

Horticulture

Wood For Your Fireplace

A popular source of additional heating for many homeowners and apartment dwellers is the burning of wood. Sitting around the fireplace to enjoy a relaxing evening at home is another benefit of burning wood in your fireplace.

To do this most effectively, keep these things in mind: ash, birch, hickory, oak, sugar maple, apple, honeylocust and osage orange are considered excellent woods as they produce few sparks, no heavy, annoying smoke, are easy to split and give off a relatively high heat to the room.

With regard to the previously mentioned factors, the second best group of woods include silver maple, walnut, hackberry and fruit woods other than apple. These are considered good to use, but generate less heat than the first group.

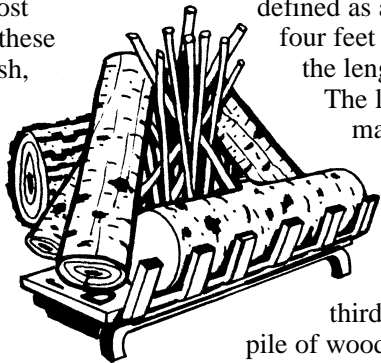
Woods considered fair include sycamore, boxelder, willow, other elms, linden, cottonwood, white poplar, pine, spruce and cedar. This third group should be considered as the last resort, while the first

group should be encouraged.

Firewood is sold in a number of ways. If you buy a cord, the size of the pile will be four feet by four feet by eight feet or 128 cubic feet. Retailers of firewood may also sell by the face cord. A face cord being defined as a pile of wood four feet by eight feet by the length of a stick.

The length of the stick may be anything from 12 inches to 20 inches. A rick or a run is another term used, which is a third of a cord or a pile of wood four feet by eight feet by 16 inches. If you buy a pick-up load, this could mean almost anything. One must estimate how much they are getting by measuring the number of cubic feet of wood being delivered.

Large logs should be split to average diameter size of six inches, this will be a fair size and satisfactory from the user's standpoint. Whether you purchase a cord, face cord, rick, run or pick-up load, you would be well advised to purchase wood in smaller pieces. Larger pieces stack with more air in a given volume and would take up more space. (MJF)



Needle Diseases of Conifers

Dothistroma needle blight, Sphaeropsis tip blight or both diseases are common problems on the long needled pines (Austrian pine and ponderosa pine) and are fairly easy to recognize. If either of these diseases have plagued your trees, plan to control them this next spring.

Dothistroma needle blight, which occurs primarily on

Austrian, ponderosa and mugo pines usually occurs first on lower branches. Infected needles show yellow to reddish-brown spots or bands that extend around the needles. Needles die from the banded area to the tip. Diseased needles drop prematurely.

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Horticulture information center

NUFACTS
24 hours a day, 7 days a week
1-800-832-5441; or
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To listen to a NUFACTS information center message, call the number above on a touch-tone phone, then enter a three-digit number listed below. Call 441-7180 to receive a brochure with all the NUFACTS message topics.

NUFACTS	
117	Tree Snow Damage
124	Wood for Fireplace
137	Deicing Salt Injury
210	Amaryllis
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213	Prayer Plant
214	Houseplant Insects
215	Cyclamens
217	Boston Fern
218	African Violet Care
222	Winter Houseplant Care
223	Repotting Houseplants
224	Houseplant Artificial Light

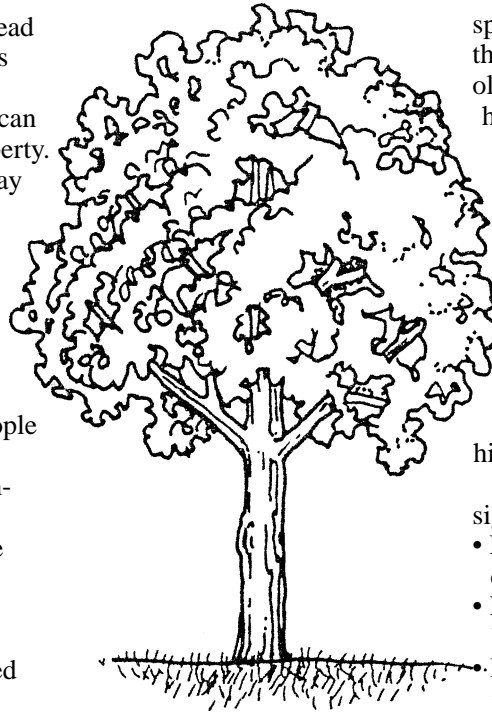
Recognizing Living, Hazardous Trees

Most people realize dead trees should be removed as soon as they are detected, however, living trees also can be a threat to life and property. A living hazardous tree may have one or more defects which decrease its structural integrity and give it an increased potential for failure. Unfortunately, this potentially deadly combination of defective trees with areas where people or their property stop and congregate are all too common in today's urban and residential landscape. Tree managers or home owners must have the ability to identify and then correct hazardous situations caused by defective trees.

