

THE PURDUE LANDSCAPE REPORT

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Winter Weather Tree Tips

(Lindsey Purcell, lapurcel@purdue.edu)

This looks to be shaping up as a tough winter for us and our trees. Lots of snow and ice are predicted for the Hoosier state and this can be a challenge for our trees and shrubs.

After a heavy snowfall, protect your trees and property with these simple tips:

Do not shake limbs to try to remove snow or ice.

When you find your trees are bending or drooping as a result of ice or snow accumulation, your first instinct is probably to shake the branches or knock the weight off with a broom or something similar. This may cause worse damage or actually cause the branch to snap off. Stop right there! Healthy tree branches are flexible, so knocking off the accumulation of snow or ice accretion may cause them to “snap” back, potentially damaging their food and water transport system. The results of the damage may not be evident until next spring.

Trees that tend to suffer the worst damage as a result of snow and ice are upright evergreens, like arborvitae and juniper, and clump trees, like birch. And, when it comes to ice, age does not make a tree stronger; younger trees are better at actually overcoming damage in ice storms.



Snow weighing down spruce branches



Ice accretion on hawthorn branches



Limbs bending from ice loading

Safely remove broken limbs.

Broken and hanging branches can be a threat to people and property. If a limb breaks off from the weight of ice or snow and remains in the tree canopy, have it removed and the remaining stub properly pruned to the branch collar as soon as weather allows. The tree will recover better when properly pruned. For undamaged limbs bending under the weight of ice or snow, don't prune as a means of correcting the situation. Be patient. It takes time for wood fibers in the limbs to return to its natural position.

Always be mindful of walking or parking under branches loaded down by snow or ice as they may snap and fall, causing injury or damage. If a limb breaks and becomes entangled in power lines, notify your utility company immediately. Never approach a downed power line or a branch touching a utility line.

Hire a Professional.

If there is substantial damage to your tree, have an arborist examine damaged branches and limbs for signs of weakness and injury for reparations. It is best to always hire an ISA Certified Arborist. To find an arborist in your area, visit the website, www.treesaregood.org

How can you help prevent ice damage to trees? Proper pruning is one way. Particularly important is the removal of poor branch attachments and weak branch structure in the tree, prior to winter. For more information on pruning, download the publication, [Tree Pruning Essentials](#).

Woody Ornamentals Summary 2018

(Tom Creswell, creswell@purdue.edu)

A look back at the past year may help us be alert to problems ahead. Here's a summary of the most common problems received in the diagnostic lab on woody ornamentals in 2018.

As is typical for most years there were more non-disease (abiotic) problems than infectious (biotic) diseases found on PPDL lab samples in 2018 (see Table 1). These abiotic problems include

aggregate counts of everything from poor planting practices to soil conditions and environmental factors. The table also shows the most frequently diagnosed infectious disease problem was *Botryosphaeria* dieback or canker, which was found across a range of hardwood trees and shrubs including: Maple, Magnolia, Crabapple, Redbud and Oak. The most commonly submitted leaf disease was [Tubakia leaf spot on oaks](#), which is usually more severe on the red oak group. We also had our first recorded samples of Bur oak blight (*Tubakia iowensis*) on Bur oak and on Swamp white oak in Indiana this year.

Most spruce samples we receive are found to have [Rhizosphaera needle cast disease](#), but in the last 2-3 years we've seen an increasing number of samples with dieback caused by *Phomopsis* infections. Anthracnose leaf and twig diseases show up every year on maple, sycamore and oak in late spring and early summer. This group of diseases are worse during rainy weather and in 2018 we saw cases of anthracnose throughout the growing season.

Volutella dieback of boxwood was common in 2018 and for the first time in Indiana we confirmed the [Boxwood blight](#) fungus on boxwoods in shipments sent to retail home and garden stores from a supplier on the west coast. In December, we confirmed boxwood blight on infected boxwoods in a residential landscape. A suspected infected boxwood had been added to this landscape early in the year, acting as a 'typhoid Mary' to infect established boxwood plantings. Our [publication on boxwood blight](#) and a new [article on identification](#) of this disease are available. Spider mites (both [cool season](#) and [summer types](#)) were the most commonly encountered among the arthropod pests.

[Bacterial leaf scorch](#) (caused by the systemic bacterium *Xylella fastidiosa*) was identified on five oak samples submitted to the lab this year while [oak wilt](#) was detected only three times this year. While these numbers are low both diseases remain important diseases to watch for on oak.

Plant(s) affected	Diagnosis	Pathogen	Totals
All woody plants	Abiotic disorder	n/a	291
Oak, redbud, maple, other hardwoods	<i>Botryosphaeria</i> dieback or canker	<i>Botryosphaeria</i> spp.	40
Oaks	<i>Tubakia</i> leaf spot	<i>Tubakia</i> spp.	26
Spruce, esp. Blue spruce	Needle cast disease	<i>Rhizosphaera</i> sp.	25
Japanese maple, Spruce, Willow, others	<i>Phomopsis</i> dieback	<i>Phomopsis</i> spp.	23
Shade trees	Anthracnose diseases (except <i>Elsinoe</i>)	Multiple fungi	22
Black/Austrian pine, Elm, Fir, Crabapple	<i>Diplodia</i> tip blight, canker	<i>Diplodia</i> spp.	22
Boxwood	<i>Volutella</i> dieback	<i>Volutella</i> spp.	21
Spruce and others	Spider mites	n/a	17
Oaks	Spot anthracnose	<i>Elsinoe quercus-falcatae</i>	12
Deciduous trees and shrubs	<i>Cercospora</i> leaf spots (late season)	<i>Cercospora</i> spp.	9

Avoid Deadly Risk of Dying Ash Trees with Timely Tree Removal

(Elizabeth Barnes, barne175@purdue.edu), (Cliff Sadof, csadof@purdue.edu) & (Lindsey Purcell, lapurcel@purdue.edu)

Emerald ash borer (EAB), the most destructive forest pest to enter

North America has left hundreds of millions of dead ash trees in its wake. Although this pest has been found throughout our state, many of Indiana's ash trees are still alive, or dead and still standing. Ash trees killed by emerald ash borer, become extremely brittle and break easily as they decline. Branches can fall on people and property in snowstorms, with a light breeze, or even on a calm clear day. Danger could be hanging over your head in the street, in the forest, and even in your backyard.

