



# Home, Yard, and Garden Pest Newsletter

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## Be on the Lookout for Spotted Lanternfly

The spotted lanternfly (SLF, *Lycorma delicatula*) is an invasive pest that impacts a wide range of plants as it feeds throughout the growing season. This non-native leafhopper was first identified in Pennsylvania back in 2014 and has since spread to 10 other states. Recent discoveries in Indiana and Iowa seem to be a sign of what is to come for Illinois, so we all need to be on the lookout for this new threat.

Over 100 plant species have been identified as hosts for the SLF. In our climate, we should only expect one generation of SLF per year, which hatches from overwinter eggs in the late spring. Nymphs progress through 4 developmental stages, called instars, until late summer when they emerge as adults.

Nymphs are highly mobile and crawl across the landscape feeding and then moving on to the next plant. They show preference for the tender new growth of trees and shrubs as well as herbaceous plants such as perennials, annuals or even a variety of weed species.

Adults tend to focus on larger woody plants with a strong preference for tree of heaven (*Ailanthus altissima*) which is a non-native, also invasive, tree from the SLF's home range. Feeding preference has also been shown for grapevines (wild and cultivated), maples, black walnut, river birch, willow, and sumac among the wide range of known host plants.

Like other leafhoppers, this pest feeds on plant sap using its piercing-sucking mouthparts. They acquire nutrients and sugars from the sap but are not able to completely digest all carbohydrates it contains. So, they excrete the excess sugars as waste, which is commonly referred to as honeydew. This sticky, watery substance coats anything under their feeding area, from parked cars or patio furniture to other plants and animals.



Lawrence Barringer, Pennsylvania Department of Agriculture, [Bugwood.org](http://Bugwood.org)

Honeydew becomes a problem as it accumulates because it is often colonized by sooty mold, which creates a dark colored coating. It can leave lasting stains on many surfaces, both natural and human-made, but more importantly, it physically blocks light as it coats leaf surfaces. This can lead to drastically reduced photosynthesis on heavily coated plants. In heavily infested woodlands, sooty mold accumulation has been noted to kill understory plants. In production areas, such as vineyards, sooty mold accumulation can ruin

# SPOTTED LANTERNFLY



ACTUAL SIZE: 1"

Adult (wings closed) can be found in July–December

PA Department of Agriculture



ACTUAL SIZE: 1/8–1/4"

Nymph (early stage) can be found late April–July

PA Department of Agriculture



ACTUAL SIZE: 1.5"

Egg mass (fresh) can be found September–June

PA Department of Agriculture



ACTUAL SIZE: 1.5"

Adult (wings open) can be found July–December

PA Department of Agriculture



ACTUAL SIZE: 1/2"

Nymph (late stage) can be found July–September

PA Department of Agriculture



ACTUAL SIZE: 1.5"

Egg mass (older) can be found September–June

Ernie Gosselink

The various life stages of the spotted lanternfly. Credit: Penn State / Penn State. [Creative Commons](#)

fruits or other edible plant parts.

Certain highly favored hosts, such as tree of heaven, walnuts and grapevines have been killed by SLF feeding alone, but feeding damage from this pest rarely kills plants. However, it is commonly a plant stressor, especially if SLF populations are significant. The degree of damage varies widely based on host species, local SLF populations (which can vary widely from year to year), time of the year and a variety of other factors. Long term feeding by SLF can certainly weaken plants, both newly planted and established, and will be a factor for both landscape plants and certain commercially important woody species as this pest reaches our state.

Last year, SLF was found in eastern Indiana, which is certainly bad news, but somewhat expected since over 40 counties in Pennsylvania currently have identified infestations. This summer, the invasive

pest was reported in central Iowa, which is especially startling news. So far, it has not been identified in Illinois, which begs the question “How did it skip Illinois”? Or, is it already here and we simply have not identified it?

As with many invasives, human spread is the primary vector for SLF dispersal. This pest is not picky about where egg masses are laid, selecting a variety of hard surfaces, including highly mobile things such as vehicles, train cars and campers, which means that almost anything visiting infested area in the late growing season can bring eggs to new locations.

In Illinois, we need to be on the look out for this pest. Adult insects are present now and through the end of the growing season. I have centered my scouting on its preferred host, tree of heaven, by checking up on specimens around central Illinois throughout the growing season. However, its important to be on

the lookout everywhere given its wide range of host preferences. Please be aware of this pest and watch landscaping and natural areas for all life stages, including the presence of egg masses.

