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Fall webworms: Should you manage them?

(Elizabeth Barnes, barne175@purdue.edu)

Have you noticed large, messy webs on trees? You may have seen a colony of fall webworms. These caterpillars hatch in mid-July but tend to become more noticeable as the summer progresses. They often eat branches bare of leaves but are they a threat to tree health?

What do they look like?

Fall webworms are small, fuzzy pale-yellow caterpillars (figure 1) that build large, conspicuous white webs in trees in the late summer (figure 2). Their webs stretch over tree branches and grow over the course of the summer. When disturbed, the caterpillars will violently thrash back and forth in a bid to ward off predators.



A colony of fall webworm caterpillars feeding on a leaf. Note that the web covers the leaves they are currently eating. Photo by Judy Gallagher.



Trees will often have multiple fall webworm webs on them. This photo shows a typical number of webs for a large tree. Notice that the webs tend to be on the ends of branches and that the leaf damage is concentrated close to each web. Photo by Ken Gibson.

What kind of damage do they cause?

Fall webworms eat the leaves of many species of deciduous trees and bushes. This damage occurs late in the summer shortly before the trees normally drop their leaves for fall. Therefore, fall webworms very rarely do serious damage to trees. In most cases the trees will grow their leaves back the following spring. On rare occasions, a tree that is already highly stressed may be further weakened by fall webworm damage. However, most trees, even heavily infested trees, are minimally affected and show no signs of damage the following spring.

Do they need to be managed?

Fall webworm damage generally looks much worse than it is. In general, trees only need to be managed for fall webworm if the owner is concerned about aesthetics. In that case, the easiest means of management is pulling the web off the tree by hand and putting it in a bucket of soapy water or freezing it. Some people may be sensitive to the caterpillars' hairs so gloves should be worn to prevent contact.

In cases where the webs are too high up to be reached, they can be managed through insecticides. [Further instructions can be found here.](#)

Resources:

[Fall Webworm Bulletin](#)

[Which Web is Which](#)

[Will My Trees Recover After Losing Their Leaves?](#)

[Safe Caterpillar Control](#)

Tulip poplar summer leaf drop

(John Bonkowski, jbonkows@purdue.edu)

Do you have a tulip poplar (*Liriodendron tulipifera*) in your yard and does it look like fall has come early? This is a likely occurrence in the landscape in late summer, especially leading into August. About this time of year leaves on many tulip poplar trees will start to gradually turn yellow before they fall to the ground (Fig. 1). Note, not all the leaves will turn color and fall, but some scattered leaves throughout the canopy will eventually drop (Fig. 2). Leaves may also develop dark spots here and there on the leaves, which can progress into interveinal necrosis if severe enough (Fig. 3).



Figure 1. Tulip poplar showing some leaf drop in the summer.



Figure 2. Intermittent leaves in the canopy turning yellow before falling off the tree.



Figure 3. Tulip poplar leaves with varying degrees of physiological spotting as a result of drought stress. Photo Credit: PPDL

What is causing this to happen? These symptoms have been attributed to root stress, including drought conditions brought on by hot and dry weather in the summer, which is why it is commonly observed in late June through August. Although it can be quite striking to have your tree drop its leaves, this rarely affects the overall health of the tree. Some trees will develop these symptoms each year like clockwork and not show any other symptoms of plant decline. If you notice scattered leaves intermittently turning yellow, the best thing to do is water the tree to mitigate drought stress. However, if you are seeing all of the leaves on an entire limb or even the entire tree turning color or are observing limb dieback, there is likely something else causing stress to the tree, whether it is a root or trunk infection, a borer infestation, or damage to the trunk and/or roots. Any of these other problems would need further investigation.

Understanding and Controlling Thistle in the Nursery and Landscape

(Kyle Daniel, daniel38@purdue.edu)

One of the most common weeds that present significant challenges to both landscapers and growers are thistles. There are several reasons that thistles are difficult to control, including thousands of viable seeds per plant (Fig. 1), rhizomatous growth characteristics (Canada thistle) (Fig. 2), and large root system (Fig. 3).



Figure 1. Canada thistle can produce up to 1,500 seeds per flowering stalk, contributing to significant wind-blown dispersal. Image: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org



Figure 2. New Canada thistle shoots developing from buds on roots. Photo: Fabian Menalled, Ecology and Management of

Canada Thistle, 2005.

https://www.researchgate.net/publication/242497779_Ecology_and_Management_of_Canada_thistle_Cirsium_arvense_L_Scop



Figure 3. Two years of underground growth of Canada thistle from original one foot of root. Photo: Merrill Ross, Control Practices for Canada thistle.

