COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
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Next to Last Issue

This is the next to last issue of the Home, Yard, and Garden Pest Newsletter for 2015. The last issue will be published in the week of October 18 and will contain an index of all 2015 articles. Although the search function on the newsletter website works well and I use it frequently, I still find myself occasionally going to the yearly index. For those of you who print out the issues, the yearly index is probably very useful. (*Phil Nixon*)

Walnut Anthracnose

There are a number of potential causes for the premature defoliation of black walnut. Abiotic stress may cause black walnuts grown on poor sites, or those subjected to drought, to defoliate by August or September. These trees usually exhibit symptoms of scorch along the leaf margins, but lack symptoms and signs of common fungal leaf diseases. Several fungal pathogens are known to black walnut foliage, the most common being walnut anthracnose, caused by *Gnomonia leptostyla* (imperfect stage *Marssonina juglandis*).

Walnut anthracnose symptoms are first observed on the undersides of the leaves as brown, small, circular lesions. These lesions eventually become visible on both sides of the leaves and range in size from tiny pinpoints up to 5 mm in diameter. Yellowing leaves, marginal browning, and casting of leaflets is commonly observed during the later stages of infection. In wet seasons, infected walnut tress may defoliate by late July or August. In addition to infecting the leaves, this fungus may also infect petioles, rachises, twigs, and fruit.

The walnut anthracnose fungus primarily overwinters in fallen leaves but may also survive in infected fruit and twig lesions. During favorable weather conditions in the spring, spores germinate and are disseminated to new foliage by wind and rain. With ample moisture, germinated spores infect the new leaves.

This disease is not associated with long-term harm to trees grown in the residential landscape. In general, most of the trees defoliated by this disease have already completed their required annual growth. Trees defoliated by anthracnose for one or two years are not usually damaged enough to noticeably affect growth. Trees affected for several successive years, however, may be stunted in growth and weakened. Several fungicides are labeled for control of walnut anthracnose. However, chemical controls are rarely warranted or cost effective. Instead, rake and remove of infected leaves and fruit to reduce future infections. Proper soil fertility has also been shown to boost tree vigor and reduce disease severity. (*Travis Cleveland*)

Sanitation Information

With the first day of fall last week, it's time to start thinking about the end of the season. While a good deal of time and effort goes into preparing a new seed bed or ammending soil prior to planting in spring, many people overlook the importance of garden work in autumn. It could be due to a lack of knowledge, gardening burn-out, or simply the fact that it's difficult to be motivated to do work that you won't see the benefit of for several months. However, fall sanitation is one of the most important steps for controlling a large number of diseases.

A wide variety of fungi overwinter in plant tissue. If the tissue is still part of the plant, (such as an insect larva or fungal spore snug within the trunk of a tree or the cane of a bramble), removing the pest involves finding it within the plant and removing that section of the plant. This can be time-consuming, difficult, and will cause some damage to the host. In comparison, many diseases that overwinter in plant debris are very easy to remove: simply remove the plant debris from the landscape, and you will control the majority of the initial pest population in spring. Although many insect pests overwinter in debris, they are not limited to the host tissue. Most insect pests, along with their predators, are as likely to overwinter in a fence row or at the base of shrubs as they are in host plant debris.

When we talk about sanitation, we usually recommend removing all plant debris. This will be more feasable in some situations than others, but fallen leaves from deciduous trees and annual plants that will die at frost are the most common. Plant material should be raked, then removed, composted, or burned (where allowed). A quick note about composting: a proper compost pile will reach high internal temperatures and degrade organic matter, including pests. Many compost piles are simply heaps of plant matter, which may or may not reach the internal temperatures required to kill pests. Still, degrading the plant material should help reduce some pest pressures, and will provide additional organic matter to add to beds and gardens.

One common plant product that is often overlooked when sanitizing a garden is pine cones. A fungal disease frequently seen on Illinois pine trees, Diplodia tip blight, produces fruiting bodies full of spores on both the needles and cones of infected trees. By removing the infected pine cones, you can greatly reduce the ammount of inoculm present in the environment next spring, when new tissue is infected.

