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INSECTS

May Beetles

Adult May beetles are active and quite numerous in central Illinois. These insects feed at night on tree foliage, particularly ash, crabapple, and oak. Feeding damage on the edges of leaves that isn't associated with insects may be the result of these insects feeding at night. If practical, check some of these locations after dark. You are likely to see 1-inch-long, reddish brown to dark brown, stocky beetles feeding on the leaves. Carbaryl (Sevin) and other labeled insecticides should provide effective control. (*Phil Nixon*)

Brownheaded Ash Sawfly

Brownheaded ash sawfly larvae are defoliating ash trees in central and northern Illinois. We have received reports from Douglas, Sangamon, Whiteside, and other counties. These larvae are greenish white to yellowish white and look somewhat like caterpillars, except that they have six or more pairs of prolegs. They have green heads with obvious small black eyes. I'm unsure why they are called "brownheaded."

These larvae feed primarily on red and white ash. There have been reports of trees more than 40 feet tall being totally defoliated. If the tree is healthy, this severe defoliation should not seriously harm it, and the tree will put out new leaves. Defoliation like this 3 or 4 years in succession could cause the tree to die. Because this sawfly is not common in most years, it is unlikely to be numerous enough next year to cause serious defoliation.

The larvae drop to the soil later in the spring when they are full grown and construct cocoons around themselves in the soil. Wasp-like adults emerge the following spring when the leaf buds are turning green and lay eggs in the developing leaflets. The eggs hatch into larvae that feed on the leaves. There is one generation per year.

Because this pest is not a true caterpillar but rather the larval stage of a wasp relative, Dipel or Thuricide

(Btk) will not control these insects. Carbaryl (Sevin) should be effective, as well as many other labeled insecticides. (*Phil Nixon*)

Other Sawflies

The Morton Arboretum reports heavy infestations of sawfly larvae on azalea, elderberry, and hazelnut. Although it's not obvious which sawflies these would be now, be watchful for them. Carbaryl or other labeled insecticides should be effective if sawflies are numerous and causing heavy damage. (*Donna Danielson of The Morton Arboretum and Phil Nixon*)

Borer Control

At this time of year, several borers are susceptible to insecticide applications. Flatheaded appletree borer, roundheaded appletree borer, viburnum crown borer, and peachtree borer are susceptible to control when Vanhoutte spirea blossoms have mostly turned brown. Bronze birch borer is susceptible to control when Vanhoutte spirea is finishing bloom. Lilac and ash borer are susceptible when Vanhoutte spirea is in full to late bloom. These phenology indicators are taken from Don Orton's book *Coincide*, which is available from the Illinois Society of Arboriculture and also from the publisher, Labor of Love Conservatory, at (630)668-8597.

All of these borers are controlled with one or more applications of chlorpyrifos (Dursban) to the trunk and base of the plant. In addition, bronze birch borer can be controlled with dimethoate (Cygon) concentrate applied once as a band that is as wide as the trunk diameter but no wider than 6 inches. (*Phil Nixon*)

PLANT DISEASES

Oak Leaf Skeletonizing

This problem has occurred in past years and is now present in parts of Illinois. We have reports from west-central, northern, and east-central parts of the state, and the clinic has received samples from the Champaign area. I have seen the problem on oaks,

particularly those in the white oak family. The symptoms are quite bizarre. Much of the leaf is just gone. The tissue that remains is the vein tissue and a bit of leaf blade around the veins. Leaves appear to have been eaten by a voracious insect that prefers nonvein tissues. The edges of the leaf that remain are often brown or thickened like a callous tissue. Some refer to this as oak tatters. Others call it bare bones or oak skeletonizing.

What is the cause of this condition? We don't know for certain, but it appears to be the result of cold injury when the leaves were still in the bud. Look closely at the leaves. The injury appears to be nearly symmetrical, as is often the case with injury that occurred in the bud. Because the injury is so bizarre, many think that herbicides are involved. We cannot perform chemical residue tests at the clinic, but symptoms do not fit those typical of chemical injury. In all cases where other plant materials are growing nearby, only the oaks are affected, and sometimes one oak is affected, while nearby oaks do not show symptoms. Herbicides probably would not be so discerning. There is still much speculation that herbicides are part of the story. Anthracnose is not to blame for this condition, although anthracnose fungi might also be present.

