

HYG Online Update

As you probably know, *Home, Yard, and Garden Pest Newsletter* went online at the beginning of this subscription year. If you're a subscriber to the Web edition, we hope you are taking advantage of the enhanced features on the Web site.

The primary benefit of a Web subscription is timeliness: Each issue is available by 5:00 p.m. on the day of publication (Wednesdays), if not sooner. Web subscribers can also access past issues at the click of a mouse, which means no more flipping through past issues to find a particular article. Even better, subscribers can use the search function to locate articles containing keywords—a handy way to find everything that's been published in *HYG* this year on a particular pest or topic.

In addition to these features, the Web site provides links to other Web-based resources of interest, such as these:

- Exttoxnet, an Extension toxicology network that provides information to nonexperts (<http://ace.ace.orst.edu/info/exttoxnet/>)
- University of Illinois Extension Horticulture Solution Series (<http://www.ag.uiuc.edu/~robsond/solutions/hort.html>)
- U of I College of ACES Integrated Pest Management Program (<http://www.aces.uiuc.edu/~ipm/>)
- U of I College of ACES Pesticide Safety Education (<http://www.aces.uiuc.edu/~pse/>)

HYG online subscribers can access these additional resources via the *Home, Yard and Garden Pest Newsletter* Web site. Others can access the sites directly by entering the URLs into their own Web browsers.

Nonsubscribers can sample *HYG* online at <http://www.ag.uiuc.edu/cespubs/hyg>. Click on "guests" to see a sample issue (guests cannot access the current

issue, past issues, or search feature). If you have any questions or comments about the *HYG* Web site, please contact Peggy Currid, College of ACES, Information Technology and Communication Services, at (217) 244-2831 or currid@uiuc.edu.

HORTICULTURE_____

Turf Stems

Stemminess in cool-season turfgrasses (bluegrasses, ryegrasses, bentgrasses, and fescues) appears to be more of a concern this year than in some previous years.

Flower bud initiation in cool-season turfgrasses occurs during fall's shortening days and cooler temperatures; the following spring, under appropriate conditions, these grasses become reproductive and begin flowering. Mowing, of course, leaves only the remnants of the flowering stem (culm) and its associated blades. After flowering, the reproductive shoots (stems and attached leaves) die and begin to decompose. In turf, the dying shoots intermingled in the nonflowering grasses produce an uneven, mottled appearance. Often, appearance is made worse when the tough stems are shredded or ripped rather than cleanly cut. In fact, in turf mowed with reel mowers, flowering stems may lodge and not be cut at all.

What to do? First, understanding the natural growing cycles of these grasses won't reduce stemminess, but it is helpful to know that as the growing season progresses, the flowering stems decompose and become less of a problem. Second, nitrogen fertilization can reduce flowering. Evaluate your fertilization program. If you're supplying only one or two pounds of nitrogen per 1,000 square feet per year in sunny areas, increasing to three or four pounds may improve overall turf quality. Nitrogen fertilization, however, can be a double-edged sword.

Be careful not to apply excessive nitrogen, because root growth may be impacted and the severity of some diseases enhanced. Finally, be sure to mow frequently and maintain sharp mower blades. Frequent mowing will keep culms from being pushed over rather than cut, and a sharp blade may reduce ragged, ripped ends on stems, which detracts from turf appearance. (*Tom Voigt and Bruce Spangenberg*)

INSECTS

Scouting Report

Honeylocust plant bug is being reported in large numbers in DuPage County in northeastern Illinois. I appreciate the calls from several professional horticulturists to correct my earlier statement that these plant bugs seemed to be low in number. Treatment at this late date, when the insects are in the adult stage, may not be very profitable; however, treatment should keep the damage from getting worse. The adults will fly away when spray is applied but will return to be killed by the active residue. Therefore, synthetic pyrethroids should be effective, but insecticidal soap and summer spray oil are less effective because they must come into contact with the bug to achieve control.

Masses of webbing two to three inches across filled with frass (insect feces) are numerous in some areas of northeastern Illinois. It appears that this is caused by the **pine false webworm** (a sawfly). This caterpillar-like larva is light in color with three pairs of true legs but no prolegs. Pine webworm causes similar damage but is brownish with five pairs of prolegs, as well as three pairs of true legs. The important thing to remember is that sawflies are not controlled with *Bacillus thuringiensis kurstaki* (Dipel, Thuricide) but are controlled with various chemical insecticides. Use high pressure to penetrate the webbing. (*Phil Nixon*)

Mimosa Webworm

Be watchful for mimosa webworm on honeylocust. This insect is adversely affected by cold winter temperatures; it is likely that large numbers of this insect will be present this year due to the mild winter. Mimosa webworm is likely to appear throughout the state but may be most noticeable in northern Illinois, where (the ordinarily cooler) winter temperatures make this webworm an uncommon pest.

