

Type of Pruning Depends on Age of Tree

(Information in part, provided by TCIA – Peter Gerstenberger)

“Pruning is the single best ‘investment’ a property owner or community can make to ensure the survival and lengthen the life span of their trees,” according to Peter Gerstenberger, senior advisor for safety, standards and compliance for the Tree Care Industry Association. (TCIA) However, pruning performed incorrectly can damage or even kill your valuable tree.

“Older trees require more consideration before pruning,” cautions Gerstenberger. “When you prune a tree, you need to take into account both the tree’s health and its stage in life. Older trees, or trees with health problems, cannot withstand pruning as easily as younger, vigorously growing trees.”

When a pruning cut is made the tree has to both defend the newly exposed tissue from invading diseases and insects and somehow replace the lost living tissue that was pruned off. The life span of a tree is determined by a number of factors including its pattern of tree growth, maintenance history and environment. Because of these factors, age alone is not a good determination of a tree’s potential life span. Instead an arborist categorizes trees by “life stages.” After determining what life stage a tree is in, and its overall health, the professional arborist can then decide how to prune.

The first stage is **Establishment** and includes seedling and transplants. The key

factor is that the tree concentrates growth on root system development and top growth. Often the tree is competing with other plants or turf for space and resources. In this stage, pruning should be limited to crown cleaning. Little or no leaf tissue should be removed

Pruning at all life stages can be performed in the dormant season.

since the tree is relying on food produced in those leaves to fuel growth.

The next stage is **Juvenile**.

In this stage trees are established in their environment and grow at their most rapid pace. They have ample energy to run an active defensive system against invading diseases and insects, so they can withstand pruning well. They are also able to simply outgrow many of the invaders. This is the time that structural pruning to develop good branch structure should be performed. This type of pruning will help eliminate major branch defects that could cause limb failure in the future.

The **Mature** stage is next. Growth continues at a slower, steady pace. The tree has a good balance of energy reserves, allowing it to fight diseases effectively.

However, the option to outgrow diseases is diminished. Deadwood pruning can be done at this time to improve tree health.

The **Post-Mature (Over-mature, Past Mature)** stage is characterized by both a very slow growth rate and by an intolerance to disturbances. Energy reserves in the post-mature tree become limited. The tree itself is healthy, however any disturbance resulting in the removal and/or death of living tissue will have adverse effects. The post-mature tree has limited energy reserves to fight invading diseases and insects, especially at pruning wounds. Due to these factors, post-mature tree pruning is usually limited to crown cleaning. Removal of live tissue is avoided. With proper maintenance, a post-mature tree can remain healthy for a long period of time.

Senescence (Declining) is the final life stage of a tree. The senescent tree has lost the ability to defend itself effectively from invading organisms. Senescence often begins as a result of trauma such as a lightning strike, over pruning, construction injuries, etc. The invading organisms overcome the tree’s defenses and cause tissue death and/or internal wood decays. Major limbs succumb to the diseases, eventually breaking off the tree. The trunk usually becomes hollow. Hazard-reduction pruning removes hazardous and/or dead limbs. Senescent trees may have some useful life left in them, but there are no measures that can be taken to restore the health of the tree. The tree should be removed once the potential hazard and costs of maintaining the tree outweigh the benefits.

Forecasting Landscape Problems Based on the Weather

And Heads-Up on a New Disease: Thousand Cankers of Black Walnut

Here we are at the beginning of this new decade wondering what the future will bring for our landscapes.

Will this year be as cool and wet as 2009, which saw several foliar-fungal diseases (apple scab, anthracnose, rusts) as a result? Or will we see hot and dry conditions that would allow for insect populations to emerge earlier? Predicting insect and disease problems for the upcoming growing season is a difficult task. The best way to predict which insects and diseases may erupt in your landscape is by noting what has occurred in the past and paying attention to the current weather conditions. The Morton Arboretum Plant Health Care Report writes about the first sightings of different insects and diseases. This is a good resource for homeowners trying to identify and manage their landscape problems, which may include new diseases such as Thousand Cankers Disease of black walnut, which has not yet been reported in Illinois.

The emergence and development of insects is dependent on environmental temperatures since insects are unable to generate their own body heat. The life-cycle of an organism, including insects and plants, can be relatively accurately estimated by calculating Growing Degree Days.

This information can be helpful when management practices are dependent on treating during a specific stage in the insect's development (eg. treating for scale when crawlers, young insects, are emerging).

Landscape diseases are commonly caused by fungi, bacteria, and viruses. Each type of organism requires different environmental conditions in order to cause infection of a host plant. Fungi are dependent on cool and wet weather in order to grow, reproduce, and infect host-plants. Fungi are often able to spread their spores in air and water, which makes them difficult to manage. They also tend to infect their hosts long before symptoms develop (apple scab and anthracnose).

Bacterial infections (eg. fireblight and bacterial leaf scorch) are dependent on moisture and often times an organism that spreads the bacterium, which are sometimes pollinators, to spread the bacteria from plant to plant. Viruses are also dependent on insects or humans for dispersal. Common viral diseases include Rose Rosette Virus and Island Chlorosis of hackberry.

One serious disease that affects black walnuts is Thousand Cankers Disease (TCD), which caused widespread black walnut death in Western states in 2009. The disease is able to kill trees 1-3 years after infection. The first symptom of TCD is the yellowing of leaves and gradual dieback of high branches. The canopy thins as branches die and the foliage wilts. There are two canker types associated with TCD and both are found on the trunk and branches. One type is small, dark brown-black cankers and is closely associated with the beetle-boring-holes. The other is found in the later stages of infection, and can only be seen after the bark is removed.

