

# TREE TIPS

TREE & SHRUB CARE FROM BARTLETT TREE EXPERTS

## Structural supports to reduce trunk failure by Tom Smiley, PhD

Some of the most common branch failures we see are due to a condition called co-dominant stems—when two or more nearly equal-sized stems originate at the same point on the trunk. As the tree grows, the connection between the two stems is not as strong as that for a similar-sized branch. In addition, there is often bark from both stems trapped between the two stems that further reduces the strength of the connection. This weakened condition, combined with normal foliar growth and even a moderate wind, can result in a stem failure at the point of connection.

One of the main goals of structural pruning is to eliminate this situation

Installing a cable between co-dominant stems reduces the high risk of failure.



early in a tree's life. If structural pruning did not occur, and the tree is approaching maturity with co-dominant stems, then the best remedy is to install a cable between the two stems to limit their movement. This remedy is often combined with pruning to lessen the wind load.

A cable is a multi-stranded steel wire that is attached to each of the co-dominant stems. It allows the stems to move freely in light winds, but then tightens when the stems start to get too far apart. If the stems were to continue moving apart, they would reach a critical angle at which one of them will fail.

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## Hemlock woolly adelgid by Chad M. Rigsby, PhD

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Hemlock woolly adelgid (*Adelges tsugae*) is a stylet-feeding insect, related to aphids and scales. It has an incredibly complicated life cycle, requiring multiple generations and stages and two hosts. One host is spruce (*Picea*), on which the insect is generally not destructive; the other host is hemlock (*Tsuga*), on which hemlock woolly adelgid populations can quickly build, especially on stressed trees. This insect can be



The namesake "woolly" evidence of a hemlock woolly adelgid infestation. The inset photo also shows some tiny black adelgid nymphs.

a particularly devastating pest to hemlock species native to eastern North America, chiefly the eastern hemlock (*Tsuga canadensis*)—which has been planted here in the Pacific Northwest. However, given that the adelgid is indigenous to this region of North America, on native species of hemlock it is kept in check by predatory insects and the trees' natural resistance.

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## Bartlett offers a full range of pruning expertise

There are a variety of pruning techniques to fulfill landscape and tree health goals. Bartlett arborists are trained to evaluate trees' attributes, and they know what type of pruning will achieve different objectives. Your Bartlett Arborist Representative will explain the reasons for the pruning recommendations during your consultation.

In addition to pruning dead and dying branches for tree health and safety, specific pruning can be performed to accomplish the following:

- Reduce wind resistance and subsequent storm damage
- Improve shape or eliminate interference with structures
- Increase the amount of light for grass or ground cover under a tree
- Improve the view of mountains, shoreline or other desirable features
- Give young trees a strong framework for future growth

Bartlett also provides shrub pruning (not to be confused with shrub shearing) and fruit tree pruning. Plus, we can develop and maintain formal pruning styles, including pollarding, pleaching, espalier, and topiary.



## Structural supports

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Other tree structural support systems are available for different conditions that are associated with tree failure. These include braces, props, and guy wires. Braces are steel rods that are installed to keep cracks from enlarging beneath co-dominant stems or broken branches. Props are posts installed below low branches to keep the branch elevated or to reduce the likelihood of failure. Guy wires are installed between the trunk and the ground to support a tree with a weak root system.

If you are concerned about any condition in your tree that may weaken it, please contact your Bartlett Arborist Representative to discuss treatment options.

## ISA tree climbing competitions

Bartlett Tree climbers recently participated in two tree climbing competitions hosted by the Pacific Northwest Chapter of the International Society of Arboriculture (ISA). Both had five categories: aerial rescue, belayed speed climb, ascent event/secured footlock, throw line, and work climb. Climbers learn the latest in safety and climbing techniques at these ISA events.



Our team at the Portland Regional PNW-ISA competition. Left to right, Giles, Chase, Lyle, Brian, Kevin and Ben.



## Fun with trees **Make some autumn leaf coasters**

The first step of this project is to gather and press a variety of leaves. Prepare more leaves than needed to give yourself creative options. You'll have a few weeks while the leaves flatten to get four white ceramic tiles, waterproof Mod Podge decoupage glue, a small paint brush, and some felt. Then comes the fun! Arrange flat leaves on the tiles, fastening them down with thin layers of Mod Podge. Continue adding coats of the glue, allowing the tiles to dry between coats, until all the leaves are secure and you are pleased with the surface. Don't worry if it looks milky, the glue will dry clear. Last, glue felt to the underside of the tiles to finish your coasters. Cheers!





# TREE FOCUS:

## Western hemlock

### History

Western hemlock (*Tsuga heterophylla*) is native to the Pacific Northwest and British Columbia, and is the largest species of hemlock, with the tallest on record more than 250 feet in height. Under ideal conditions, this species can live more than 1,000 years. Western hemlock is the state tree of Washington; native cultures used hemlock for dye and medicinal purposes. In natural settings, western hemlock will always be found growing on a nurse log, stump, or rock surface because the seeds will not germinate in mineral soil.

### Culture

- Grows best in moist, organic-rich soils
- Forms extensive but shallow root systems that are prone to drying in sun-exposed sites with no shade or organic soil cover

### Concerns

- Light infestations of hemlock woolly adelgid are common, but this pest is not as damaging to the western variety as it is to eastern hemlock
- Susceptible to several decay fungi that can lead to whole-tree failure
- Attacked by a variety of defoliating caterpillars and sawfly larvae
- Root and lower-trunk decay in mature trees that have sustained root damage due to construction or landscaping

### Bartlett Management Practices

- Mulching and irrigation during dry weather are critical for tree vigor when grown in the managed landscape
- Fertilize and supplement soil organic matter according to soil nutrient analyses
- Inspect base and structural roots periodically for decay and decay fungi
- Mulch to remove competition from turf grass




## WONDERS OF NATURE The amazing baobab tree

Baobab (*Adansonia* spp.) trees are mostly found in arid regions of Madagascar and mainland Africa. Another common name for these trees is 'the tree of life' because they can provide shelter, clothing, food, and water for animals and humans.



The baobab reaches heights of 16 to 98 ft. and trunk diameters of 23 to 36 ft. A trunk can hold up to 31,700 gallons of water. Mature trees are usually hollow. The cork-like bark and huge trunk are fire resistant and can be used for making cloth and rope. The leaves are used as condiments and medicines. The fruit, called monkey bread, is edible and full of vitamin C.



Ask your Arborist to inspect your property this autumn.

## The Oregon Garden

Located in historic Silverton, the Oregon Garden is an 80-acre botanical garden with more than 20 specialty gardens that showcase the diverse botanical beauty found in the Willamette Valley and throughout the Pacific Northwest. It is a wonderful place to visit that offers something for all ages. There are four miles of ADA paths. Local Bartlett employee John Dale, who has been volunteering at the Garden for years, recommends visiting the Signature Oregon white oak tree that is more than 400 years old and pre-dates any European settlements in Willamette Valley. Another favorite of Bartlett staff is the Conifer Garden, which is one of the largest collections of dwarf and miniature conifers in the United States. For information about all the gardens and upcoming events, go to [www.oregongarden.org](http://www.oregongarden.org).



## Hemlock woolly adelgid *(continued from page 1)*

Native hemlocks are generally able to tolerate light infestations if healthy. Severe infestations, however, can damage trees and become unsightly, and light infestations on trees that are already stressed can quickly escalate. Fortunately, these situations can be easily remedied with a variety of therapeutic or preventive products. Your Bartlett Arborist Representative can also address cultural issues that will decrease tree stress and the likelihood of hemlock woolly adelgid infestation.