For more information, including detailed photos and descriptions, please check out this blog post by Ken Johnson with Illinois Extension: <https://go.illinois.edu/GoodGrowingSLF>.

If you think you have seen SLF, please report potential findings to [lanternfly@illinois.edu](mailto:lanternfly@illinois.edu), or your local extension office.

*Ryan Pankau, Illinois Extension Educator*

## Controlling Unwanted White Mulberry in the Landscape

I'm going to say this quietly so that my kids don't hear, but I don't like mulberry trees. There I said it and some of you may disagree with me. I can handle that.

They are weedy and every year I pull hundreds of baby, volunteer mulberry trees that are destined to populate my flower beds. If my kids hear me complain, they will often beg for me to let them grow. I direct them towards the neighbors' trees where they can find their fruity fix every summer.



*Mulberry tree seedlings, Michelle Wiesbrook, University of Illinois.*

White mulberry (*Morus alba*) is a tree commonly found in urban settings. Mulberry was imported from China in an attempt to establish a silkworm industry. Mulberry served as food for the silkworms. It was introduced in Jamestown, Virginia by the early settlers. The berry-like fruits, similar to small blackberries, are tasty. Birds and mammals agree and help to spread the seeds everywhere and leaving a mess behind them. This tree has a shallow root system which has been known to cause problems around buildings and drains. Mulberry is widely adaptable to a variety of growing conditions. It invades natural areas, landscapes, and roadside ditches.



*Unwanted Mulberry tree growing through a small hole in concrete – note the difference in lobing, Michelle Wiesbrook, University of Illinois.*

Leaves are simple with minute triangular teeth on the margins. The lobing of mulberry leaves can be quite variable. However, leaves are alternately arranged on the stem. They are shiny and heart shaped at the base. The twigs which exude a milky sap are orange-like in color. They begin as slightly hairy but become smooth with age. The bark is grey becoming orange-brown with shallow furrows. Trees can reach 20-60 feet tall but have weak wood as a result of their fast growth.



*Mulberry leaves, Michelle Wiesbrook, University of Illinois.*

Mulberry tree seedlings may be pulled easily from the soil, especially after a rain. Young, unwanted mulberry trees have a way of growing unnoticed amongst other taller or larger landscape plants. They are fast growing however, and often once noticed, saplings are not removed easily from the soil without the help of a shovel. Fortunately they are shallow rooted.



*Previously cut back, this Mulberry has new growth. Prevent by digging or applying herbicide. Michelle Wiesbrook, University of Illinois.*



*Unwanted Mulberry tree appearing out the side of a blue spruce, Michelle Wiesbrook, University of Illinois.*

If the base of the tree is cut with loppers or a chain saw, don't be fooled into thinking new growth won't return. Resprouting typically will soon return due to the stored sugars in the roots unless the cut surface is treated with herbicide within 10-15 minutes of cutting or covered with black plastic and secured to block sunlight. If using a herbicide, look for one that reads brush killer on the label. Typically, products that contain triclopyr can be effective against mulberry trees. Be sure to carefully read and follow all label directions. Herbicide may be applied to the leaves, bark, or cut-surface but the method chosen will depend upon the product formulation, the time of year, and the sensitivity of surrounding vegetation. Larger trees can be cut down and the stump grinded to prevent resprouting. In this situation, no herbicide is needed.

*Michelle Wiesbrook*

# Peony Leaf Blotch

Peony leaf blotch disease is caused by the fungus *Graphiopsis chlorocephala* (formerly *Cladosporium paeoniae*). If you have seen peonies, you have most likely seen this disease. It goes by many other names, including *Cladosporium* leaf blotch, red spot, and measles.



*Peony leaf blotch (Graphiopsis chlorocephala), Travis Cleveland, University of Illinois*

## Symptoms

The disease is caused by a fungus that grows superficially on leaves, stems, and petioles, causing unsightly spotting. The spots are initially small, circular, red, or purplish and appear on the upper surface of young peony leaves. Later in the season, they merge into large, glossy, irregular, dark purple blotches. As you flip the leaves over, the corresponding blotches are a tan-brown to chestnut brown. The fungus also attacks stem tissues, causing symptoms that range from purple-red, irregularly shaped flecks or streaks with diffuse margins. The mature symptoms of this disease are quite unsightly. Despite the appearance, peony leaf blotch does not significantly affect plant vitality.

## Disease Management

Peony leaf blotch cannot be controlled this late in the season. If you are seeing this disease now, take note, and prepare to manage it for next year. Plant debris harbors the fungal pathogen and is an important source of inoculum for next spring's infections. This fall or early next spring, remove all old top growth to ground level and destroy, bury, or remove it from the garden.