Mimosa webworm has two generations per year. The first generation is usually small in number and

easily overlooked. The greenish, brownish, or grayish slender larvae feed on the leaflets of honeylocust and mimosa (silk tree). When disturbed, mimosa webworm larvae move quickly and violently, which helps them escape. The first-generation larvae web together two or three leaflets and feed on the leaflet undersides. This feeding causes the leaves to appear silvery at first, particularly from a distance. As damaged areas dry, they turn brown. Large numbers of first-generation infestations scattered throughout a tree call for an insecticide application to reduce the more seriously damaging second generation.

First-generation caterpillars pupate in the webbed leaves and emerge as small grayish moths. These moths mate and tend to lay eggs back into first-generation webbing. The second generation is usually much larger in number than the first. These caterpillars typically web together two to six compound leaves, causing damage that is much more obvious. Although treatment of the second generation is usually successful, considerable damage may have occurred before treatment is initiated.

Fully grown second-generation caterpillars migrate out of the webbing to pupate in protected areas such as under loose bark on tree and shrub trunks and under building siding. Many webworms pupate under siding and around windows of heated buildings where temperatures are a few degrees warmer—which explains why higher populations of mimosa webworms are found in trees near heated buildings and in years following mild temperatures.

Mimosa webworm is controlled with a variety of insecticides, with *Bacillus thuringiensis kurstaki* (Dipel, Thuricide) the most environmentally friendly. If an insecticide is used, high-pressure application will move more of it through the webbing to the caterpillars. (*Phil Nixon*)

Spider Mites

Spider mites have been found on Clavey's dwarf honeysuckle at The Morton Arboretum. Look for spider mites on these plants as well as on other ornamental plants. Warm-weather spider mites include the two-spotted spider mite, honeylocust spider mite, oak spider mite, and other related species. These spider mites build up under dry summer conditions and are less numerous when it is cooler and rainy. Conversely, mites that cause severe damage to needled evergreens are more common in the spring and fall when it is cooler.

Spider mites are tiny, eight-legged, sap-sucking pests more closely related to spiders than to insects.

When temperatures get into the upper 80s and 90s (°F), their life cycle speeds up to where they hatch, mature, mate, and lay eggs in about five days. This allows their populations to explode in numbers and completely overwhelm predators and other natural enemies that normally keep spider mite numbers low.

Damage by spider mites appears as fine stippling or tiny white dots most easily seen on the upper sides of leaves. This stippling quickly turns brown and is so small that the individual dots are usually not visible except upon close examination. From a distance, damaged leaves appear bronzy to brownish. On the leaf underside, stippling is not as obvious, but the leaf looks dirty from cast mite skins and the mites themselves. Euonymus, maple, oak, Kentucky coffeetree, honey locust, cotoneaster, and pyracantha are some of the more commonly attacked ornamentals. Winged euonymus shows early red fall color when attacked.

The mites are difficult to see on the leaf. Striking or shaking infested leaves over a sheet of white paper causes the mites to fall onto the paper, where they can be more easily seen against the white background. Rub your hand across the paper to squash the mites, which will produce streaks. Greenish streaks are indicative of plant-feeding spider mites. Reddish or brown streaks are probably made by predatory mites that are likely to keep the spider mites under control. Predaceous mites also run faster across the paper than do spider mites. Numerous spider mites on the paper means numerous mites on the leaves—and that treatment is warranted. Damaging levels of several mites per large leaf will result in a couple of dozen on the sheet of paper.

Control mites with miticides such as summer spray oil, insecticidal soap, dicofol (Kelthane), fenbutatin-oxide (Vendex), abamectin (Avid), or bifenthrin (Talstar). Two or three treatments at weekly intervals (five-day intervals under hot conditions) are needed to obtain control because some mite eggs survive sprays of these insecticides, allowing populations to rebound. (Phil Nixon)

PLANT DISEASE

Verticillium Wilt

Although the Plant Clinic has not had a laboratory-confirmed case of *Verticillium* yet this season, it is likely to happen any day now. Suspect cases on strawberry, maple, and magnolia are in the works, and this is the time of year when *Verticillium* wilt rears its ugly head. *Verticillium* wilt can occur on more than

300 host plants—including many weeds—but in the landscape we usually observe this disease on maple, redbud, magnolia, ash, and tuliptree.

In Illinois the causal fungus could be *Verticillium dahliae* or *V. albo-atrum*. Both *Verticillium* spp. are soil borne, are now active, and tend to invade weakened or stressed plants. The fungus invades plants through wounds above or below ground. Once introduced into the soil, the fungus can survive for five years or more, so identification of the problem is important when considering replanting in the same spot.

