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### First Issue of 2000

Welcome to the first 2000 issue of *Home, Yard & Garden Pest Newsletter*. In it we will provide the landscape professional with timely information about the pest insects and diseases occurring on ornamental plants and turf, as well as articles on weeds and their management. Twenty issues of the newsletter will be published throughout the growing season, including a couple this fall. We will begin with biweekly issues through April. From May through mid-July, issues will be weekly, followed with biweekly issues from mid-July through September. We will finish with single issues in late October and November.

Comments about the newsletter are welcome, as well as observations of pest activity. This newsletter provides quality information to the professional horticulturist, and your input helps to improve it. Contact either the author listed at the end of each article or the newsletter coordinator, Phil Nixon. Our phone numbers are listed at the end of each issue of the newsletter. (*Phil Nixon*)

## INSECTS

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### Zimmerman Pine Moth

Now is the time to be on the lookout for Zimmerman pine moth, *Dioryctria zimmermani* (Grote), larvae (caterpillars) that are actively crawling on the bark of trees. The larvae are highly exposed and susceptible to an insecticide spray application. Zimmerman pine moth larvae feed on all pines, especially Scotch and Austrian. Larvae bore into trees and create masses of pitch at branch whorls on the trunk or on shoots near the terminal leader. These pitch masses resemble galls. The larvae can kill terminal leaders. Heavily infested terminals curve downward resembling a fishhook. Repeated attacks by larvae can cause tops to break off, making the tree unsalable.

Adults are gray with a 1 to 1-1/2 inch wingspan. The forewings are gray and mottled with a zigzag line pattern of darker gray. The adults are active at night from mid-July to mid-August and can live from 3

days to 2 weeks. Female moths lay between 20 to 30 eggs underneath bark in the whorl region of trees. These eggs hatch in late July to early September into pinkish green larvae with brown heads. The body is covered with small black dots. The larvae are approximately 3/4 inch long when fully grown. They are generally located inside shoots or in pitch masses. Young larvae are active on the outside of the tree in mid-August. These larvae overwinter in bark crevices in silken webs. They emerge from these hibernacula in early April and crawl around on the bark before boring into the shoots and stem. The pupae are brown and found in shoots and pitch masses from mid-July to late August.

Management of Zimmerman pine moth involves sanitation and the use of chemical insecticides. On Christmas-tree plantations, scout regularly by visually inspecting trees for the larvae and then later for pitch masses on the main stem or terminal leader. Prune out damaged wood and injured shoots or remove trees that are showing visible symptoms of Zimmerman pine moth damage. The insecticide chlorpyrifos (Dursban) or dimethoate (Cygon) can be used to control the larvae by spraying the bark and foliage in April or mid-August. The best time to control this insect is in the caterpillar stage before it enters the bark. High-volume sprays should be used to drench the stem and bark, as a thick canopy of pine needles may prevent sprays from reaching the trunk.

Planting resistant varieties of Scotch pine such as the short-needled varieties from Greece, Turkey, and west and south Eurasia may be a long-term alternative option to minimize problems with Zimmerman pine moth. (*Raymond Cloyd*)

### European Pine Sawfly

European pine sawfly has hatched throughout the state. At this time of year, they appear as 1/4-inch-long olive larvae with large black heads. They feed in groups on the needles of various pines, particularly Scotch and mugo pine. Older larvae grow to slightly over 1 inch long, are olive with dark green stripes, and also have large black heads. The larvae strip the needles, leaving only the central brown core of the needle, which dries and falls off.

There is only one generation per year, and the larvae are finishing their feeding by the time needles emerge from the candles. Thus, these needles are not damaged, and little threat of branch or tree death results from this sawfly's feeding. However, the loss of the second- and third-year-old needles is noticeable on landscape trees and devastating to the appearance of Christmas trees. In late spring, the larvae drop from the tree. They pupate in debris under the tree and emerge later as wasplike adults to lay eggs in the needles before winter.

Although these larvae resemble caterpillars, they are actually larvae of insects related to wasps. Because they are not true caterpillars, *Bacillus thuringiensis kurstaki* (Dipel, Thuricide) is not effective against them. Manage these insects by hand removal or spraying the affected foliage with carbaryl (Sevin), acephate (Orthene), azadirachtin (Azatin, Neem), spinosad (Conserve), or chlorpyrifos (Dursban). (*Phil Nixon and The Morton Arboretum*)

### Eastern Tent Caterpillar

The first egg masses of eastern tent caterpillar are hatching in northern Illinois, and many of the egg clusters have now hatched in southern and central Illinois. They appear as white silk tents 1 to 3 inches across in the branch crotches of crabapple, hawthorn, mountain ash, flowering cherry, and other trees and shrubs in the rose family.

