Fall Cankerworm and Winter Moth

by Gretchen Pettis, Ph.D.

Arborists and homeowners generally think of Spring and Summer as the prime time for landscape insect pests. But, Mother Nature has a couple of winter surprises for us – Fall Cankerworm and Winter Moth. These two species of voracious caterpillar are pests of deciduous trees and woody landscape plants that emerge from the soil in late November, early December. They crawl up tree stems, mate and lay eggs on the bark and limbs. The full effects however, occur in the Spring when the eggs hatch and massive numbers of the tiny caterpillars inch their way toward tender tree buds to begin their feasting on emerging foliage. Significant, repeated defoliation can cause tree decline and even death.

The pests crawl up trees and lay eggs. In spring huge numbers of tiny caterpillars eat the trees’ foliage.

You may notice your neighbors and municipalities wrapping trees with thick ribbon-like bands this time of year. These tree bands are coated with a sticky substance intended to trap the flightless female moths as they climb up the stem to lay eggs. Massive numbers of individual moths can be captured this way but do not provide a full measure of control. In heavy infestation years it is generally necessary to apply sprays to the foliage to prevent excessive feeding and the nuisance of massive numbers of larvae and showers of insect frass descending upon outdoor gathering areas in late-April through early-June. Contact your Arborist now to get on the schedule for Spring treatment of susceptible trees as treating infestations early is the best and most effective control strategy.

Reducing Deer Damage in Landscapes

White-tailed deer populations in North America have increased from about 500,000 in the early 1900s to 30 million today. This huge population is unsupportable by wildlife habitats. Without native predators like the gray wolf and cougar, hunting is the primary factor to limit deer populations. Suburban housing developments, built in formerly forested and fielded areas, provide ideal winter feeding grounds for deer.

**Deer and Lyme Disease:** Deer are a key factor in the spread of Lyme disease. Experts at the University of Rhode Island have estimated that each deer is responsible for introducing 450,000 larval ticks per year into its territory. Lyme disease has been reported in North Carolina.

**Reducing Deer Damage:** One deer eats about six pounds of vegetation daily, so it does not take many to decimate a landscape. For people managing landscapes in areas with many deer, there are several possible approaches to reducing damage:

**Fencing:** Where it is practical, fencing is the most effective method of reducing deer damage. Fences need to be at least 8 feet tall, but deer are also amazingly adept at going under fences rather than jumping over them.

Scan this code for a list of deer resistant plantings or visit www.bartlett.com/resources/deer-management.pdf

Deer Resistant Plants- Lists of deer resistant plants are widely available. For example, boxwoods and pears are often used in landscapes because deer will rarely eat them.

One application of our winter repellent can help protect your trees & shrubs from foraging deer all winter.

**Repellents:** Studies at the Bartlett Tree Research Laboratories in Charlotte, NC have determined that there are several highly effective repellents on the market today. We have found that one application of our winter repellent can protect a plant for the winter. In very severe winters though, starving deer are hard to deter. Protecting plants in the summer is also more challenging for repellents since buds, flowers and fruit are being rapidly produced. However, these treatments still remain one of your best options for deterring deer and limiting your exposure to Lyme disease.
Most structural defects that occur in older trees can be prevented by pruning when the tree is young. This practice can avoid the need for more expensive tree care practices later in the life of the plant and can extend the lifespan of the tree by decreasing the likelihood of branch failures. Structural pruning of young, developing trees provides a desirable and stable form at maturity and is one of the best investments that consumers can make in their landscape.

**Structural pruning of developing trees provides a desirable and stable form at maturity.**

Forest trees tend to develop a sound structure in response to competition. They grow in close proximity to other trees and the shade created by the developing forest canopy suppresses growth of lower limbs. Dominant forest trees tend to maintain a single stem and narrow crown as they grow toward light. This produces a reasonably strong structure in mature forest trees.

Conditions are radically different when trees are planted in the landscape. The tree is exposed to full sun, which encourages a broader, more complex crown than one growing in the forest. Lower branches may grow very large, limbs develop in close proximity to one another and multiple stems can develop. Certain species such as maple, elm, ash and dogwood are particularly prone to developing structural defects.

When trees are young, they grow rapidly. Frequent assessment is recommended to determine when pruning is needed to maintain a desirable structure and correct any deficiencies. On many species, pruning is needed every two to three years for the first 10-to-15 years after planting. Structural pruning focuses on maintaining a single dominant stem unless multiple stems are specifically desired as is frequently the case in some species such as birch and crapemyrtle. Branches are pruned so their size remains proportional to the stem diameter at their point of attachment. As trees grow, some branches are removed to ensure adequate spacing between permanent scaffold limbs. The shape of the tree is maintained to provide a natural open grown form typical of the species.

In winter, when the branches are bare is a good time to prune trees. Any structural problems can be identified and addressed.

Give your Bartlett Arborist Representative a call, he/she can inspect your property and advise you if any of your trees might avoid future problems with some preventive structural pruning now.

**Drone Rescue!**

It was anticipated that about a million drones would be sold over the holidays. Drones, or as they are more generically known, Unmanned Aerial Vehicles (UAVs), are a lot of fun to fly and they can produce some amazing photographs.

Bartlett Tree Experts has been experimenting with UAVs for years to detect tree problems without climbing the tree. We are also working with them to drop climbing lines into tall trees to make our work more efficient.

