

Pests: Bagworm

The Pest

The aptly named Bagworm is often seen during the winter hanging *en masse* from defoliated evergreens and dormant trees and shrubs in neglected landscapes. The one to two inch long, spindle-shaped, brown bags, constructed of bits and pieces of the host plant, appear lifeless in the gray cold of winter. In fact the bags that housed males last summer are empty, but the female bags may be jammed with from 500-1000 eggs.

The Feeding Begins

Those overwintering eggs begin hatching in late spring, about the first week of June in our area, when Mock Orange are in full bloom and you see the first red fruits on Honeysuckle. The larvae immediately begin feeding and constructing their protective 'houses' out of silk and bits and pieces of their host plant. They prefer arborvitae and juniper but aren't picky or nimble enough to move much and will devour just about any tree or shrub, evergreen or deciduous, that Mama bagworm last munched on. That's why the bags on maples look different from those on arborvitae: different building material.

As the pest grows its bag expands to comfortably accommodate the worm as it awkwardly, but surprisingly quickly, searches about the plant for choice feeding areas. Everywhere the worm goes, the bag goes.

Bagworms feed on the foliage of evergreens as well as on a wide variety of deciduous trees and shrubs. They partially or completely defoliate whatever plant they're eating but deciduous trees and shrubs usually don't die. They look nasty with no leaves and all those bags hanging on them but they usually can survive. A defoliated evergreen is another story. It is ugly and dead. Next year's bagworms will have to find another food source.

Life Cycle

In late summer the worm has eaten its fill and begins the 7-10 day transition to adult, pupation, in its bag. The males emerge as a furry black moth with almost clear wings. The adult female is not so lucky. She is wingless, legless, eyeless and has no functioning mouthparts. Her only reason to exist is to mate and lay eggs. She lays her brood at the top of the bag, packing them in securely with her own body parts. Then she dies. Fortunately for the homeowner there is only one generation a year.



Ef-

Eliminating Them

Efficient control is a matter of timing. Spray is best applied while the worms are small, soon after all eggs have hatched, around June 15. Don't wait too long because later sprays are much less effective. The larger the worms, the harder they are to kill with chemicals.

We recommend a natural occurring, target specific caterpillar killer bacteria called *Bacillus thuringiensis*. The caterpillar ingests it, the good bug paralyzes its digestive system, the bagworm, or any other caterpillar, cannot feed and slowly starves to death. A fitting demise for these eating machines. The bacteria is found as Thuricide, a concentrated liquid; Dipel, a dust or powder; and under many other names, even, simply enough, Bt.

Wet or dust all the foliage thoroughly and repeat if rain falls within 48 hours. Forget about spraying late in the summer. Once feeding is complete you can't kill them. But you can substantially reduce the population by picking off and destroying the overwintering bags before egg hatch in the spring.





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Pests: Borers

If a plant is stressed from injury, drought, being planted too deep, struggling in the wrong location or various other factors, it's a target for borers. Generally Borers do not attack healthy, vigorous plants. Nature's defense is waiting for them.

Borers are larvae of beetles or moths. Depending upon the insect species the female either lays eggs in bark crevices or chews an egg holding niche open. The eggs hatch into tiny grub-like creatures that feed by tunneling through the bark and sapwood. Their meandering food forays create crooked, crisscrossing galleries that impede the flow of water and nutrients. That, naturally, results in twig or branch dieback. Borers are often blamed for killing a tree but they are only the final visible proverbial straw.

Controlling Borers

Healthy plants easily thwart borers. As the larvae tunnel into the sapwood the tunnel fills with sap, drowning the insect. What could be simpler?

To help prevent borers on newly planted trees or those you are nursing back to health, we recommend **Bayer Advanced Garden™ Tree & Shrub Insect Control**. One application of this liquid insecticide provides **12 month control** of borers, aphids, Japanese beetles, sawflies and even scale, thrips and whiteflies. And it is extremely easy to apply. Simply add the required amount (1 ounce per inch of trunk circumference) to water and slowly pour the solution evenly around the tree or shrub, as close to the trunk or main stem as possible. No spraying, no complicated mixing and no repeat applications.

How It Works

The insecticide is absorbed by the roots and moves throughout the plant, even into seasonal new growth. Depending upon the size and health of the plant, complete distribution may take one to three weeks and, as a systemic product, it is not washed off or diluted by rainfall.

Bayer Advanced Garden™ Tree & Shrub Insect Control is **not** recommended for borer control in fruit trees.

Peaches, plums, cherries, and apricots are best protected with **Fertilome Borer, Bagworm, Leafminer & Tent Caterpillar Spray** containing **Spinosad**. Up to six applications may be required in a season with a wait of 7-14 days from last application to harvest.

