



UNIVERSITY OF ILLINOIS EXTENSION

HOME, YARD & GARDEN PEST

College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign
Illinois Natural History Survey, Champaign

NEWSLETTER

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PLANT DISEASES

Eastern Filbert Blight

We have seen two cases of eastern filbert blight in the past week at the Plant Clinic. In addition, we received a phone inquiry about this problem. Undoubtedly, others in Illinois are seeing this disease as well. The host is *Corylus* (filbert, hazelnut). The two clinic cases were on Harry Lauder's Walking Stick, *Corylus avellana* 'Contorta'. For more on this species, visit <http://woodyplants.nres.uiuc.edu/plant/coravco>. Symptoms of filbert blight include dead stems, dieback, and tiny football-shaped cankers with rows of black fruiting bodies within the cankers. These fruiting bodies contain fungal spores. The fungus causing the damage is *Anisogramma anomala*.

This disease can be very damaging to susceptible plants. If infected wood is not removed, the canker continues to enlarge and move into older wood, killing the plant in 3 or more years. When removing infected wood, be sure to cut well into healthy wood. If small cankers remain, they enlarge and continue the disease process. European filbert (*Corylus avellana*) cultivars are particularly susceptible to infection.

The fruiting bodies (perithecia) form in the infected wood a year or two after initial infection. By the time we see this sign of disease, the tree has already been infected for 1 to 2 years. For this reason, even judicious pruning may not effectively stop the disease. In some parts of the country, annual pruning and fungicide sprays are used to control this disease. Infection occurs in the spring on new leaves and succulent shoot tips. If fungicides are used, this tissue should be targeted to prevent infection.

We do not know of a fungicide registered specifically for this pathogen on ornamental filberts. Some fungicides have general-use labels, such as thiophanate-methyl sold as Fertilome Halt or Scotts Lawn Fungicide Control for homeowners. There are many broadly labeled products for commercial growers, including Cleary 3336, ConSyst, Fungo, OHP6672, Phyton 27, SysStar, SysTec, Tee-Off, Terraguard, Triact, and T-Storm. Always read the selected label carefully before applying a fungicide. *Nancy Pataky*

Tulip Flower Break Virus or Variegated Variety?

Streaking of the colors in tulip petals is known as flower "breaking." Many cultivars are available with interesting color breaks. Some of you may have heard that flower breaking can also be caused by virus. How do you know you have a tulip with flower break as a result of plant breeding as opposed to one with a viral infection?

Tulips are host to many viruses. They may succumb to arabis mosaic nepovirus, tobacco rattle tobnavirus, tomato black ring nepovirus, tomato bush stunt to-mbusvirus, tulip band-breaking potyvirus, tulipbreaking potyvirus, tulip chlorotic blotch potyvirus, tulip halo necrosis virus, and tulip X potexvirus. Those causing flower breaking include tulip X, tulip chlorotic blotch, and tulip breaking virus. These viruses also cause leaf symptoms, including chlorotic or gray-brown streaking, blotching, or leaf chlorosis. The intensity of the symptoms may vary with the tulip variety, the degree of infection, and possibly growing conditions. So if the virus is causing flower break, you should also see symptoms on the leaves. Aphids spread the tulip breaking potyvirus. Tulip chlorotic blotch is spread mechanically. For detailed information on viruses by host, visit <http://image.fs.uidaho.edu/vid/famindex.htm>.

Tulip breaking is most common in late-flowering cultivars. Pink, purple, and red tulips are more commonly affected, while white and yellow cultivars are not affected with this virus.

Tulip break viruses are spread by aphids, but insecticides are not very effective in disease control. Because viruses are with a plant for life, it is best to remove infected bulbs. Interestingly, lilies may also host these viruses without noticeable symptoms. Try not to plant lilies and tulips together.

If you have purchased tulips advertised as variegated types, you have most likely bought a cultivar that was bred for these qualities. The streaks, stripes, and blotches should be similar in all plants, not hit and miss as with virus-infected tissue. In addition, the bulbs of infected plants are small and plants do not grow vigorously.

If you fear you have a tulip infected with virus, there are some ELISA tests for specific viruses or virus groups.

Visit the testing services available at companies such as Agdia, Inc., in Elkhart, Indiana. Fees are generally high for the first sample and much less for each additional sample of the same test. (*Nancy Pataky*)

Verticillium Testing

Verticillium is a fungus that causes Verticillium wilt in over 300 plants, involving many plant families. Both *Verticillium dahliae* and *V. albo-atrum* species are found in Illinois soils. We commonly see it at the University of Illinois Plant Clinic on tomatoes, smokebush, maple, redbud, and magnolia. If you think your plant is infected, first find out whether that species is a host. Then compare symptoms to those described in the *Report on Plant Disease (RPD)*, no. 1010, "Verticillium Wilt Disease," available online at <http://www.ag.uiuc.edu/~vista/abstracts/a1010.html>. Typically, we see all of the leaves on one tree branch turn brown or large areas of a plant with wilted or brown foliage.