Why does emerald ash borer make ash trees so brittle?

Unlike elms, oaks, and maples, ash trees use a thin ring of conducting tissue to supply water from the roots to the entire tree. Emerald ash borer grubs will damage these functional water pipes as they chew just beneath the bark inside trunks and branches. This causes the tree to dry quickly and the structural wood to become prone to cracking. Internal breaks in the structural wood that bear the weight of the tree are often hidden from view by tree bark. As such, limbs can break and fall at any point along the branch at any time. It is not uncommon to have sizable limbs snap 30 feet off the ground on a calm day.



Large ash limbs that have broken off in the upper canopy.

The threat of falling limbs is not limited to just dead ash. A comparative study of ash trees conducted in Ohio shows that structural integrity of ash trees can begin to decline even when trees are mostly green and have two thirds of the canopy still intact.

What should I do to protect myself from falling ash trees and limbs?



If your tree has lost less than 30% of its canopy hire a professional to [protect the tree](#).

If the tree has lost more than 30% of the canopy, make plans to remove it. Delaying removal allows the tree to become more

brittle and the problem more dangerous. Remember, EAB causes progressively more injury to ash trees as time goes on. The dead parts never come back to life.

If you have been treating your tree continue to do so.

How should I remove the tree?

To minimize risk of harm, hire a trained professional who has experience removing emerald ash borer damaged trees. The International Society of Arboriculture maintains a directory of Certified Arborists and their credentials. They can help [find an arborist near you](#). Always get bids from more than one contractor. Be sure your contractor is insured and bonded in case of an accident. Professionals are happy to share this information.

Some homeowners might be hesitant to remove dead ash trees because they provide valuable habitat for a range of woodland animals and mushrooms. However, we do not recommend keeping them standing unless you can guarantee that no people, domesticated animals, or property will ever be in their path if they fall. If you have a dead tree that can't be felled right away or ever, stay away from it until after it has fallen.

Emerald Ash Borer University Announcement

(Elizabeth Barnes, barne175@purdue.edu)

Sitting in your back yard on a warm day under the shade of a tree is one of the joys of spring, but there are a growing number of threats that could destroy this experience. Invasive species present dangers like those from above in the form of fragile dead ash trees and from below in the form of new tick species. Learning to prevent, protect, or recover from these pests can mitigate their devastation.

Emerald Ash Borer University is an online webinar series produced by a partnership between three universities and the US Forest Service that allows listeners to learn about invasive species and ask questions of experts without leaving their home or office. All webinars are free and many can be used towards continuing education programs (contact [Elizabeth Barnes](#) for details). Can't watch it live? No problem! All webinars are recorded and posted online after the talks. To register go to: <http://www.emeraldashborer.info/eabu.php>

Spring Program:

Update on Practical Emerald Ash Borer Management

Cliff Sadof, Purdue University

February 5th at 11:00 AM

Emerald ash borer has been tearing through the trees of North America for more than 15 years. In that time it has caused massive destruction to our forests, but we have also learned more effective ways to manage it. This talk will cover the progress that's been made in the fight against EAB and how you can apply improved management techniques to your own yard or in your tree care business.

Update on Ticks: Diseases and Prevention

Tim McDermott, Extension Educator, Franklin County, OH

February 12th at 11:00 AM

Diseases vectored to producers, livestock and companion animals have dramatically increased in the last several years. New invasive tick species have been discovered and existing species are moving into previously unknown host ranges. Get an update on the state of tick species and the diseases they vector and learn how to develop a personal protective plan for your family, livestock and companion animals.

Replanting After a Crisis: Worcester's Recovery from Asian Longhorned Beetle

Ruth Seward, Worcester Tree Initiative

March 5th at 11:00 AM

Asian longhorned beetle is a death sentence for any tree it infests. In order to successfully recover from it, cities and communities must be strategic about the trees they choose to replant and how they work together to bring back their urban forests. Worcester Tree Initiative (WTI) was formed in 2009 in order to help replant the 30,000 trees that were initially cut in the Worcester area following an ALB infestation. WTI continually engages with residents in the ALB Zone by offering community

planting opportunities as well as tree care education programs. Through partnerships with the City of Worcester Forestry Department, the Dept of Conservation and Recreation and the community at large, 30,000 trees were successfully replanted but the work of WTI remains relevant today as a community advocacy and engagement program of Tower Hill Botanic Garden. Learn how to use the lessons learned in this highly impactful program in your own response to invasive insects.

Dead Ash Dangers and Considerations for Risk and Removal

Lindsey Purcell, Purdue University

April 2nd at 11:00 AM

Injuries and fatalities when felling whole trees is on the rise. Ash trees impacted by the emerald ash borer pose unique hazards and challenges. This presentation will walk through how to identify and mitigate some of the hazards relating to working near or on ash trees.

Emerald Ash Borer: Perspective from a Recently Infested State

Nate Siegert, US Forest Service

To be determined

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