The *Verticillium* fungus invades the vascular tissues; the plant reacts by partially blocking its own water-conducting system. Symptoms resemble those of a plant under water stress and include wilting, yellowing, and death of leaves, branches, or entire plants. Chronic symptoms may occur: stunted, chlorotic, and deformed foliage; leaf scorch; slow growth; abnormally heavy seed crops; and dieback of shoots and branches. The vascular tissue is discolored, usually light to dark green, brown, or black. Samples taken for laboratory cultures must contain this discoloration for valid results. Tissue must be alive but showing active wilting.

Because the fungus remains in the soil even after removal of an infected plant, resistant varieties are a desirable control option. Look for *Verticillium*-resistant varieties, which are available for hosts such as strawberry and tomato, at a reliable nursery.

Most species will not readily recover from this disease, but maples have been known to “wall off” the fungus within the wood when plant growth is rapid. For this reason, control suggestions often include watering plants in periods of drought that extend to two weeks, and fertilizing to “push” growth. Do not grow susceptible crops on land where other crops that proved susceptible to *Verticillium* wilt were previously grown. A rotation of five years or more for vegetables and flowers may help to reduce the amount of inoculum in the soil.

At a time when compost piles are promoted and chipping of dead trees is encouraged to recycle plant material, one final word of warning. Research suggests that wood chips from *Verticillium*-infected trees can serve as a means of infecting other trees when used as mulch around those trees. We still do not know how great that risk is, nor do we know how to assess the risk. It would be wise to burn or bury infected trees and to spread out bark mulch from unknown sources to allow it to dry before using it around your trees. For more information about

Verticillium wilt, including lists of susceptible and nonhost crops, plus additional control measures, see *Report on Plant Diseases* No. 1010. (Nancy Pataky)

Oak Wilt

The Plant Clinic has had a confirmed case (i.e., confirmed by isolating the causal fungus) of oak wilt already this year, so keep an eye out now for this oak disease. It is caused by a fungus (*Ceratocystis fagacearum*) that enters the water-conducting vessels of the sapwood and causes them to become plugged, much like *Verticillium* does with Verticillium wilt. Symptoms of oak wilt vary, depending on the oak species involved. Generally, oaks in the red and black group develop discolored and wilted leaves at the top of the tree or at the tips of the lateral branches in late spring and early summer (now). The leaves curl slightly and turn a dull pale green, bronze, or tan, starting at the margins. Usually by late summer, an infected tree has dropped all its leaves. We've seen red oaks move through the phases of initial symptoms to total defoliation in as little as three weeks in central Illinois.

The white and bur oak group generally shows symptoms in a more subtle fashion, and initial diagnosis is often blamed on other factors. In this group, symptoms occur on scattered branches of the crown. Their leaves become light brown or straw-colored from the leaf tip toward the base. The leaves curl and remain attached to the branches. The tree may die in one season but is much more likely to survive for many years with a stagheaded appearance. Anthracnose on oak has been fairly common and severe this year, as it was in 1997, and often causes concern among homeowners who fear oak wilt. Anthracnose will cause brown spotting on leaves and may cause slight leaf cupping as well.

Other problems that mimic oak wilt include construction damage, soil compaction, changes in the soil grade or water table, lightning damage, nutritional disorders, insect and animal injuries, chemical damage, cankers, and root decay. None of these causes show the distinct vascular discoloration found with oak wilt, although cankers can cause a localized browning that could lead to misdiagnosis. To detect the discoloration caused by oak wilt, peel the bark back with a knife. The sapwood of a healthy tree is white or tan. A tree suspected of having oak wilt will show brown and white streaking of the wood. Samples without streaking do not yield the oak wilt fungus even if the fungus is present elsewhere in the tree, which means the disease can go undetected if the

tree is not properly sampled. On healthy wood, a slight brown streak appears when the air comes into contact with the sapwood. The distinct discoloration from oak wilt is apparent as soon as the bark is peeled back and does not intensify as the wood dries.

If you think your tree is infected with oak wilt, the Plant Clinic can prepare cultures from the wood and detect the fungus when it is present. Samples should be eight to ten inches long, about thumb thickness, alive but showing symptoms, and must contain vascular discoloration. Samples that do not meet these criteria will not be cultured. It takes about seven days for the fungus to develop in the lab to the point at which a positive confirmation can be made.

Oak wilt is particularly threatening because there is no complete control or cure once infection occurs. The fungus infects through fresh wounds and can spread by root grafts between trees. You cannot save the infected tree but you may be able to save surrounding trees, so a positive diagnosis is important. Refer to *Report on Plant Diseases* No. 618 for more on oak wilt. This devastating disease has been found in all parts of Illinois over the last decade. We have not, however, found that it is spreading any more quickly than it has in the past, and we do not expect an epidemic. (Nancy Pataky)

A Cold Shoulder and Wet Feet

With sudden, early-season temperature changes here and there, along with excessive soil moisture across much of the state, it's been a tough environment for many trees and shrubs this year. In the last week or so, the Plant Clinic has received several yew and arborvitae samples showing dieback due to these environmental insults.

