



UNIVERSITY OF ILLINOIS EXTENSION

HOME, YARD & GARDEN PEST

College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana-Champaign
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NEWSLETTER

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PLANT DISEASES

Botrytis Likely to Appear

If there were a fungus that thrived in cool, wet conditions, we would certainly expect to see it in Illinois now. *Botrytis* fits the bill perfectly and will likely show its characteristic gray mold appearance soon. The fungus is widespread, especially on dead plant material in cool, wet conditions. Weak or wounded material is also susceptible to infection.

We have all sorts of molds and mildews that cause infectious disease on plants, often causing confusion to growers trying to establish a disease-management plan. Botrytis blight is one of the fungal diseases that causes a rather distinct type of sporulation. The *Botrytis* fungus forms gray masses of spores on the infected plant part. The spore mass is often very fluffy and dusty. Color may range from green to brown but always appears dusty because of the mass of spores produced by the fungus, so gray mold is an appropriate common name for the disease.

We have seen gray mold on garden flowers, but this fungus has a broad host range, including herbaceous ornamental plants, vegetables, fruits, and greenhouse crops. Infection may occur on buds, flowers, foliage, stems, bulbs, and even roots. You will see sporulation on the most tender, newest growth, as well as on the tissues that are injured or dying. *Botrytis* may be found on the new buds and dying flowers on the same plant. Refer to *Report on Plant Disease (RPD)* no. 623 (available in Extension offices or on the University of Illinois Extension Vista Web site) for a list of plants commonly infected by this fungus. Some of the more common hosts we see infected with gray mold are zinnia, peony, marigold, phlox, rose, snapdragon, strawberry, tulip, and geranium.

To manage the disease, we need to produce conditions that do not favor fungal development. Clean up plant debris and remove dead or injured plant material. Crowded plants, rain, or overhead watering that splashes spores from plant to plant will increase chances of infection. Keep fruit (strawberries) from

touching bare soil. Follow seed-packet recommendations for plant spacing to allow good air movement in the garden. Avoid overfertilization and constantly wet mulches. Know how to identify this disease so that you can stop it quickly. Fungicides are effective against *Botrytis* but only as protectants. Because the fungus can increase on injured tissue (late frost), you might want to consider protecting nearby new growth and flowers. Fungicide recommendations can be found in the *Illinois Home, Yard, and Garden Pest Guide* or the *Commercial Landscape & Turfgrass Pest Management Handbook*. (Nancy Pataky)

Slime Molds in the Landscape

Another landscape problem you can expect to see as a result of our recent moist weather is slime mold. Formerly considered fungi, these organisms are now considered to be groups of individual amoeboid cells. There are many variations of these organisms, and most prefer warm weather. As temperatures rise, slime molds will appear. Look for them on your bark mulches, on wood chips in play areas, on low-lying objects, or growing on any object that can be used as a perch. We usually see species of *Physarum*, *Fuligo*, and *Stemonitis*.

Although slime molds cause much concern to the homeowner, they do not take nutrients from the plant material. They feed on decaying organic matter, fungi, and bacteria in the soil and the turfgrass thatch layer. The slimy, amoeba-like stage may be watery white, gray, cream to light yellow, violet, blue, green, or purple-brown greasy masses as large as 1 to 2 feet in diameter. This stage soon develops into colorful, crusty fruiting bodies filled with masses of dusty spores. Slime molds are primitive organisms that flow (too slowly to watch) over low-lying objects, such as mulches, sidewalks, or driveways, or over vegetation such as turfgrasses, strawberries, flowers, ground-covers, weeds, and the bases of woody plants.

Most gardeners want to know what to put on slime molds to kill them. Chemicals do not provide control. Instead, for abundant molds, remove the spore masses in a plastic bag and break up the remaining masses by vigorous raking, brushing, or hosing down with a

stream of water. Mowing the lawn usually removes the spore masses in turfgrasses. For more information, read *Report on Plant Disease (RPD)* no. 401, which discusses slime molds in turf. This publication is available in Illinois Extension offices or on the University of Illinois Vista Web site. Penn State has a brochure on materials growing in landscape mulch, with color photographs of slime molds. This brochure is available on the Web at <http://pubs.cas.psu.edu/freepubs/u1201.html>. (Nancy Pataky)

Leaf Curls and Leaf Blisters

Peach leaf curl occurs on edible peach, nectarines, and some ornamental *Prunus* species. We sometimes see it on ornamental plums or ornamental peach. Leaf curl or leaf blister refers to a similar group of diseases on oak and occasionally on poplar. Several *Taphrina* species (fungi) cause all of these diseases. Leaf distortion and blisterlike growths or puckering of the leaves is common to all. The leaves are often thickened and almost crisp.

If your trees have had problems in the past and you did not spray a dormant fungicide this winter, you are most likely experiencing the problem again. These fungal diseases are caused by different species of *Taphrina*, a fungus that causes distorted, thickened leaves and early leaf drop. Leaves turn downward and inward and may become red or purple. The disease may cause yield loss in edible peach but is not seriously harmful on its own to ornamental species. Still, repeated yearly infection may weaken a tree and predispose it to other problems.