Use fungicides to protect new foliage as it emerges next spring. Initiate sprays when new growth is 2 to 4 inches tall and reapply as directed by the label until the flowers begin to open. Unfortunately, no products specifically list peony leaf blotch on their label. However, research from the [IR-4 Ornamental Horticulture Program](#) found that Tebuconazole (Torque), boscalid + pyraclostrobin (Pageant Intrinsic), fluoxastrobin (Disarm), chlorothalonil (Daconil WeatherStik), copper hydroxide (Kocide), and triticonazole (Trinity), and all reduced the severity of red spots compared to the non-treated check plants. These products also had no observable effect on the overall vigor of the plants in their trial. Before using any of these products, check to see if the product label includes your application site (e.g. landscape, nursery, etc.). Also, check to be sure peonies are not listed as sensitive to the product. You may want to test the product on a small-scale basis first. Many people choose to tolerate the disease rather than apply fungicides. Replacing the problematic peonies with newer resistant varieties may also be an option.

*Travis Cleveland*

### References:

R.J. McGovern, W.H. Elmer (eds.), *Handbook of Florists' Crops Diseases, Handbook of Plant Disease Management*, [https://doi.org/10.1007/978-3-319-39670-5\\_46](https://doi.org/10.1007/978-3-319-39670-5_46)

Palmer C, Vea E (2014) IR-4 ornamental horticulture program *Botrytis* efficacy: a literature review. The IR-4 Project, Rutgers University. [http://ir4.rutgers.edu/Ornamental/SummaryReports/BotrytisEfficacySummary\\_2014.pdf](http://ir4.rutgers.edu/Ornamental/SummaryReports/BotrytisEfficacySummary_2014.pdf) Accessed 15 August 2022

# Chimeras

I don't often stop dead in my tracks for a Norway maple. But I recently came across a tree that warranted such action. The tree was mostly normal in its appearance. Its canopy consisted of typical green leaves for a Norway maple. What caught my attention was a small cluster of variegated leaves at the end of one branch. The variegated leaves were an example of a *chimera*, a situation in which the cells of more than one genotype (genetic makeup) are found growing adjacent to each other in the tissues of the plant.



*The leaves of the variegated Tatarian dogwood are an example of a periclinal chimera, Travis Cleveland, University of Illinois.*



*Variegated Norway maple leaves are an example of a chimera, Travis Cleveland, University of Illinois.*

This chimera likely developed following a spontaneous mutation of a cell within the plants' meristem. The cells that derived from the mutation were unable to produce chlorophyll, which gives normal leaves their green appearance.

There are three types of chimeras: Periclinal, Mericlinal, and Sectorial. **Periclinal chimeras** affect one entire layer in the meristem. They are relatively stable and can often be vegetatively propagated, leading to many of our variegated plant cultivars including the variegated Tatarian Dogwood (*Cornus alba* 'Argenteo-marginata').

**Mericlinal chimeras** are similar to periclinal chimeras in that only one meristem layer contains the mutated cells, but in this case, the mutation only extends across a portion of the cell layer. Mericlinal chimeras are unstable and usually involve a limited number of cells that only alter a small portion of the leaf's appearance.

**Sectorial chimeras** result from mutations that affect sections of the apical meristem, the altered genotype extending through all the cell layers. This type of chimera is unstable and can give rise to both normal and mutated shoots and leaves. The variegation pattern on the Norway maple that I observed changed with each leaf, which leads me to believe it is a sectorial chimera.

This newsletter focuses on the management of landscape pests. Since chimeras are not caused by a pest, I simply recommend enjoying nature's creation. That said, I wrote about [Cultivar Reversion in Issue 3](#) of this newsletter. That article focused on variegated plants reverting to the species' true form. The true-to-species tissues are generally more vigorous than the variegated parts of the plant. If allowed to remain on the plant, reversion may eventually outgrow and overtake the desirable cultivar. Your best course of action in that situation would be to prune out the reverted portion of the plant back to tissues displaying the desirable characteristics of the cultivar.

If you are interested in learning more about chimeras, I encourage you to view the following websites.

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They provide a more detailed explanation of chimeras and their development. The sites also include illustrations of meristems and the three types of chimeras.

<https://propg.ifas.ufl.edu/03-genetic-selection/04-genetic-chimera.html>

<https://aggie-horticulture.tamu.edu/tisscult/Chimeras/chimeralec/chimeras.html>

*Travis Cleveland*



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