At this time of year, it is easy to just pull out the silk tent and associated 1/2-inch-long dark caterpillars by hand. Dispose of them at a generous distance from the tree. When they are this small, they spend most of their time in the silk tent, but all are in the silk tent on cloudy or rainy days as well as at night. Sprays of *Bacillus thuringiensis kurstaki* (Dipel, Thuricide) and other chemical insecticides are also effective. (*Phil Nixon*)

## PLANT DISEASES

### Opening Day Approaches!

The Plant Clinic serves as a clearinghouse for plant problems sent to the University of Illinois from May through mid-September. Diagnoses are provided on trees, shrubs, turf, fruit, vegetables, field crops, or any other type of plant imaginable. Specialists are called to diagnose as needed; and, in an average year, about 20 different specialists may have input on plant samples. Services include plant and insect identification; diagnosis of disease, insect, weed, and chemical

injury symptoms (chemical residue testing not available); nematode assays; and help with nutrient-related problems as well as management recommendations involving these diagnoses. The clinic cannot handle herbicide injury problems on ornamental plants nor can it assess nutrient levels in tissue or soil samples.

The University of Illinois Plant Clinic is open from May 1 through September 15 this year. The clinic budget is supported in part by user fees. These fees have not changed from 1999 and are listed here. A check made payable to the University of Illinois must accompany each sample.

General diagnosis (including cultures)	\$12.50
Specialty tests (SCN, PWN, ELISA)*	\$18.75
Other nematodes (usually corn)	\$40.00

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\*SCN indicates the test for soybean cyst nematode. PWN indicates pinewood nematode analysis. ELISA is a technique used to test for various viral pathogens.

A specimen data form or equivalent information should always accompany a plant sample. As the saying goes, garbage in—garbage out. The ability to provide a thorough diagnosis is directly related to the quality of the sample and the type of information provided. Each of the University of Illinois Extension offices should have a copy of the specimen data form. You can also find the form in the *Master Gardener Manual*, at the back of the disease section in the *Field Crop Scouting Manual*, or you can access the form on the clinic Web site at <http://w3.aces.uiuc.edu/CropSci/Research/clinic/clinic.html>.

When submitting plant samples, prepare them to survive a rough ride in a very hot mail truck. When sending whole plants, wrap them as you would if you intended them to be planted. Wrap soil and roots in plastic to keep them moist. **Do not wrap foliage in plastic.** If only leaves are sent, keep them dry and between cardboard. We can always rehydrate dry material, but it is not possible to remove mold from rotted tissue. Send as much of the plant as possible, including affected as well as healthy tissue, carefully labeled. A photograph of the plant and surrounding area is always helpful. Because the clinic staff has only the sample and information to work with, be as complete and accurate as possible in providing supportive information.

When in doubt as to how to package a sample or what to send, call the clinic at (217)333-0519. The mailing address is

Plant Clinic  
1401 W. St. Mary's Rd.  
Urbana, IL 61802

Business hours are 8 a.m. to noon and 1 to 4:30 p.m. weekdays only. Arrangements can be made to drop off samples at other times.

Remember, opening day is May 1. Do not send samples before that time. No one is available to examine samples before May 1, and plants will decay while waiting. (*Nancy Pataky*)

## Pine Problems?

Illinois plant specialists, nurserymen, landscapers, and home owners have been reporting stressed white pines in our landscapes for many years. The drought experienced over the last 6 to 9 months has aggravated the situation. In fact, we are now seeing stress on a number of other evergreen species, in addition to white pine. We have seen similar problems on spruce, pine, and arborvitae trees.

