



# CASSITY TREE & LANDSCAPE SERVICE

Sturtevant, WI • 886-5224

"Plant Health Care with A Conscience"

Since 1978

## ARBOR NEWS

This newsletter has adapted articles and graphics from the publications of the following organizations in addition to our original pictures and stories.



2016

## Emerald Ash Borer: Our Changing Landscape

By: Kevin Nolan, Certified Arborist # MW-4399A



Emerald ash borer has devastated ash throughout our area and beyond. Thousands of trees have been killed or heavily damaged; the effects of this infestation were more evident this year than ever. The economic impact of this pest for private residents and municipalities is staggering when you consider the cost of treatment, pruning, or removal of these trees. Much like dutch elm disease and chestnut blight, ash borer has altered our landscape dramatically.

The effects of ash loss go far beyond the economic damage. Trees that once shaded parking lots, streets, and homes have been lost. This leads to increased energy bills and amplifies the urban heat island effect. Wildlife also suffers as protective cover, cavities for nest building, and food sources are lost. Stands of dead trees allow invasive trees such as buckthorn, black locust, and mulberry to quickly spread and choke out native plants.

How we respond to this loss of trees will be critical. Within the damage lies an opportunity to improve the health of our urban forest. Trees removed from private residences are the most likely to be replaced quickly; this makes them the front line for improving tree diversity. Selecting trees appropriate for your yard should be the first step. Planting the right tree in the right place can significantly lower future costs and provide decades of enjoyment. Replanting with a variety of trees is also important so threats like ash borer are minimized in the future. Hybrid elms, hackberry, and Kentucky coffeetree make great ash replacements and are perfectly suited to our heavy clay soils.

Restoring large tracts of dead trees with native trees and shrubs is a terrific way to reduce invasive species and improve habitat for wildlife. Wildlife diversity increases with plant diversity; this is of particular importance for our ailing pollinators. This can be a slow process, but one well worth the effort. When considering restoration efforts of this scale, one must think in terms of decades instead of years. Taking the proper steps now is an investment in future generations.

This can be overwhelming, but plenty of help is available. The first step is to have your property assessed by a Certified Arborist for tree health and safety. An arborist will also be able to provide a list of replacement trees suitable to your property. Larger scale restoration efforts may find guidance through the Wisconsin Department of Natural Resources.



Adult Emergence



Adult Ashborer

# Compartmentalization of Decay in Trees

## -why proper pruning matters-

By Brian Cassity – cert. arborist WI 0106A

In the not too distant past, tree wounds were looked upon in much the same way that we look at or treated human wounds. Put a bandage (as in tree wound paint) on it and hope for the best. And with branch removal, make the cut as smooth and close to the trunk as possible. Then along came Dr. Alex Shigo, often called the father of modern arboriculture. Over a period of several decades, thanks to the invention of the chainsaw, he dissected hundreds of trees both horizontally and vertically. He discovered a new way of understanding tree wounds and pruning cuts. He promoted and published his findings, emphasizing a model he named C.O.D.I.T. "Compartmentalization Of Decay In Trees" (See figure 1.16). In this model, the tree forms 4 barrier walls when wounded. Wall 1 resists the vertical spread of decay by plugging xylem vessels. Wall 2 resists inward spread by the more compact summerwood cells and depositing chemicals in those cells. Wall 3 inhibits lateral (sideways) spread by activating Ray cells in much the same way (wood rays fig. 1.4 and 1.16). These 3 walls form the "reaction zone". Wall 4 occurs after the wound and is the next layer of wood to form around and

over the wound. It protects from the spread of decay moving into new wood growth. It is called the "barrier zone". Wall 4 is the strongest deterrent and Wall 1 is the weakest. Because it is fairly common for Walls 1,2,3 to fail, it emphasizes the importance of a proper pruning cut. In figure 8.2, a pruning cut made properly at line C has only need of Wall 2 to resist the inner spread because the trunk has not been wounded. If a flush cut was made that violated the branch collar, it would be open to all the decay mechanisms. The smaller cut or wound of a proper branch cut will close much more readily with the strong Wall 4 covering it, than the larger unnecessary wound of an improper flush cut. You can also, easily apply this same model to the "topping" of trees, to see the significant decay implications. Then we have the whole issue of wound dressings. Scientific analysis has shown that there are significantly more fungal pathogens that occur under the "tree wound paint" than occur if we let the branch cut dry naturally. Trees have been naturally responding to wounds and branch shedding for thousands of years. We usually see the best results when we look to duplicate nature/natural processes.

