

PLANT DISEASE

White Mold (*Sclerotinia*)

Here is another problem we can expect to see in wet areas of the state. White mold is more prominent in relatively cool temperatures; nighttime temperatures of 60°F may have triggered new infections for 1998.

White mold is caused by the fungus *Sclerotinia*. It may remain in the soil in a “resting” spore stage (sclerotium) for three to five years. These sclerotia resemble large black seeds or rabbit pellets with gray interiors. Sclerotia germinate at relatively cool temperatures; sporulation requires a period of wet weather.

Sclerotinia white mold is common on tomato, green bean, pepper, soybean, begonia, daisy, delphinium, hydrangea, marigold, pansy, and zinnia. *Report on Plant Diseases* No. 1008 lists many other hosts of white mold. To identify this disease, look for bleached areas on the stems and leaf axils that look almost like animal bones dried in the sun. In cool, wet weather, a fluffy mold develops on the stem. In seven to ten days, sclerotia form inside the stem or on the outer stem surface. Surface sclerotia easily fall to the ground, where they are transported by equipment, plant material, animals, and water.

There are no rescue treatments to save infected plants. Try to prevent future infection by keeping plant density low. Prune surrounding plants to increase air movement through the garden. Preventive fungicide applications may help in areas where white mold is a problem every year. Chemical options are provided in the *Illinois Homeowners' Guide to Pest Management* and the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook, 1998–1999*. When white mold is a recurrent problem, rotation out of the infected area is recommended for at least three to five years. (Nancy Pataky)

Goutweed (Bishop's Weed) Scorch

This low, perennial ground cover is widely used in Illinois gardens. It is also known as ashweed, ground ash, ground elder, herb gerard, or by its genus name, *Aegopodium*. The variegated form that seems to be most widely used is sensitive to scorch in sunny locations. The problem has popped up again at the Plant Clinic and I have seen it around Champaign-Urbana. Foliage is brown, leaf edges are “burnt,” and the normally lush plant is thinned and looks weak. This injury is most common in a period of very hot weather following a time of lush growth—just the weather that much of Illinois has had of late.

This plant is best maintained with periodic mowing throughout the growing season, whenever the foliage looks poorly. Mowing encourages new growth and helps keep plants dense. One word of advice: Don't mow low enough to injure the crowns, or the plants will die. (Nancy Pataky)

Guignardia Leaf Blotch

Guignardia leaf blotch occurs on horsechestnut and buckeye. This disease gives the appearance, at least from a distance, of a tree with a leaf scorch (see issue No. 10). On closer inspection, reddish brown leaf spots with clear, bright yellow margins are apparent. These blotches will enlarge and may cover the entire leaf surface by late summer. Leaves then become dry and brittle, and premature defoliation may occur.

Guignardia leaf blotch is caused by a fungus that forms fruiting bodies (pycnidia) in the lesions. Pycnidia are black, pin-head sized specks when observed with the naked eye. They are not too difficult to see, but a hand lens may be helpful. Guignardia leaf blotch can be distinguished from environmental scorch by the presence of these fruiting bodies. Another characteristic is that the fungal disease affects most leaves, whereas scorch affects new leaves on the sun- or wind-exposed side of the tree.

Guignardia leaf blotch is serious yet treatable in nursery stock. Mature landscape trees usually are not harmed because the leaves remain until late summer and next year's buds are retained. Chemical treatments are not recommended. Prune surrounding vegetation to allow better airflow for more rapid drying of foliage. Removing fallen leaves may help to reduce the number of fungal inoculum that survive the winter. (Nancy Pataky)

Rose Rosette

This disease of rose is believed to be caused by a virus-like pathogen. Unfortunately, the pathogen cannot be cultured in a laboratory, so diagnosis of this disease at the University of Illinois Plant Clinic is based on symptoms alone. Since symptoms are fairly distinct, the lab may not be needed except in cases of confirmation.