While our pilots try to fly very close to trees, most UAV pilots try to avoid trees. There is good reason for their caution. If a UAV touches even small leaves, they will slow one or more of the rotors causing a loss of power and control. This usually results in the UAV becoming tangled in the leaves and branches of the tree, or if the pilot is really unlucky, the UAV may fall to the ground.

When a UAV is stuck in a tree, what is the best way to get it down? If it is fairly close to the ground you may be able to reach it with a long pole. We have had success using a pole saw or pole pruner. These tools have ends that can catch a prop guard and carefully lift it out of the tree. If the UAV is higher, a person in an aerial lift can often reach it by hand or with a pole. If the site is not accessible to an aerial lift, a professional tree climber will need to ascend the tree, work their way out onto the offending branch and grab the drone. Climbing trees can be extremely dangerous work, especially for those without necessary experience, equipment and knowledge of safety protocols. This type of work should only be done by professionals. But, many will tell you that it’s a lot easier than rescuing an angry cat!
Inspections to Assess the Risk of Trees Falling

by Thomas Smiley, Ph.D.

Luckily, the vast majority of large trees are not at a high risk of failure. Even during hurricanes, only a small fraction (usually less than 5%) of the urban tree population falls down. However, arborists and most homeowners realize that trees are living organisms; at some point all trees will structurally fail. Winter is a good time to have an inspection to access the risk on your property.

When an arborist inspects a tree, he/she looks for defects and conditions that could contribute to premature tree failure. This assessment may be a visual inspection or may include drilling to determine if there is excessive internal decay. In addition to looking at the tree, arborists also look at the site and people or structures that could be injured or damaged by a tree failure.

Winter is a good time to have the trees on your property inspected.

The industry standard Best Management Practice (BMP) on tree risk assessment from the International Society of Arboriculture leads arborists to focus on the risk trees pose rather than just looking at the extent of tree defects. Three factors have been defined that go into a tree risk assessment:

- the likelihood of failure,
- the likelihood of the failed tree or branch impacting a person or structure, and
- the consequences of tree failure and impact.

These factors are combined to define risk.

If you have a tree that you are concerned about, don’t wait, contact your Bartlett Arborist Representative to discuss the need for a tree risk assessment.

Fungal fruiting bodies indicate that there is internal decay, which, if extensive, will increase the likelihood of tree failure.

High risk trees are likely to fail, likely to impact people or high value property, and may cause considerable damage.

We’re Here to Help

Call your local Bartlett Arborist Representative regarding any of the services and products mentioned in our articles. Our professionals are trained in all aspects of tree and shrub health and can offer advice and assessment for optimum property management.

Book Reviews

Bark: A Field Guide to Trees of the Northeast by Michael Wojtech

Many people know how to identify trees by their leaves, but what about when those leaves have fallen or are out of reach? With detailed information and illustrations covering each phase of a tree’s life cycle, this indispensable guidebook explains how to identify trees by their bark alone.

Chapters on the structure and ecology of tree bark, descriptions of bark appearance, an easy-to-use identification key, and supplemental information on non-bark characteristics—all enhanced by over 450 photographs, illustrations, and maps—will show you how to distinguish the textures, shapes, and colors of bark to recognize various tree species, and also understand why these traits evolved.

Whether you’re a professional naturalist or a parent leading a family hike, this book is your essential guide to the region’s 67 native and naturalized tree species.


Enjoy getting to know your trees even in winter, with this key to identifying deciduous trees (trees that lose their leaves in the winter) by looking at twigs, buds, fruits, and other features. It explains the structure of twigs and shows habitat and range of native, and some widely introduced, trees. Illustrated with the author’s line drawings.

Get Electronic Tree Tips

It’s easy to enroll in our paperless program for electronic Tree Tips. Find your 7-digit client code in the yellow box on the back page. Then, log on to www.bartlett.com/newsletter (select US), click on the registration link and sign up using your client number and postal code. If you ever want paper service again, just advise us.
This issue discusses Winter and early Spring tree care.

Please call me if you have any concerns with your property.

Biochar Improves Soil and Tree Root Systems by Kelby Fite, Ph.D.

A modern take on an ancient method of soil improvement, biochar is a form of charcoal used to improve soil nutrition and growing conditions. Bartlett scientists have demonstrated the product's effectiveness, in even the harshest conditions, by applying it to trees on urban streets, suburban sites and other challenging soil environments. Biochar has been shown to have an outstanding effect on tree survival rates.

It can be made from woody biomass that has been heated and charred with a restricted supply of oxygen, a process called pyrolysis. It captures atmospheric carbon, locking it into the soil for hundreds of years.

Thanks to its microscopic honeycomb-like structure, biochar provides the perfect habitat for beneficial soil microorganisms, such as mycorrhizal fungi, to flourish. Biochar also acts like a sponge, lessening the risk of drought stress and reducing the frequency of irrigation. It helps to retain mineral nutrients that would otherwise be leached away by rain and does not decompose, staying in your soil for decades to come.

Biochar is ideal for amending soils around existing trees, transplanting new trees and is suitable for all tree and shrub types. Its easy-to-apply formula promotes quick establishment and reduces losses; encouraging vigorous root growth and healthy soil biology.