Trees are complex and highly adaptable organisms. Knowing how trees are constructed, function and respond to wounding can help home owners understand the eventual aging process and ultimately insure the safety of people who work and play near them.

Trees have massive stems that support and elevate the leaves. The stem is also the transport system for moving materials from the root to the leaves and back again. Tree stems must grow every year. Each spring and summer a new sheath of living wood covers last year's tree. If a tree cannot grow every year, it will decline and die. A cross section of a tree trunk has many layers. The outside of the tree is dead bark which protects the tree. The inner bark or phloem tissue is alive and carries food manufactured in the leaves to lower, aboveground portions of the tree and to the roots. The layer between the bark and wood is called the cambium. The cambium produces wood cells to the inside and bark cells to the outside.

Actively growing cambium results in an increase in stem diameter. In addition, the cambium is a major reaction site that responds to injury. Inside the cambium are annual rings of wood. The large pores in each annual ring (xylem) are dead, but are still capable of transporting water to the leaves. Nearly all of the volume of a tree is wood or xylem. If these woody tissues become unsound for any reason, such as internal decay, then most of the structural support for the tree will be compromised. The tree will remain alive, however, because the living cells near the cambium will continue to grow, laying down new phloem and xylem tissues. The result is a relatively healthy-looking tree with a functional outer sheath, but one that lacks sufficient



structural strength from wood to support itself, particularly during extreme weather events.

A tree's structural support is most important during high winds or when snow and ice have accumulated on branches. For example, accumulation of ice can increase the branch weight of trees by 30 times or more. This additional weight may not pose a problem for relatively young trees, however, as trees grow old, they are less able to compartmentalize or seal-off injured portions of the tree and decay is more common. In addition, older trees have a greater tendency to shed branches due to unavoidable decline in wood quality.

Besides age, growth rate and ability to respond to injury will influence a tree's functional life span. Fast growing trees like silver maple, poplar and willow allocate a relatively small portion of internal resources to building compartments that keep pests and decay from spreading. Instead, they rely upon a rapid rate of growth to outdistance decay-causing pathogens. But as they age, their rate of growth slows, and significant decay and structural failure become likely. On the other hand, trees like oak grow slowly and allocate a significant proportion of resources to defense. These trees compartmentalize wounds, and in general, are long-lived and less likely to fail.

There are four ways that living trees become structurally unsound:

- (1) internal decay in the trunk and large branches
- (2) cankers and canker-rots
- (3) cut roots and root decay
- (4) poor branch attachment

Internal Decay

Decay in living trees is the end result of many complex interactions between the tree and several groups of fungi and bacteria. Many of these microorganisms are opportunistic and enter through wounds. Healthy and vigorous trees have adequate defense systems that limit the

spread of decay caused by these pathogens, however, older trees or those in poor health are at a disadvantage, and extensive columns of decay often result. Once decayed tissue takes over a large volume of the trunk, the tree will be unable to support its own weight and may fail at any time (even though failure is most likely to occur during periods of high wind).

Here are the warning signs of internal decay:

- Large, wide wounds or cavities
- Presence of fungal fruiting bodies or conks
- Bleeding (oozing sap) through the bark
- Presence of carpenter ants, termites, nesting holes and bee hives
- Loose, cracking bark
- Overall poor appearance, slow growth or twig and branch die-back

Cankers and Canker-rots

Cankers, localized dead areas on the bark caused by bark-inhabiting microorganisms, also can lead to structural instability in a tree. Cankers on the trunk and branches are inherently weak spots and trunk and branch failure may occur at old cankers. Canker-rots occur when microorganisms attack and decompose the wood beneath the canker and adjacent bark tissues. Most canker-rots are likely to cause tree failure because of the combined effect of dead bark around the circumference of the tree (from the canker) and loss of internal support (from wood decay). Trees with canker-rot are very hazardous and should be removed as soon as possible.

Cut Roots and Root Decay

Anything that alters or compromises the structural support provided by any part of the root system decreases the stability of the tree. Two major culprits that jeopardize the integrity of roots are (1) root-rotting pathogens that attack weakened trees or enter through wounds and cause root decay and (2) the severing or cutting of any portion of the root system. In addition, soil erosion, drought, gas leaks, changing the grade around trees, flooding, soil compaction or paving around trees can kill roots. Building, road, and sidewalk construction or utility installation are especially damaging to the roots of nearby trees. Large, heavy

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