As described by Rhonda Ferree in last week's newsletter ("Waterlogged Plants," issue no. 6), yew is extremely intolerant to even short periods (one to two weeks) of saturated soil. They begin to die back and may even die out completely in some cases. On one yew sample we received, the symptoms included fairly uniform death of the newest growth, while older leaves showed progressive dieback beginning at the leaf tip. On another sample, the dead and dying leaves showed signs of blistering (edema), which develops when the soil is saturated and transpiration is impaired. These symptoms, coupled with the presence of excessive soil moisture, often make the diagnosis pretty straightforward: it's "wet feet."

However, to complicate matters, you may also notice minute, black fruiting bodies embedded in the leaf tissue. This is not uncommon because there are

many saprophytes (“weak” fungi) that rapidly colonize and break down the dead or dying tissue. However, in the latter sample we analyzed, we identified the fungus *Phomopsis*. There are many species of *Phomopsis*, ranging from aggressive pathogens (e.g., juniper tip blight) to the weak saprophytes. Although yew is considered a host of *Phomopsis*, the only time we see this association is when the plant is stressed by other factors. It’s best to prune out the affected areas (in dry weather) and try to improve the growing conditions by diverting water and possibly changing the soil cover to help the soil air out. In some cases, serious landscape renovation or selection of more water-tolerant plant types may be necessary.

There are many other instances in which you can be tricked into believing “the fungus did it,” when the real problem is actually the growing environment. For example, blackened foliage of arborvitae, tan or brown juniper branches, or branches dropped by a silver maple may, upon close examination, reveal fungal fruiting structures. Many times, the real cause of the problem is a harsh winter or suboptimal spring environment (e.g., drying winter winds, rapid temperature swings, saturated soil).

Diagnosing these problems is not easy, particularly when the damage may not become obvious until mid- or late spring. The point is, in addition to analyzing signs and symptoms, we can’t forget to consider the environment. (Bruce Paulsrud)

Turf Disease Watch

With the return of cool, rainy weather to much of the state, what can we expect as far as turf diseases? The good news is that dollar spot, which began to show up across the state, will likely go into a state of remission. However, two cool-weather diseases, red thread and *Fusarium* patch, may be reactivated and make another appearance—temporarily.

Of the two diseases, **red thread** is more likely to reappear during this cool, wet spell. This disease is particularly common in fine-leaf fescues and perennial ryegrass and is favored by cool (60°F to 75°F), wet periods coupled with extended overcast conditions in spring and fall. From a distance, you will notice patchy areas ranging in diameter from a few

inches to a couple of feet. These patches will have an unhealthy tan to pinkish cast to them. When you can get a closer look at the turf, the signs of red thread should be quite distinctive. If the turf is wet from dew or rain, you will see pink to reddish gelatinous fungal growth emerging from the leaves and sheaths. As the disease progresses and more of the turf turns dry and tan, the pinkish fungal growth stands out even more and begins to look like red threads. These threads drop into the thatch, allowing the pathogen to survive for long periods. Red thread is generally, but not always, most common on under-fertilized turf.

Cultural control measures include

- maintaining adequate, balanced fertility
- mowing frequently and collecting the clippings (and threads)
- decreasing the amount of shade
- increasing air circulation to enhance drying of turf

In cases where such measures are not adequate, chemical controls may be justified. Chemicals labeled for use in Illinois are listed in the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook, 1998–1999* (page 13). For more information, consult *Report on Plant Diseases* No. 413.

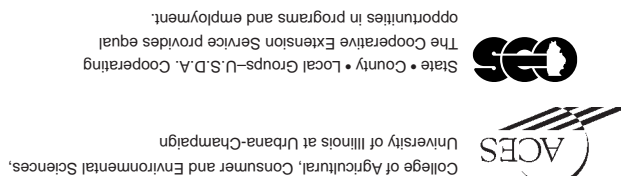
Turfgrass specialist Dr. Tom Voigt reminds us that **Fusarium patch** (called pink snow mold when snow is present) was active through May this year—but was active into early June last year. This disease affects a wide range of turfgrass species and is favored by prolonged periods of cool (< 60°F), wet, overcast weather. Symptoms of patch diseases vary, depending on the height of the turf. On lawn-type turf, small, water-soaked patches two to three inches in diameter will appear and rapidly change to a reddish brown color. Cultural control measures (for this time of year) include decreasing shade and increasing air circulation to enhance drying of turf. Preventive fungicide applications are probably not warranted because warmer, drier conditions are sure to return soon (we hope!). For more information, consult *Report on Plant Diseases* No. 404. (Bruce Paulsrud)

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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