Encouraging the degradation of plant material is another form of sanitation. Many fungi that overwinter in plant debris rely on the tissue to protect them from the harsh environment, and to feed them at the beginning of spring. By degrading that tissue, the fungi are more likely to be exposed to unfavorable environmental conditions or weakened by the time spring comes. If raking and removing leaves or herbacious stems is not feasable in large plantings, mowing and mulching the plant litter has been shown to reduce infection the following year for certain fungal diseases.

Sometimes plant debris is intentially left in the garden to serve as a proctive mulch for plants, or to feed wildlife

(such as flowers that produce seedheads for birds). Normally leaving this organic matter in the garden is fine, but if the plants suffered a large infection in the summer I would recommend removing as much organic matter as possible that fall to reduce pest populations the following year. (*Diane Plewa*)

White Grubs

We have had scattered reports of white grub injury to turfgrass. This is to be expected because even in a low grub year as this one, there are always scattered hot spots where the grubs are numerous. Many times these will be in a single client's yard in a housing development, or on one fairway and not the others. Sometimes the infestation can be explained by irrigation or other maintenance practices, but usually there is no logical reason.

White grub populations at this time of year can be controlled with an application of trichlorfon (Dylox), chlorantroniliprole (Acelepryn), or *Heterorhabditis bacteriophora* nematodes. Each should be watered in soon after application. (*Phil Nixon*)

Detention Ponds & WNV

Dry detention ponds are designed to contain excess water during rains and then drain out the water soon after. They are commonly used near housing developments and industrial buildings where building and parking areas replace rainfall absorptive soil areas with hard surfaces causing high water runoff during rainfalls.

Ideally, dry detention ponds completely drain of water soon after rains and are carpeted with turfgrasses that are mowed on a regular basis. Commonly, siltation and other vegetation change the characteristics of dry detention ponds, reducing their draining after rains and allowing moist soil or standing water to remain. These conditions inhibit normal mowing intervals. Emergent aquatic plants, such as common reed, *Phragmites australis,* and cattails, *Typhia spp.,* are able to establish themselves in these habitats. These plants create conditions that tend to accumulate additional silt and debris, further reducing drainage.

West Nile Virus (WNV) is spread in Illinois primarily by two mosquito species. *Culex restuans* bites only birds and serves to vector WNV between birds. The northern house mosquito, *Culex pipiens pipiens,* bites both birds and mammals and vectors WNV between birds and mammals, including humans. These mosquitoes do not fly very far, typically flying a half mile or so from the stagnant water where they developed as larvae. In comparison, the very common eastern floodwater mosquito commonly flies 15 to 30 miles as an adult but does not carry WNV.

Research has shown that mowing common reed and cattails in detention basins increases the number of WNV carrying mosquitoes two-fold, about 200%. The *Culex* mosquitoes that vector WNV lay their eggs in stagnant water containing large amounts of rotting vegetation. They prefer the dark-colored, stinky water typically found in clogged gutters, tree holes, tin cans, old tires, and other pools of water containing decaying plant material such as mowed emergent aquatic weed debris in poorly draining detention basins.

An interesting twist is that these detention basins with common reed and cattails commonly contain primarily red-winged blackbirds, starlings, and purple grackles. These bird species are bitten by the *Culex* mosquito species carrying WNV, but they are poor reservoir hosts for WNV. In other words, mosquitoes that subsequently bite these birds do not transmit WNV to mammals and other birds very well. American robins are excellent reservoir hosts of WNV and are common in landscapes, but they don't tend to get close enough to the detention basins to be bitten by the homebody *Culex* mosquitoes there carrying WNV.

The take home message is that dry detention basins should be managed so that they drain soon after rains and do not contain standing water or damp soils. This allows the basin to support turfgrasses that can be maintained by mowing on a regular basis. The lack of proper basin management results in increased West Nile Virus carrying mosquitoes that are a threat to workers in the basin and somewhat to the people nearby.

Much of the above is based on the research conducted in central Illinois and is to be published by the Ecological Society of America as, Mackay, Andrew J., Ephantus J. Muturi, Michael P. Ward, and Brian F. Allan. Cascade of ecological consequences for West Nile virus transmission when aquatic macrophytes invade stormwater habitats. (*Phil Nixon*)