This fungal genus is persistent. It may remain alive in the soil for many years in a resting state. Infected trees may die quickly in one season or slowly over several years. If detected early in large trees, the disease may be kept in check by pruning; but usually the disease causes plant death. Positive identification is helpful in planning replacement trees and shrubs. Resistant plants are available, but choices are few. This disease is a problem on woody and herbaceous hosts, so learn the symptoms and signs. Chemicals are not generally considered an option in the landscape.

When submitting a sample to the University of Illinois Plant Clinic for *Verticillium* testing, be aware that the sample must contain vascular discoloration, or we will not continue with isolations. The only exception is ash. That species may be infected without exhibiting vascular discoloration. For all other samples, find *live* wood from branches or stems that show *green to brown staining of the vascular tissue*. Send sections with bark intact, not peeled off the stem. Often the *Verticillium* fungus takes 10 to 14 days to grow in culture to the point where it can be positively identified, so be patient. For other details on submitting samples to the University of Illinois Plant Clinic, visit our web site at <http://plantclinic.cropsui.uiuc.edu/>. (*Nancy Pataky*)

INSECTS

Japanese Beetle Update and Hosts

Japanese beetle adults continue to be slow in emergence this year. We have reports of single beetles being found on June 21 and 23 in the Champaign-Urbana area. A

similar emergence pattern is being seen in the Charleston area, with the first beetles being seen on June 23 and just a few beetles having emerged through the next few days. Higher numbers are being seen in the Salem area of southern Illinois; but they also just started to emerge around June 20, and their numbers are still building. We anticipate emergence to begin in northern Illinois during the week of July 6.

When the adult Japanese beetles emerge, questions arise on host preference. Favored hosts of Japanese beetle adults include Japanese maple, gray birch, black walnut, American elm, London planetree, black cherry, American mountainash, pussy willow, Norway maple, horsechestnut, sassafras, shrub-althea, crabapple, rose, Lombardy poplar, and linden. They seem to prefer smartweed over any other plant. Many keep a watch on this weed to catch the first emergence of Japanese beetle. With the above list, it seems like there must be nothing that the beetles don't like.

However, the list of least-favored plants is rather lengthy. Included are red maple, American holly, snowberry, flowering dogwood, yellow poplar, white ash, lilac, Scotch pine, Canadian hemlock, hydrangea, silver maple, boxwood, winged euonymus, white-cedar, saucer magnolia, green ash, Norway spruce, Douglas fir, mockorange, and yew. As a group, needled evergreens are rarely attacked.

Many other trees and shrubs are intermediate in attractiveness. Trees such as buckeye, sugar maple, and oaks may sustain some damage but typically have only the uppermost and outermost areas of the canopy fed upon because Japanese beetles prefer sunlit leaves.

Even heavily attacked trees and shrubs rarely exhibit severe dieback because the beetles attack after the bulk of food production has already occurred in the leaves. Photosynthetic production primarily occurs early in the season when the leaves are still soft and pliable. Spring pests such as gypsy moth are much more important to tree health because the leaves are eaten before they have even replaced the energy that the tree used to produce them. Three or more successive years of spring defoliation causes severe dieback and even death.

Because Japanese beetle defoliation occurs later in the growing season, the damage is considered to be primarily aesthetic. This allows one to selectively treat those trees and shrubs in very obvious landscape locations and to ignore the damage on others. This reduces the amount of pesticide introduced into the environment and also reduces client costs. (*Phil Nixon, Paul Switzer and Harold Hunzicker*)

Gypsy Moth

After years of moderate infestations of gypsy moth, numbers are finally getting very high in northeastern Illinois. Numerous large tree defoliations have been reported in Lake, McHenry, and DuPage counties. In these instances, every leaf has been eaten from the trees, and the caterpillars have then crawled to nearby trees to feed.

A feature of gypsy moth caterpillar host selection is that newly hatched larvae can feed on fewer host species than older larvae. For instance, newly hatched larvae are more common on oaks, willows, and birches, whereas older larvae can feed on maples; thus the larvae are likely to cause feeding damage on tree species that were not previously attacked.

Gypsy moth caterpillars typically descend from their host trees in late June to pupate and cease to be susceptible to insecticide applications. However, caterpillars still feeding on leaves can be controlled with carbaryl (Sevin), spinosad (Conserve), and pyrethroid insecticides. Realize that these caterpillars will soon quit feeding, and the amount of additional damage that they will cause is minimal. (*Phil Nixon and Jim Cavanaugh*)

Fall Webworm

Fall webworm is named for infestations that occur in the northern part of the United States only in late summer to early fall. In the southern half of the United States, including the southern half of Illinois, fall webworm has an additional generation in early summer. This first generation of fall webworm is now feeding in the southern half of the state. However, an infestation has been seen north of Plainfield, which is north of Interstate 80. It appears that weather patterns of the past few years may be changing this insect's habits.