The new growth (leaves and stems) on infected plants is deep red. Leaves may show crinkling and distortion, or a mosaic pattern of green, yellows, and reds. An infected plant produces numerous lateral shoots that grow in different directions, giving the plant a witches' broom appearance. These shoots are typically deep red and much thicker than the canes from which they grew. Thorns on these stems are more abundant than normal. Overall, the plants have bright red, thick, thorny new growth. To anyone who has grown roses, this will not appear normal. The plants usually die within 22 months of infection.

Rose rosette is thought to be spread by the very tiny eriophyid mite. This mite cannot be seen without a microscope; 20 could fit on the head of a pin. Also of concern to growers is the fact that rose rosette can be spread by grafting.

Multiflora rose is the most common host of rose rosette, but cultivated flowering varieties can be affected as well. Climbers, hybrid teas, floribundas, miniatures, and a number of "old fashioned" roses have been reported as hosts.

Infected plants should be removed as soon as rose rosette is identified or confirmed. Dig up and remove all plant parts, including roots. This material should not be used in a compost pile. Plant multiflora roses and garden roses as far apart as possible. Controlling rose rosette through mite control has not been shown to work with any consistency. Research suggests that the critical mite transmission occurs in May and June, so if you decide to use miticides, concentrate your efforts in those months next year. For more about rose rosette, consult *Report on Plant Diseases* No. 666. (Nancy Pataky)

Insects

Flower Chewers

At this time of year, several pests will feed on annual and perennial flowers—both leaves and blossoms. Slugs were addressed in detail in issue No. 9 and are probably the main culprits in flower destruction this year. Remember that their damage normally occurs as holes in the leaves. Other pests primarily eat the leaf margins of leaves and petals.

Earwigs have emerged in large numbers this year in Illinois. We are receiving reports of many in both northern and central Illinois. This insect is particularly numerous in northeastern Illinois southwest to Morris and west to Rockford. There also are many earwigs in the Champaign area. The European earwig is about 5/8 inch long, slender, reddish brown, with pincers on the back end of the body. Males have larger, curved pincers shaped like ice tongs; females' pincers are smaller, straight, and fit close together.

Earwigs prefer moist situations and hide in cracks and crevices during the daytime. They emerge at night to feed on mulches and other decaying organic matter, fleas and other insects, and the leaves and blooms of some plants. They are particularly damaging to marigold, aegeratum, zinnia, and the flower petals of rose and daylily. Earwigs are more numerous where there is damp organic matter such as mulch. They become obvious in late June when they approach adulthood, and continue to be a problem until mid to late August. Eggs are laid in the soil and hatching occurs in late winter to early spring. Earwigs do not lay eggs indoors, even in flowerpots, although they can be a year-round problem in greenhouses.

Sowbugs and **pillbugs** are also very numerous in flower beds this summer. They thrive in consistently moist situations and feed primarily on decaying organic matter such as mulches. Both of these crustaceans look like tiny armadillos, having a series of plates across the back and ranging from gray to blackish. Pillbugs can roll up into a ball when disturbed and are more dome-shaped than the sowbugs, which cannot roll up. We usually don't consider these relatives of crayfish and shrimp to be damaging, but in very high populations they can eat the edges of the thin leaves and flower petals of hosta, violets, impatiens, and other plants.

Grasshoppers also feed on the leaves of flowers, eating the margins until there is little or no leaf left. They can also eat large holes in the leaves. Several of

the grasshopper species that are very obvious and numerous in late summer as adults have recently hatched into young grasshopper nymphs that are about 1/4 inch long. These nymphs are very numerous, but most will die from fungal diseases if rainfall is moderate or heavy. Also present, in smaller numbers, are some other species' older nymphs and adults that eat more per hopper than the young ones. Grasshoppers severely attack iris, daylily, and sunflower, but also can be devastating to many other flower species.

Black vine weevil, strawberry root weevil, and imported longhorned weevil adults also feed on flowers, preferring those with large leaves and petals such as daisy and coreopsis. Look for half-moon shapes eaten into the edges of petals and leaves. All three weevils have rounded, hard-shelled bodies with the heads elongated into short snouts. Black vine weevil is about 3/8 inch long and blackish with indistinct yellowish spots. The other two weevils are about 3/16 inch long. Strawberry root weevil is black or brown; imported longhorned weevil is tan with irregular brown spots. These two smaller weevils are commonly found hiding in blossoms. Much of their feeding is done at night. Although the black vine weevil is larger, there is no lesser of any two of these weevils. (I'm not sorry for the pun, I just had to put it in!)

