of the tree hits the ground. It is best to take trees down in small pieces if possible. Although many California neighborhoods have underground utilities, overhead wires are dangerous. Planting of smaller species under wires is logical so that pruning will be infrequent or not necessary at all.

Graph of fatal tree care accidents, from the article by Juan Barba, *Southwest Trees and Turf*, May-June 2014, 20(4):5.

Fatal Tree Care Accidents, 2009-2013

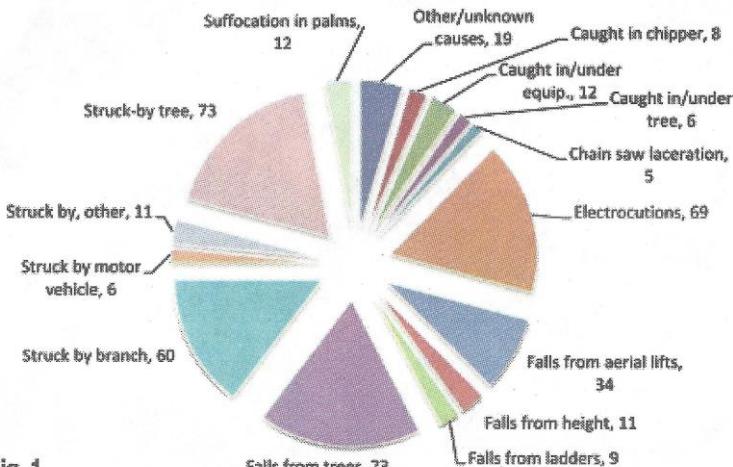


Fig. 1

## Kern Chapter California Rare Fruit Growers

The California Rare Fruit Growers association is well known in Southern California. Now, a Kern chapter has been formed. If you're interested, the chapter meets the second Saturday of each month from 10 am to noon at the Bakersfield Racquet Club at 1660 Pine Street. What new fruits can be grown locally? We shall see.

## Introducing Our New Viticulture Advisor

Grapes are one of the top crops in Kern County both in terms of acreage and farmgate value. Dr. Ashraf El-Kereamy has joined the UC Cooperative Extension office in Kern County as an advisor with assignment in viticulture. Ashraf comes to us from the University of Guelph in Canada. We look forward to working with him as he becomes acquainted with the industry here as well as common problems encountered in growing grapes at home.

## Horticulture Classes And Sabbatic Leave

One of the privileges available as an academic employee of the University of California is sabbatic leave. Such leave is provided to improve and enhance one's capabilities, as well as developing new knowledge and skills. I've been granted nine months of sabbatic leave beginning Oct 1, 2014, which I intend to use to study soils engineering and communication-related topics. That means (as many of you know already) that I will not be offering horticulture classes this fall. However, we plan to offer our annual pruning demonstration in December as well as the February landscape meeting I co-sponsor. I will still monitor email, but routine requests for information will be handled by others in the UCCE office in Bakersfield ([cekern@ucanr.edu](mailto:cekern@ucanr.edu); 661 868-6200). I expect to resume our annual horticulture classes in fall, 2015.

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