

THE PURDUE LANDSCAPE REPORT

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Oak Leaf Tatters – a spring ritual

(Tom Creswell, creswell@purdue.edu)

Each spring the PPDL receives several samples of oak trees showing curled, twisted, stunted and/or generally ratty looking leaves. When there are holes in the leaves or leaf edges are missing tissue, we add another symptom name to the mix: tatters.



Distorted new growth and tatters are most common on white oaks and may occasionally show up on red oak, hackberry and other trees. Upon initial inspection the leaves look as if they have been shredded or severely fed upon by insects. However, a closer observation of the leaves will reveal that the leaf tissue has not been removed, but rather, it never developed normally. We have seen this problem on white oaks for many years in Indiana and it has been reported in other states throughout the Midwest.

Several possible causes for this symptom have been proposed, including poor growing conditions, insect injury, leaf diseases, late spring frost damage and herbicide drift; however, no single factor serves to explain all the cases. In 2020 we saw a [distinct link between tattered oak leaves and a late spring frost](#) that year but the connection is not always so clear cut.

Researchers have shown that acetochlor and s-metolachlor drift can cause tatters-like symptoms but results were variable, and in some treatments red oaks were more affected than white oaks, contrary to the expected results. In many instances there is no direct link to herbicide drift. We once had samples from a white oak tree that showed symptoms of tatters and leaf curl every year, yet was located in the middle of a heavily forested area miles away from any agricultural fields that might have been a source of herbicide drift. While the exact cause may not be clear, it does appear that conditions that lead to tatters occur while the leaves are still developing.



If the problem has only appeared on the affected tree once in a while, then it is more likely to be linked to late spring freeze damage as leaves were expanding. If it shows up on new leaves throughout the summer, or on the same tree(s) year after year, then the cause is more likely linked to growing conditions and the site. You can check for damage to trunk and roots and trunk decay to rule out those conditions as possible contributors. If the soil has not been tested recently it may be helpful to send soil samples from the root zone of the tree to check for nutrient deficiencies. Trying to improve the overall health of the tree with proper nutrition, mulch and irrigation to reduce stress factors may help prevent a recurrence.

Additional information on tatters: Iowa State –
<https://hortnews.extension.iastate.edu/oak-and-hackberry-tatters>

White Oak and Northern Red Oak Leaf Injury from Exposure to Chloroacetanilide Herbicides –
<https://doi.org/10.21273/HORTSCI.45.4.696>

The Famed Garden Peony

(Amanda Bailey Mosiman, bailey1@purdue.edu)

Peonies are a common and favored landscape plant in Indiana. Despite their famed attribute of being easy to care for, some annual upkeep will ensure peonies continue to beautifully bloom year after year.

Depending on the species and cultivar, peonies will bloom from

late spring to early summer. Peonies were traditionally white, blush, pink, and red in color. However, due to breeding, coral, yellow, and patterned peonies can now be found. In addition to a wide variety of colors, blooms also come in a variety of different shapes. Planting a variety of peonies will extend bloom time and enjoyment.

Best time to plant is early fall. Purchase rot free divisions containing 3-4 buds (eyes) and ensure the eyes of the peony aren't more than 2 inches under the soil line. Smaller divisions may take longer to begin blooming. Peonies fare best in full sun but will tolerate some light shade. Peonies require winter cold to flower so don't mulch over the winter. Peonies need ample space as flower size can decrease with competition from nearby trees and shrubs; Mulch peonies each spring with 2 - 3 inches of material to control weeds. Over-fertilizing can also reduce the bloom of your peonies. Too much nitrogen fertilizer will cause the plants to produce a lot of foliage and reduce the number of blooms. Established plants with good growth only need to be fertilized every few years. When fertilizing, do so after they are done blooming and use a balanced fertilizer or one with a higher phosphorous content (middle number). Never apply fertilizer directly on the center as the buds may be damaged. Rather, place the fertilizer in a band from 8 to 18 inches from the center of the plant. Water the fertilizer in.





After blooming, it's a good idea to remove flower heads and/or seed pods. This will help the appearance of the plants and also prevent the plant from sending energy into producing seeds. Despite the old wives' tale, peonies do not need ants to help them flower. Ants are commonly seen on the buds of peonies because of the extrafloral nectaries on their sepals (leaf-like structures that cover the flower before it opens).

Familiarize yourself with symptoms of common peony diseases such as leaf blotch, powdery mildew, and different blights. Take action early to safeguard plant vigor.

In the fall, cut peony foliage back to the ground. Compost or discard foliage. This aids in keeping disease development down.

Divide and replant only after they become crowded — usually after 10 to 15 years. Carefully dig under the plant to avoid cutting off roots, cut tubers (with 3-5 eyes) with a sharp sterilized knife. Dust cut surfaces with fungicide to discourage disease infection and rot.

Throwing Shade on the Perennial Garden

(Karen Mitchell, mitcheka@purdue.edu)

For some, the term “shade garden” may be an oxymoron. When imagining a garden, most will think of a sunny area filled with flowering plants. So, it's not surprising that gardeners would often fill shady areas with a hardy, evergreen ground cover and never look back. However, ornamental shade gardens have been the source of some of the most devastating invasive species in our Indiana woodlands.

Two of the most commonly planted shade-loving ground covers have been winter creeper (*Euonymus fortunei*) and English ivy (*Hedera helix*). Both plants form dense mats and spread rapidly with very little maintenance, which made them a desirable option for those less than desirable shady areas. Those same characteristics also make for a highly invasive species.

Winter creeper and English ivy made their way out of the garden and into our woods where they wreak havoc. Creeping their way across the forest floor, they smother out native ephemerals.

Climbing up tree trunks and wrapping around branches, these vigorous vines block sunlight from reaching the tree canopy and slowly weakens the tree (Fig. 1).



Winter Creeper



Hostas

However, it's still possible to have a beautiful, low-maintenance shade garden without contributing to the decline of our forests. Hostas are non-native but are a well-behaved option and come in a variety of sizes and shades of green (Fig. 2).

Other native species that thrive in partial to full shade include:



Columbine



Coral Bells



Wild Stone Crop

Columbine (*Aquilegia spp.*) (Fig. 3)

Coral bells (*Heuchera spp.*) (Fig. 4)

Ostrich fern (*Matteuccia struthiopteris*)

Wild ginger (*Asarum canadense*)

Wild stonecrop (*Sedum ternatum*) (Fig. 5)

Blue-eyed grass (*Sisyrinchium angustifolium*)

To beat the heat of Indiana summers, try expanding your garden into the shade, but plant responsibly.

Invasive species to avoid in the shade garden:

Periwinkle (*Vinca minor*)

Mondo grass (*Liriope spicata*)

Goutweed (*Aegopodium podagraria*)

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