Flower petals are eaten by various leaf beetle adults. The most common ones in Illinois are **northern corn rootworm, western corn rootworm, and southern corn rootworm**, also known as the **spotted cucumber beetle**. These and other leaf beetles are about 1/4 inch long. The northern is green, the western is yellow and black striped, and the southern is greenish yellow with black spots.

Two milkweed beetles eat the leaves of milkweeds such as butterfly weed, bloodflower, and swamp milkweed. The **milkweed leaf beetle** is about 3/8 inch long, roundish, with a black and orange color pattern. The other milkweed beetle is 1/2 to 3/4 inch long and red with black spots and long black antennae. These two beetles usually do not cause enough damage to require control.

To chemically control these chewing insects on flowers, apply carbaryl (Sevin). Many other insecticides are also effective. Keep the insecticide off the blossoms, to avoid killing beneficial bees and other pollinating insects. Insects that feed on the flowers also feed on the leaves and will be controlled with insecticide applied there. (*Phil Nixon and David Robson, Springfield Center Educator*)

Flower Hoppers

Planthopper nymphs are numerous but scattered on plants at this time. Affected hosta, fuchsia, and other plants (particularly in shady areas) will have a white, cottony material on the stems and petioles. Under this flocking will be a whitish or greenish planthopper nymph that is 1/8 to 1/4 inch long. These insects feed on the sap of the plant and can kill the stem beyond their feeding point. Some species also are present as adults; these are about 1/4 inch long with wide, tall, wings. The most common species are white, green, and purple with white markings. Adults usually do not cause dieback. Planthoppers can be controlled with insecticidal soap, summer spray oil, and synthetic pyrethroids. At home, I handle these with a spray bottle containing insecticidal soap. One or two squirts usually does the job.

Leafhoppers transmit **aster yellows** to marigolds and other flowers. Leaves on infected plants tend to wither, turn brown, and die. The plant dies a slow death and the brown, shriveled leaves are ugly to passersby. Because very few leafhoppers need to be present to transmit the disease and are present for an extended period of time, many landscapers just replace infected plants as they appear, rather than use insecticides. (*Phil Nixon*)

Billbugs

Billbug damage is being found in central Illinois. Affected turf wilts and turns brown; individual plants have few roots and pull easily. There may be sawdust-like material at the base of the plants. In the root zone to several inches below the surface, you can find the 1/4 inch long white, stocky, legless larvae with brown heads. Adults also are present. They are blackish, about 3/16 inch long with the mouthparts elongated into a long snout. Billbugs are more common in sodded lawns. They are controlled in the same way as white grubs. (*Phil Nixon*)

White Grubs

The adult flight of southern white chafer peaked during the last weekend in June at The Morton Arboretum in northeastern Illinois. In central Illinois, adult annual white grub numbers are very high in some areas but may still be climbing in others. Japanese beetle adults are very numerous in central Illinois and becoming more numerous each day.

Even though the adults of white grubs are numerous, preventive treatments at this time may not be warranted. In many areas of the state, heavy rainfall

has kept nonirrigated turf very green and attractive to egg-laying beetles. If this continues for the next two weeks, the resulting white grub larvae may be spread over such large areas, and thus so thinly, that few areas will have high enough numbers to show turf dieback this fall. In addition, damp soils in the past have resulted in smaller grub numbers, apparently due to the grubs dying from fungal diseases. Applications of imidicloprid (Merit, Grubex) or halofenozide (Mach 2) may not be cost effective this year. It may be more economical and environmentally sound to wait until early August to scout and treat areas that have damaging grub numbers. At that time, use shorter acting insecticides such as trichlorfon (Dylox), bendiocarb (Turcam, Intercept), and diazinon. (Phil Nixon, David Robson, and staff at the Morton Arboretum)

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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