Symptoms vary but generally include some pattern of needle yellowing or browning; shriveled bark on branches or trunk; sap exudate on branches or trunk; and, in some cases, death of the tree. The most severe injuries continue to be reported on white pines. Affected trees have ranged in size from 2 feet to more than 20 feet. On pines tested in the last few years at the Plant Clinic, few live white roots have been found. Although roots are dead, laboratory cultures have not implicated fungal pathogens as the cause of poor root growth. It appears that roots are on the decline for other reasons. Some possibilities include heat, drought, flooding, and sudden extremes in temperature and moisture. Many of the problem trees we have seen have been situated on clay sites or exposed to the elements (planted in new housing developments or used as windbreaks). It is likely that site stress has contributed to the decline of these trees. The excessive rains of the last several springs also may have contributed to root injury and decline by saturating the soil, causing a lack of soil oxygen and root death. Soils with high pH levels are also known to be stressful for pines; and Illinois soils typically test high in that regard.

Evergreen needles continue to lose moisture all winter, so they are more susceptible to winter drought stress than are deciduous trees. Because of this winter drought stress, we can expect to see more pine problems this year. If roots were injured as we are suggesting, watering will help but will not provide

immediate relief. Without an adequate root mass, plants are not able to use the available water quickly enough to supply demands by the foliage. Use of a natural mulch over the root zone may help to maintain a more uniform soil moisture and temperature. Still, if enough root damage has occurred, the plants will continue to decline despite your best efforts.

Because these pine problems are not usually the result of an infectious disease, immediate removal of the tree is not necessary. Instead, keep the tree watered and see how it responds. Also, dig into a bit of the root system for a better picture of the situation. If roots are brown in cross-section and the outer layer easily pulls off or is not present, then root injury has occurred. If the roots are white and healthy, then the problem is above ground and our theory is wrong, at least in your case.

There are a few other problems that can mimic root injury and drought stress on pines. The one-sided burn seen on evergreens along roadways is often the result of salt injury from the mist created by traffic over salted roadways. A scattered browning of branches could be due to a fungal canker disease, fungal tip blight, insect damage, or mechanical injuries. Sudden death of entire Scotch or Austrian pine might indicate infection by the pinewood nematode. As with all diagnoses, it is important to look at the overall pattern of injury in the neighborhood or field as well as the pattern on the individual tree. (*Nancy Pataky*)

## Apple Scab on Crabapples

Usually the question with this fungal disease is not when it will show, but how severe it will be on susceptible crabapple trees. The disease starts as olive green spots on the leaves. These turn brown to black, elongate along veins, and have a velvety appearance. Eventually the leaves turn yellow and drop, leaving a nearly denuded crabapple tree in June. We have all seen this on Illinois landscapes.

The apple scab fungus infects under a wide range of temperatures but requires a wetting period to become established on a tree. Usually midwestern weather in the spring provides just what the scab fungus needs. One would hope that the drought we have experienced this spring would lessen the severity of scab. Keep in mind that the minimum wetting period on the leaves is only about 6 hours if temperatures stay near the optimum of 68°F. If temperatures are cooler, the wetting period has to be longer. In a normal spring, scab symptoms might start to show on the leaves anywhere from 8 to 18 days after infection.

Under cool, dry conditions, this incubation period might be longer.

The best disease management for scab, of course, is to use a resistant crabapple variety, of which there are now many widely available. If you have a variety that is susceptible to scab, and you are not able or willing to replace it now, then spraying with fungicides might be your course of action against this disease. Fungicides are used as protectants, before infection occurs. From what we have been discussing here, it should be obvious that you cannot wait until symptoms show before you make the first fungicide application. The first spray should have been applied at budbreak to protect new leaves. If you have had cool, dry weather in your area, and you wish to spray your crabapple to protect it from the scab fungus, you may have been granted a reprieve this year due to the weather. You may still see some protection from sprays. Refer to the *2000 Illinois Commercial Landscape and Turf-grass Pest Management Handbook* or the *Illinois Homeowners' Guide to Pest Management* for chemical options. For details on the scab disease, refer to *Report on Plant Disease* No. 803, available in your local Extension office or on the Web at <http://www.ag.uiuc.edu/~vista/horticul.htm>. (Nancy Pataky)

## Disease Sightings

The Plant Clinic is not yet open, but we have had reports of various diseases already this year. Chalk it

up to the less than normal spring. Look for the following diseases that may be occurring in your area now: Dothistroma needle blight of Austrian pine, Rhizosphaera needle cast of spruce, Sphaeropsis tip blight of pine, cedar-apple rust on red cedars, and black knot of plum. All these diseases were readily visible; but, in all cases, infection started last year. These are not new infections. New sporulation was just beginning. As you observe the year's new foliage, also keep an eye out for diseases. They are here! (Nancy Pataky)

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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