One of our state foresters said that oaks on his property showed these symptoms last year. The leaf material continued to expand a bit, then new leaves emerged and more or less hid the affected leaves from view. In other words, the trees recovered. He is seeing symptoms again this year.

What do we suggest for action by the homeowner? Try to improve tree vitality so that the tree can continue to produce new leaves. Usually this means watering the tree in periods of drought, removing dead wood, and fertilizing with a general tree fertilizer in the fall. If you have a healthy old oak tree with these symptoms, leave it alone. We will keep you posted as we learn more about this condition.

There is a picture of this condition on a University of Wisconsin horticulture publication, *Deciduous Trees, Disorder: Springtime Weather Injury to Foliage, A2508*. The picture can be viewed by going to the Web site http://www.uwex.edu/ces/wihort/landscape/Landscaping_publications1.html and finding this publication under miscellaneous disorders. (Nancy Pataky)

Black Knot of Plum and Ornamental *Prunus* Species

Black knot is a common problem on ornamental *Prunus* species, as well as on edible plums. Hosts include the ornamental plums and cherries that are often planted for their flower and foliage color. The disease is usually noticed first in the spring when leaves are not fully expanded and galls are more obvious. Martha Smith of the Macomb Extension center reports many cases of black knot this year in the northwestern part of Illinois. The Morton Arboretum in Lisle also reports confirmed cases of black knot.

Black knot is caused by a fungus called *Dibotryon morbosum*, which infects new twigs in the spring. There is a slight swelling of the infection site by fall, but it will probably go unnoticed. The following spring (1 year after infection) the swellings continue to grow and become roughened. These 1-year-old galls are probably what we are seeing now. Black knot is named for the elongated, rough, girdling, black swellings on twigs, branches, and sometimes the trunk. The knots become hard, brittle, and coal black. If growth of the fungus is on one side of the stem, the stem may be bent at the knot. If the knot girdles the stem, the stem beyond will die. Because black knot galls are perennial, they will continue to spread in the branch. You will see larger galls next year if they remain on the tree.

When buying ornamental *Prunus* species, inspect stems carefully for galls and swellings that may indicate early black knot infection. The older black knots represent at least 2 years of growth. Never buy trees with visible knots.

If you should find that you have this disease in your trees, take steps to get it under control using a combination of pruning and fungicide applications. Mark your calendar to prune in February. Remove all knots from the tree and burn, bury, or remove them from the site. Make cuts 4 to 8 inches behind any obvious, black knot swellings. Actually, you can prune any time the tree is dormant; but if you wait until February, you will be able to see all of the knots. Apply a dormant oil at bud swell. You could still prune now, but sap will flow freely from the cut surfaces, attracting many insects. Regardless of the time of year, prune only in dry weather and take the time to disinfect pruners with rubbing alcohol or 10% bleach solution.

Wild plums and cherries are more susceptible to black knot than cultivated varieties. If your landscaped area is near a wooded site, look for galls on the wild *Prunus* species. Infected trees should be removed.

Most infections occur between budbreak and 2 weeks after bloom when wet conditions are accompanied by temperatures of 55°F to 77°F. For effective protection against this fungus, fungicide sprays should be applied as soon as buds open and must be continued every 2 weeks until about 3 weeks after petals fall. Many copper fungicides are registered for use against black knot, so pick a formulation that you prefer, being careful to read the label for host and disease clearance. Remember that early season fungicide sprays will prevent new infections but will not stop infections that are already present, thus the pruning recommendation. Fungicide use is usually reserved for edible plums and is made in conjunction with pruning. For more information concerning this disease, consult *Report on Plant Diseases* No. 809, Black Knot of Plums and Cherries. (*Nancy Pataky*)

Rose Viruses

Viral diseases of roses are generally diagnosed based on symptoms. The diseases usually do not kill infected plants but may reduce plant vitality and the quality of flowers. The leaf symptoms may include yellow mottling, yellow or white veins, banding of veins with various colors, yellow to light green blotches or lines in the leaf, ring patterns, distorted or puckered growth, and smaller than normal foliage. Because of the wide range in symptomology, it would be helpful to find pictures of rose viruses to help determine whether a virus is really involved. Many horticulture publications have such pictures, and the Web is very helpful. *Report on Plant Diseases (RPD)* No. 632 discusses the rose viruses. The *Compendium of Rose Diseases* by APS Press has great detail for avid rosarians or diagnosticians.