The causal fungi survive over winter in buds and twigs. They infect leaves and flowers in the cool, moist weather of early spring, from bud swell to bud opening (ideally temperatures are 50 to 70°F). Here is another example of a disease that thrives in the cool, wet weather experienced this spring.

Fruit growers can easily control this disease with a single dormant fungicide spray applied in the fall after leaf drop or in the early spring before bud break. This is common practice for most commercial growers. A dormant fungicide spray is not the same as a dormant oil spray. Home fruit growers in Illinois who use a dormant fungicide and are careful to provide full coverage of buds do not have problems with leaf curl. Landscape managers should focus on promoting tree health through pruning, watering, and fertilizing. Fungicides are not usually recommended for ornamental trees. In all cases, fungicides would be useless against this disease now. If you are having problems

with curl and blister, mark your calendar for a late fall or winter fungicide application so you don't forget again.

If you have used a dormant fungicide spray and did not control this disease, check these possibilities. Did you spray thoroughly enough to get complete coverage of the stems and buds? Hand sprayers often put out a rather coarse spray, and even coverage is difficult to attain. It might be wise to put a spreader-sticker in with the spray and to spray until the tree glistens from the spray. The fungus overwinters in bud scales and cracks and crevices of the bark, so thorough coverage is necessary. Did you use the right chemical? Was the timing correct? Chemicals must be applied in the dormant season, either in late fall or early spring before buds swell. Fungicides for homeowners are listed in the *Home, Yard, and Garden Pest Guide*. Fungicides available to commercial growers are listed in the *Commercial Landscape & Turfgrass Pest Management Handbook*. For more on peach leaf curl of edible fruit, read the *Illinois Fruit and Vegetable Newsletter*, available on line at <http://www.aces.uiuc.edu/ipm/news/fvnews.html>.

For more on leaf curls and blisters, consult *Report on Plant Disease (RPD)* no. 805, "Peach Leaf Curl and Plum Pockets," or no. 663, "Oak Leaf Blister." Both are available in Illinois Extension offices or on the University of Illinois Extension Vista Web site. (Nancy Pataky)

WEEDS

Too Much Chocolate? A Warning to Gardeners and Dog Lovers

Humans love chocolate. In fact, some people love it so much they have it in their landscapes—as mulch, that is. Over the past few years, the use of cocoa-bean mulches has become more popular. They not only prevent weeds, they also look attractive and smell wonderful. However, dogs are also attracted to this sweet, chocolatey smell, and that can be dangerous for your pooch.

Research has shown that this mulch may be ingested as dogs dig through it. Of course, this may not be an issue if your dog is well behaved and understands that gardens are to be appreciated from a distance. My dog, however, loves to be directly involved with any gardening activity. She also loves to dig and will put just about anything in her mouth. My guess is that she is more the rule than the exception. So what happens when dogs ingest cocoa mulch?

Chocolate contains two compounds that are toxic to dogs. They are methylxanthines, specifically theobromine and caffeine, and each has an LD₅₀ of 100 to 200 mg/kg. The LD₅₀ is the quantity of a chemical calculated to be lethal to 50 percent of the organisms in a specific test situation. It is expressed in weight of the chemical (milligrams) per unit of body weight (kilograms). However, severe and life-threatening clinical signs may be seen well below this dose. Seizures can occur at 60 mg/kg, and mild signs such as vomiting, diarrhea, bloating, and restlessness can occur at only 20 mg/kg (ASPCA/APCC Database: Unpublished data).

So how much is too much for a pooch? The amount of methylxanthines in cocoa hulls is substantial at 255 mg/oz. And that's just the theobromine; no data was available for caffeine. In comparison, milk chocolate has only 64 mg/oz of methylxanthines, and less than 1 oz of milk chocolate/lb (2 oz/kg) is potentially lethal to dogs. So 65 oz (4 lb) of milk chocolate would be potentially lethal for my 65-lb dog. But, if she were to eat cocoa-hull mulch, by my calculations, it would only take about 2.25 oz to produce mild signs and 12 oz to be potentially lethal. Of course, these amounts would be much less for a smaller dog. Some manufacturers do include a warning statement on the bag. So, if you have dogs or wandering neighborhood dogs, another type of mulch should be considered.

For more information, call your local veterinarian or animal poison control center. You can reach a link to the center by clicking on <http://www.aspc.org>. Also at this site is an article on chocolate intoxication (http://www.aspc.org/apcc/toxbrief_0201.pdf) that gives detailed information on clinical signs and treatment, as well as an example for calculating the methylxanthine dosage. At the above Web address, you'll also find information on protecting your pet from pesticides and fertilizers, as well as a list of plants that are toxic to pets. (Sources: Michelle Wiesbrook and Chocolate Intoxication by Sharon Gwaltney-Brant)

INSECTS

Elm Leaf Beetle

Now is the time to be on the lookout, especially in southern Illinois, for the elm leaf beetle, *Xanthogalerula luteola* (say this five times fast!). This pest was introduced into the United States from Europe.