Thousand Cankers Disease has not yet been reported in Illinois, but since Illinois is included in the native range of black walnuts and other closely related trees, hickories, there is a high potential for this disease to spread.

by *Stephanie M. Adams, M.S.*
Plant Health Care Technician – Morton Arboretum

It's Not Too Late To Keep Your Trees "Green" ...

Contact our Plant Health Care Department at 630-562-0160 to schedule the spring applications for Emerald Ash Borer, Japanese Beetle, Bagworm & Gypsy Moth.

As always we recommend yearly hydraulic fertilization with Bio-Green and added Mycorrhizae to keep your trees less susceptible to insects and diseases.

Bald Cypress

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A Property's Value Can Grow With Its Trees

I think we have all heard that mature, healthy trees in landscapes can add as much as 20% to your homes value according to the Council of Tree and Landscape Appraisers. A single mature tree has an appraised value of \$1,000.00 to \$10,000.00.

Consider not only the monetary value trees provide, but also consider the aesthetic value as well, which often goes unnoticed until they are gone. According to research by Dr. Roger S. Ulrich of Texas A&M University, visual exposure of settings with trees produces significant recovery from stress within five minutes, as indicated by changes in blood pressure and muscle tension.

We could all use a little less stress in our lives, and it's as easy as coming home!



TREES PAY US BACK!

Just a Few of The Attributes Trees Provide to The Environment, the Economy and Our Property

- » Trees save 6.5 percent of annual home-energy costs
- » Reduce neighborhood crime by 40 percent
- » Increase the sale of retail goods by 12 percent
- » Return \$4.00 of benefits for every \$1.00 invested
- » Turn carbon dioxide into fresh oxygen as they filter pollution

When can a tree be both deciduous – meaning it loses its leaves – and also be a conifer – a tree with needles? When that tree is a Bald Cypress!

The Bald Cypress is an evergreen, but acts deciduous as it drops its twiggy leaves in the fall. It is unusual as a deciduous conifer. The rich sage green color of the summer needles turns copper orange then brown, making the Bald Cypress one of autumn's best colors. The red-brown bark is ornamentally attractive with its peeled appearance. It is a large, stately pyramidal tree, fully grown at 50-70 feet high. Bald Cypress tolerates abundant soil moisture making it a good choice for properties that have

"low" areas, but will also adapt to drier sites. Performing best in full sun with adequate space, the Bald Cypress is capable of growing two feet annually. It makes a great screen when planted in groups, but is considered a specimen plant.

This impressive tree was voted 2007 Urban Tree of the Year by the arborist publication *City Trees*. The Bald Cypress is a rising star as a landscaping tree suitable for many locations.



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Woody Says...

Our group of pets has started to show their true colors! Sparkle, for the past few months has shown us what we call her "temper tantrum". She stomps her front feet when she gets bored and wants to go for a walk or ride, or when it is past her mealtime. Linda who works in our office, volunteered to take Sparkle for a walk everyday. (Unlike the rest of us Linda actually likes to exercise!) Sparkle learned very quickly the time Linda designated for her walks. She will sit by Linda at least a half hour before that time and if Linda doesn't stop working she will scold Linda and occasionally do the foot stomping! She continues to be very vocal when people come to our office and give her attention. Unfortunately, they either think her "talking" is so very cute, or they think she

is in pain! At least we know what she is thinking.

Our cat, Addy, is still working on her weight. I should say I'm still working on her weight control. It is heartbreaking to listen to her crying and getting underfoot while I am fixing their meals. Seems to be a slow process, but it is the safest way for cats to loose weight.

Gus, our cat that was very slow to accept being on your lap, getting pets and brushing, has now decided this is a good thing and joins us every evening of his own volition to get some attention. Jigs, the most social and demanding of the cats, always wants to sit with either Joe or me, whoever sits down first, he's there!

It will be spring soon and remember: **DON'T SHOP – ADOPT!** I continue to hope that if more people knew the horrible treatment and conditions that "puppy mill" animals are subjected to, pet stores would not continue to be in business.

Don't Shop - Adopt!

Please don't forget to consider donating your time and energy to an animal shelter that desperately needs volunteers due to the number of animals in their care. Shelters are not in a financial position to hire additional staff, though the number of animals they take in continues to rise, and so does the work. **It's all about the animals and you can make a difference!**

Jan Kramer



630.293.5444

CELEBRATE ARBOR DAY PLANT IT FORWARD

Celebrate Arbor Day on April 24, 2010:

- » Celebrate in a personal way by planting a tree yourself. It is an act of optimism and kindness, a labor of love and a commitment to our environment.
- » Read a book about trees. Learn to identify the trees in your yard and neighborhood.
- » Volunteer with a local tree-planting organization.
- » Give the gift of a tree. Such a gift is perfect for marking a memorable time in life such as weddings, birth of a child, or the passing of a special person.

Visit www.arborday.org to learn more about Arbor Day, or for local events and information visit Morton Arboretum at www.mortonarb.org.

APPLYING KNOWLEDGE & EXPERIENCE PRODUCES RESULTS

Kramer Tree Specialists, Inc.

300 Charles Court, West Chicago, IL 60185



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