Fall webworm overwinters in the pupal stage, emerging as white moths with a 1-1/2-inch wingspan. After mating, fall webworm lays eggs in large clusters on the leaves of the host. The hatching caterpillars live colonially, spinning a silk tent over leaves at the ends of a branch. Once the caterpillars have eaten the leaves within the silk tent, they increase the size of the tent to enclose more leaves.

This insect has a wide host range, being found on many deciduous trees, including maples, crabapple, black cherry, walnut, pecan, and hickories. There are two races of caterpillars. The black-headed race has a black head, black spots, and frequently a wide black stripe running down the back of a hairy, yellowish body. The red-headed race has a red head but almost no black markings. There does not appear to be any difference in

host selection between the two races. When fully grown, the larvae crawl to debris below the tree, where pupation occurs.

Damage from fall webworm can be obvious, with their very noticeable white silk webs. In heavy infestations, entire trees may be defoliated by multiple colonies per tree. However, damage occurs in the second half of the growing season even where there are two generations per year. As a result, damage to tree health is minimal and stripped branches survive to re-leaf later in the season or the following spring.

Because the larvae are present within the silk webbing day and night, an effective method of control on smaller trees is physical removal. The webs can be pruned or pulled off and the contained caterpillars smashed. Pulling off the webbing has the advantage of leaving the branch on the tree to releaf.

The silk tents, or webbing, are an effective deterrent to parasitic wasps, parasitic flies, and insectivorous birds that would attack the caterpillars. Tents also repel rainfall, which also means resistance to insecticide sprays. Insecticide sprays must be applied with enough pressure to penetrate the webbing. If the insecticide does not penetrate the webbing, it may break down on exposed leaves before the caterpillars incorporate them into the expanding tent. *Bacillus thuringiensis* kurstaki (Dipel, Thuricide), spinosad (Conserve), carbaryl (Sevin), and various pyrethroid insecticides are effective against these caterpillars. (*Phil Nixon and James Schuster*)

WEEDS

Invasive Species Spotlight: Giant Hogweed (*Heracleum mantegazzianum*)

Giant hogweed (<http://www.invasivespeciesinfo.gov/plants/hogweed.shtml>) is a exotic weed recently introduced into the Illinois landscape. It can degrade natural landscapes and possesses health risks to people.

This plant is native to the Caucasus Mountains along the border between Europe and Asia. It was exported and used in the 19th century as an ornamental plant in Europe because of its unusual growth and features. Now, it is thoroughly established in England, Scotland, France, Belgium, Germany, and Scandinavia. In North America, it has been found in Ontario, British Columbia, Maine, Maryland New York, Michigan, Washington, Oregon, and recently in northeastern Illinois in Lake and Cook counties. This species is now on the Federal List of Noxious Weeds and is illegal to propagate, sell, or transport in the United States.

Giant hogweed, also known as giant cow-parsley, belongs in the carrot, or parsley, family (Apiaceae). It has

several **look-alikes** (http://www.hort.uconn.edu/cipwg/hogweedLookalikes/HogweedLookAlike_WEB/index.htm), including cow parsnip (*Heracleum lanatum*), angelica (*Angelica atropurpurea*), and poison hemlock (*Conium maculatum*)—all common plants found in Illinois. Although many of these plants may look like giant hogweed at first glance, none of them gets to be as large or has its exaggerated characteristics.

This biennial or short-lived perennial can grow up to 10 to 15 ft tall. It has enormous compound leaves, up to 5 ft wide on the bottom sets, with three deeply incised leaflets. Thick stems are from 2 to 4 in thick, hollow, and covered in purple blotches and coarse white hairs. The easiest stage of identification of giant hogweed is its flowering stage. Numerous small white flowers are borne in June or July in large, flat-topped umbels up to 2-1/2 ft across. After the flowers produce their seeds by late summer, the plant dies back to the thick taproot. Its stem may persist throughout the winter.

It can typically be found growing in rich, moist soils of flood plains, streambanks, and roadsides. Colonies can be established quickly that outcompete and displace native plants and cause increased erosion along streambanks.

In addition to being a noxious weed, giant hogweed can be harmful to humans. Within the plant is a sap containing furocoumarins that, when in contact with skin and exposed to ultraviolet rays, can lead to severe burning and blistering. It is very important to wear gloves when handling this plant and also to avoid smoke if this plant is being burned nearby.

For more information, stop by the Illinois CAPS blog (www.illinoiscapsprogram.blogspot.com) for all the latest news on invasive pests in Illinois. (*Mike Garrett and Kelly Estes*)

Home, Yard, and Garden Pest Newsletter is prepared by Extension specialists from the University of Illinois at Urbana-Champaign and the Illinois Natural History Survey. Information for this newsletter is gathered with the help of staff members, Extension field staff, and others. Karel Jacobs and Donna Danielson of The Morton Arboretum also provide information and articles.

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