<https://www.btny.purdue.edu/Pubs/WS/CanadaThistle/CanadaThistle.html>

There are three major types of thistle that are encountered in the Midwest:

- **Canada Thistle (*Cirsium arvense*)**
- **Musk Thistle (*Carduus nutans*)**
- **Bull Thistle (*Cirsium vulgare*)**

There are also several sowthistle species, which we won't cover in this article.

To begin understanding these thistle species, it's important to understand the life cycles of each.

Canada thistle: a rhizomatous perennial that reproduces at the rhizome nodes (Fig. 2) and via seed dispersal in the wind (Fig. 1).

Bull thistle: a biennial that spends its first year as a basal rosette, followed by the second year reproductive phase. Reproduces via wind-blown seed dispersal.

Musk thistle: a biennial (sometimes a winter annual) that begins as a basal rosette followed by reproduction in the second year. Reproduces via wind-blown seed dispersal.

Canada thistle characteristics:

- Leaves are lobed with spiny margins. The upper leaf surface is dark green and hairless, while the lower surface is light green with or without sparse hairs. Leaves are alternate, sessile, and oblong.
- Cotyledons are dull green, thick, rounded oval. Younger leaves are thick, egg-shaped, and covered with short, bristly hairs with margins that are wavy-lobed with sharp spines. Since many new plants come from the rhizomes, some plants will not have a cotyledon.
- Stems are erect, smooth or slightly hairy, and branch at

the apex.

- In addition to wind-blown seed, Canada thistle has a very extensive rhizome system. Roots and rhizomes can reach more than three feet.
- Pink to purple flowers can be found June through August (Fig. 4).



Figure 4. Canada thistle flowers. Photo: Jan Samanek, Phytosanitary Administration, www.bugwood.org.



Figure 5. Musk thistle flowers. Photo: USDA ARS , USDA Agricultural Research Service, Bugwood.org

Musk thistle characteristics:

- Both leaves and stems are spiny.
- Cotyledons are oblong and sessile with white veins. Leaves are waxy and pale green with shallowly lobed leaf margins that are prickly-toothed.
- After the basal rosette stage, stems are erect and leaves are deeply pinnately lobed and alternate. The leaf margins are spiny-tipped. Long hairs can be found on the main veins. Leaf bases extend down the stem.



Figure 6. Bull thistle flowers. Photo: Chris Evans, University of Illinois, Bugwood.org

A long, thick tap root that can reach 16" deep.

- Pink to purple flowers begin in June and can last until October (Fig. 5).

Bull thistle characteristics:

- Alternate leaves are covered in a coarse, cobweb-like hairs with stiff spines on the lobes. Leaves are lanceolate with deep-toothed margins, coarse hairs on the upper surface and soft, whitish hairs below.
- Stems are erect and branched.
- Cotyledons are egg-shaped. Young leaves are oval with spines on the fringe. As plant grows, leaves become longer, more lanceolate, and have spine tipped lobes.
- The first year a taproot forms, followed by a secondary, fibrous root system.
- Red to purple flowers can be found June to October with spine-tipped bracts (Fig. 6).

Cultural Control:

Cultivation is effective at controlling musk and bull thistle, but can actually increase the infestation of Canada thistle. Mulching can help in reducing the germination percentage of wind-blown seeds. Preventing Canada thistle roots and rhizomes when bringing soil into a property is effective in preventing an infestation.

Biological Control:

Though there are some insects that use thistles for a food source, there are no effective biological control options.

Chemical Control:

Musk and bull thistle are much easier to control than Canada thistle, though their chemical control options are the same. To prevent wind-blown seeds from germinating, a preemergence application in the spring and fall is recommended. The two most effective products for control of thistle via preemergence are Casoron (dichlobenil) and Sureguard/Broadstar (flumioxazin). To effectively control Canada thistle, a postemergence program is very important. The most effective product for post control on Canada thistle (as well as the other thistles) is Lontrel (clopyralid). Other options to also consider include, Manor/Ally (metsulfuron), Basagran (bentazon), and glyphosate (when plants are less than 6" tall). To rid a property of an infestation of Canada thistle will require multiple applications of a postemergence herbicide as well as a fall and spring preemergence application to deplete the weed seed bank of thistle seeds. The smaller the plant, a postemergence application will be much more effective due to the root system of all three species of these thistles.

Reference:

Uva, R.H., Neal, J.C., and DiTomaso, J.M. 1997. Weed of the Northeast. Cornell University Press. 397 pgs.
<https://www.cornellpress.cornell.edu/book/9780801483349/weeds-of-the-northeast/#bookTabs=1>

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Editor: Kyle Daniel | Department of Horticulture and Landscape Architecture, 625 Agriculture Mall Dr., West Lafayette, IN 47907