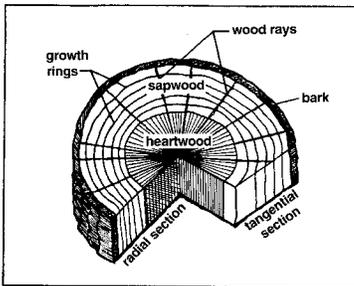


Fig. 1.4 Cross section of wood showing growth rings, sapwood, heartwood, and wood rays.

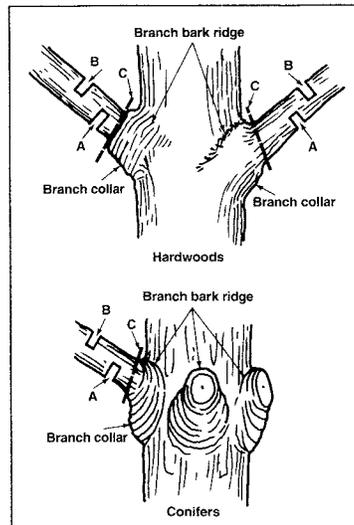


Fig. 8.2 Pruning principles. The first cut (A) undercuts the limb. The second cut removes the limb. The final cut (C) should be just outside the branch collar to remove the resultant stub.

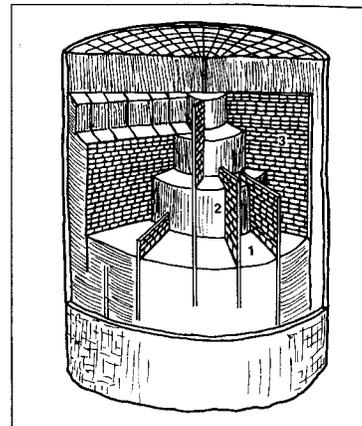


Fig. 1.16 CODIT. Wall 1 is formed when the tree responds to wounding by "plugging" the upper and lower vascular elements to limit vertical spread of decay. Wall 2 is formed by the last cells of the growth ring limiting inward spread. Wall 3 is the ray cells that compartmentalize decay by limiting lateral spread. Wall 4 (not shown), the strongest wall, is the new growth ring that forms after injury.

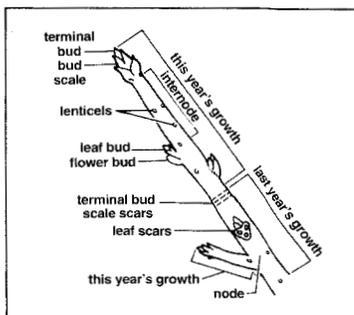


Fig. 1.5 Twig anatomy showing twig extension growth.

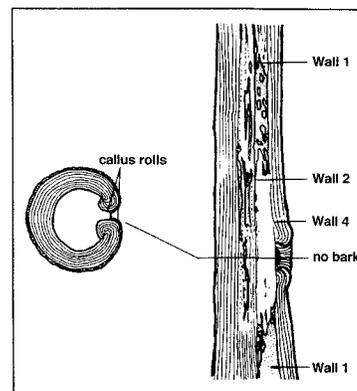


Fig. 1.17 Compartmentalization of decay. Wall 1 prevents decay from entering new wood. Wall 2, not shown, and Wall 3 have failed to prevent the decay from spreading laterally and internally.



## Cassity Tree and Landscape New Services



"If you can't stand the sight of sap... go inside...  
this isn't going to be pretty."