All species of elms are susceptible to attack; however, elm leaf beetle tends to prefer Siberian and American elm, with Chinese elm less susceptible.

Adults are approximately 1/4 inch long, slender, and yellowish green, with black stripes running down the elytra (wingcovers). Adults eat small holes in leaves. The females lay yellow-orange eggs in clusters on the undersides of leaves from April through May. A female may lay between 600 to 800 eggs in her lifetime. The eggs hatch in 5 to 6 days into green larvae that resemble grubs. The larvae are approximately 3/8 to 1/2 inch long. They are initially black and then develop two black lateral stripes along their sides. Their feeding causes leaves to appear skeletonized because they scrape the leaf tissue from the upper surface or cuticle with their chewing mouthparts, leaving the veins intact. The tissue between the veins eventually turns brown. Larval feeding lasts about 3 weeks, and this is the major source of plant damage. Trees will attempt to put out another flush of new growth, which may be consumed by elm leaf beetles or other insects. In addition, successive years of feeding may kill entire branches or compromise tree health, thus increasing tree susceptibility to other opportunistic insects.

The last larval instar crawls down tree trunks, where they pupate at the bases of trees in and on the ground. They may also pupate in the cracks and crevices of the trunk or in large branches. In 2 weeks, adults emerge and start feeding on plant leaves. They normally fly to the same tree that larvae had fed upon. Adults may be nuisance pests in late summer and early fall when they leave trees and enter homes to overwinter. They will also overwinter in protected places outdoors. There are two generations per year in Illinois.

Pest-control materials may be applied in late May or when Vanhoutte spirea has finished blooming. Applications may be needed again in late July to early August. Pest-control materials recommended for managing elm leaf beetle include acephate (Orthene), carbaryl (Sevin), imidacloprid (Merit), lambda-cyhalothrin (Scimitar), and spinosad (Conserve). Do not use acephate on American elms as this may cause plant injury. Elm leaf beetle is susceptible to a variety of natural enemies. Two parasitoids, *Tetrastichus brevistigma* and *T. gallerueae*, attack the eggs and pupae. If present in sufficient numbers, they may provide acceptable control of elm leaf beetle. (Raymond Cloyd)

Peachtree Borer

Peachtree borer, *Synanthedon exitiosa*, attacks the bases of trees in the genus *Prunus*, which includes purple-leaf plum, flowering cherry, and wild black cherry, as well as peach, apricot, plum, nectarine, and cherry. Damage will appear as masses of gummy sap and brown frass called gummosis at the base of the trunk. The bark may also slough off of large areas of the trunk near ground level.

Peachtree borer larvae feed in the cambium area just under the bark from 2 to 3 inches below ground to 10 inches above ground. The larvae are yellow–white, full-bodied, and legless, with brown heads. Full-grown larvae are about 1 inch long. They feed through the summer, pupating in the spring in the soil near the base of the tree. Adult moths emerge in the spring.

Adult moths are wasp mimics. Males have slender bluish black bodies with narrow yellow rings and clear wings. Female moths also have bluish black bodies but have a broad orange band halfway down the abdomen. The female's wings are opaque, with bluish black scales; however, half of the hindwings are transparent. Both sexes fly during the day; in flight and in walking, they are similar to wasps.

These insects primarily attack young trees adapting to site as well as overmature, declining trees. Trees in the genus *Prunus* are not long-lived, depending on the species. In particular, purple-leaf plum and flowering cherry may not live much more than 10 to 20 years in northern Illinois, with somewhat longer life spans as one goes farther south. Local site conditions can stress trees, shortening life spans further. Peachtree borer, along with cankers and other insects and diseases, are likely to attack a declining tree. The landscaper

should decide whether it is in the client's interest to replace the tree rather than treat it, based on the age of the tree, growing conditions, and other factors.

For landscape trees, application of permethrin to the lower trunk and base of the tree when mock orange is in bloom should be effective. Treatment should occur now in southern Illinois and soon in central and northern Illinois. Pheromone traps are very accurate in determining treatment times. They are effective in trapping the males, although the pheromone will also attract other male clear-winged moths, such as dogwood borer, viburnum borers, and lilac borer. Treatment is recommended about 2 weeks after the peak of male moth catch. (*Phil Nixon*)

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.

Major authors are Phil Nixon, (217)333-6650, Fredric Miller, (708)352-0109, and Raymond Cloyd, (217)244-7218, entomologists; Nancy Pataky, (217)333-0519, plant pathologist; Bruce Paulsrud, (217)244-9646, pesticide applicator training; and Tom Voigt and David Williams, (217)333-0350, and Michelle Weisbrook, (217)244-4397, horticulturists. Phil Nixon is the executive editor of the *Home, Yard, and Garden Pest Newsletter*. This newsletter is written by faculty in the Department of Natural Resources and Environmental Sciences and the Department of Crop Sciences. The newsletter is edited by Phyllis Picklesimer, typeset by Oneda VanDyke, and proofread by Mary Overmier, all of Information Technology and Communication Services.

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