Virus particles will not grow in artificial media in a lab. The Plant Clinic cannot isolate a particular virus through culturing procedures. Viruses are too small to be seen with a light microscope, so thin sections of plant material are not of any help in pinpointing a virus. For those who have to know the exact virus involved, there is a private lab in Indiana called AGDIA, Inc. They can do a rose virus screen testing for eight viruses, as detailed on their Web site <http://www.agdia.com/>. There is a fee for this service, so check the Web site before sending your samples.

Virus infections of rose are systemic, which means they will be found in all plant parts. Parts of the plant may remain symptomless, despite the infection. Plants do not have an immune system; and they will retain the virus as long as they are alive, with the exception of heat treatment in commercial propagation, which is used to inactivate some of the mosaic viruses. The virus particles need a live host to replicate. Although it may appear that viruses are more intense in the spring and fall, they are present all year. The heat of summer inhibits virus activity.

Because the treatment of rose viruses is generally the same regardless of the specific virus involved, exact identification is not usually necessary. Viruses can be confused with injury caused by growth-regulator chemicals. The pattern of injury and host range should help in diagnosis. Herbicide injury will be most intense near the source and less intense moving with the wind or water away from the source. Broadleaf herbicides such as 2,4-D or dicamba should also affect other broadleaf plants in the area. Rose viruses (especially the mosaics) are spread primarily by budding and grafting. It is rare to spread such viruses by insects, plant contact, or seed. Therefore, the pattern of infection in the planting would be very different from herbicide-drift injury.

The general recommendation for control of rose viruses in the home garden is to remove infected plants. Because these viruses are spread almost entirely by budding and grafting, the responsibility for control should lie with the nursery and commercial rose grower. If you purchase a plant that develops virus symptoms, contact your supplier and ask for a replacement. When buying plants in a retail center, examine the plant closely for virus symptoms. (*Nancy Pataky*)

Red Thread of Turf

I thought we would miss this turf disease in 2000 because the weather was initially dry. This fungal disease is commonly associated with cool, damp weather in spring and fall. Recent changes in weather conditions have produced sightings of red thread in central and northern parts of Illinois. The fungus that causes this disease forms conspicuous, coral pink or red threadlike masses on the grass blades and leaf sheaths. In the morning dew, the color is even more evident. As the disease progresses, the blades die from the tip downward. The diseased turf is eventually bleached tan, yellowed, or scorched in circular to irregular patches. These patches may be anywhere

from 1 to 2 inches in diameter. Because the dead leaves are generally interspersed with apparently healthy leaves, the turf will appear scorched and ragged. If that is the case, look at the turf in the early morning to confirm or rule out this disease.

Red thread rarely kills turf plants, but it may weaken them and contribute to decline or infection by other diseases or weather stress. The disease is particularly prevalent on slow-growing, nitrogen-deficient turf. It is also favored by excess thatch, low calcium levels in the soil, water stress, a sudden drop in temperature, and misused herbicides. By correcting these stress factors, you will be moving toward control of the disease. Often a fertilization treatment will correct the problem, but red thread may occur even on well-fertilized lawns.

If you have a problem with this disease, put the mower bag back on the mower, and collect the clippings. The fungus will remain viable on the clippings, so you want to remove that inoculum from the lawn. Some bluegrass varieties with resistance to the red thread fungus are listed in RPD No. 413. Check with your local seed source for availability of other sources of resistance, and rake and reseed now if your lawn is severely affected. Chemical options are not the usual avenue of red thread control. (Nancy Pataky)

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