### Nursery

We introduced you to our 2 new operations last year. We also, now have an additional special projects service. Our Nursery called "Special Tree" is an all above ground container planting. This guarantees you receive 100% of the roots; no root loss from digging. We are specializing in small scale trees and have over 100 now planted with choices so far of Crabs, Serviceberry, Hazelnut, Redbud, Dwarf Birch, Concolor Fir, Magnolia, Black Hills Spruce, Hydrangea, Dogwood and Viburnum. The latter 3 we have several nice size specimens ready to install. The others are a couple years away to landscape ready.

### Lawn care division

Cassity Tree and Landscape has been in the business of Plant Health Care for 37 years. With our motto of "Plant Health Care with a Conscience", we are now offering our expertise as Certified Arborists and Degreed Horticulturalists to lawn care. We have found that many traditional lawn care companies apply products that are counter productive to tree and shrub health and/or duplicate services to trees and shrubs that can result in detriment to the plants and the environment. We are excited to offer this service and have applied extensive research to provide you with environmentally friendly yet effective lawn care.

Offering complete plant Health Care services for trees, shrubs and now lawns.

- Organically Based / Reduced Risk
- Improves Soils
- Gentle on the Environment
- Spot Weed Control / No cover sprays
- Complimentary to all other Plant Care

## Tree Care and Beyond: Cassity Special Projects

By: Kevin Nolan, Certified Arborist #MW-4399A

Cassity Tree Service has been dedicated to the preservation of our urban forests since 1978. As Arborists, we are largely focused on plant health and quality pruning/removal services. But trees are just one component of a larger system; providing food, cover, and shelter for numerous forms of wildlife. The ability to safely ascend and maneuver in tree canopies gives us the ability to perform some unique tasks for the benefit of wildlife. For this reason, we are now offering services for installation of bat houses, nesting platforms, and similar projects. Please contact our office if you are interested in exploring these or other wildlife promoting projects.

### Accreditation Audit Areas Include:

- Consumer Satisfaction
- Business Ethics
- Safety
- Industry Standards
- Insurance Coverage
- Best Business Practices
- Employee Training
- Quality
- Arborist Certification
- Work Estimates & Specifications



**Racine & Kenosha's only  
Accredited Tree Service**

# The Survivor Tree

By: Kevin Nolan, Certified Arborist #MW-4399A



The last living thing to leave the rubble from the September 11th World Trade Center terrorist attack was a tree. This tree was burnt, heavily damaged, and by all common arboricultural standards mortally wounded. This specimen was a callery pear (*Pyrus calleryana* 'Cleveland Select'), an ornamental variety commonly utilized in residential and urban landscapes. Carefully transported from the area, this tree was nursed back to health by a dedicated team of arborists and now stands at the National September 11 Memorial and Museum as a living monument of resilience.

Saplings were propagated from this unique tree and have been distributed to locations around the world. It was my very great honor to be involved with the planting of one such sapling on April 25, 2015 at Gateway Technical College in Kenosha, WI. The tree can be found near the Pike Creek Horticultural Center and bears a dedication plaque. While quite small at the moment, this tree has put on an amazing amount of growth and has surpassed all expectations.

The survivor tree is a visible reminder of the perseverance of life, the value of dedication, and the power of faith. As tribute to those impacted by that fateful day, and also to the active and veteran service members of our Armed Forces, Cassity Tree Service has pledged free pruning and plant health care for the life of this tree.

For more information, please visit [www.911memorial.org/survivor-tree](http://www.911memorial.org/survivor-tree)



## CASSITY TREE SERVICE

offers all of the traditional tree care operations (selecting, planting, pruning, removal) and specializes in Plant Health Care including:

- Bio-stimulant Soil Injection
- Root Zone Treatments
  - Fine Root Development
- Annual Care Programs and Diagnosis
- Direct Tree Injection
- Prescribed Tree and Shrub Spraying and Fertilizing
- Growth Regulators