Obviously the best borer control is a healthy, vigorous plant. Take the time to plant your plants correctly, identify and remove any existing stresses on established plants, provide supplemental water when needed and fertilize with recommended according to package directions.

Please ask an expert at the Garden Center for recommendations for fertilizers for your trees and shrubs.



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Pests: Carpenter Ants

Nature's Cleanup Crew

Carpenter ants are not hard to miss. They're big, up to ½" long, though they seem much larger, and are jet black to reddish in color. Though they enjoy a varied diet of living and dead insects, aphid honeydew, sweets, meat, and fats, **they do not eat wood.**

Their lifestyle

Carpenter ants nest in hollow trees, logs, posts, stumps, landscaping timbers, just about any soft, moist or rotting wood. They are extremely important because they enhance the decay of wood and only qualify as a pest when they invade buildings.

They enter trees through old, open wounds and build galleries through the soft wood for their nests. Sometimes they cut into the softer parts of green wood as the colony expands but they **will not kill** a living tree. They are fastidious housekeepers, shoving the sawdust-like pieces of wood out the entrance to pile up in a cone at the trunk's base. The pile also includes their garbage: bits of soil, dead ants, parts of insects and remnants of other food.

You usually see them crawling down trees in the late afternoon as they leave the nest to forage at night, traveling as far as 100 yards away. In the early morning they return with food either intact or ingested for feeding to the stay-at-home members of the colony. Carpenter ants do not cause rotten trees but they have figured out how to make a living from them.

Living with them

Carpenter ants in trees don't warrant control. Because they are not directly harmful killing them will have no bearing on the health of the tree. Remember they are actually cleaning up existing dead wood. Baits won't work. Their diet is so diverse that only a few will be killed and the queen will continue to produce new

workers. The only way to totally eliminate them is to destroy the nest. That is difficult and unnecessary. Do not plug or seal tree cavities or treat tree wounds with dressings. Not only is it detrimental but it will not prevent decay or carpenter ant activity.

If you have any questions about your landscape plants call, visit or e-mail us. We'll be happy to help.



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Pests: Common Pests in Our Area

	Flower Garden	
Target	Specialty Pesticides	Biorationals
Japanese Beetles:	Ortho Rosepride Insect & Disease Control	Orthenex Rose Food with Systemic Insecticide Carbaryl
Aphids:	Safer Insecticidal Soap Ortho Rosepride Insect & Disease Control Orthenex Rose Food with Systemic Insecticide Mal-A-Cide Quik-Kill Kill-A-Bug II	Safer Insecticidal Soap Ortho Rosepride Insect & Disease Control Orthenex Rose Food with Systemic Insecticide Mal-A-Cide Quik-Kill Kill-A-Bug II Triple Action Plus
Target	Specialty Pesticides	Biorationals
Garden Webworms	Fertilome Bug Blaster	Natural Guard Bt (Bacillus thuringiensis) <i>or</i> Natural Guard Neem <i>or</i> Natural Guard Rotenone/Pyrethrins
Spittlebugs	Spittlebugs Fertilome Liquid Fruit Tree Spray	Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap

	Nuisance Pests	
Target	Specialty Pesticides	Biorationals
Carpenter Ants	No control recommended	No control recommended
Nuisance wasps, bees, & hornets	Fertilome Stinger	N/A
Deer	Fertilome This 1 Works <i>or</i> Ropel	A 14' high electrified security fence <i>might</i> work.
Rabbits, Chipmunks, Mice, & Voles	Ropel	Havahart Live Animal Cage Traps
Moles	N/A	Traps

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Target	Specialty Pesticides	Biorationals
Aphids	Fertilome Liquid Sevin <i>or</i> Fertilome Bug Blaster <i>or</i> Fertilome Ornamental & Evergreen Spray <i>or</i> Fertilome Systemic Insecticide Granules <i>or</i> Hi-Yield Dursban <i>or</i> Fertilome Triple-Action <i>or</i> Fertilome Rose Food containing Systemic Insecticide <i>or</i> Fertilome Azalea Evergreen Food containing Systemic Insect Control <i>or</i> Fertilome Liquid Fruit Tree Spray	Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard Rotenone/Pyrethrins <i>or</i> Natural Guard Neem <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap
Whiteflies	Fertilome Systemic Insecticide Granules <i>or</i> Fertilome Bug Blaster <i>or</i> Fertilome Ornamental & Evergreen Spray <i>or</i> Hi-Yield Dursban <i>or</i> Fertilome Rose Food containing Systemic Insecticide <i>or</i> Fertilome Azalea Evergreen Food containing Systemic Insect Control <i>or</i> Fertilome Liquid Fruit Tree Spray	Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard Neem <i>or</i> Natural Guard Rotenone/Pyrethrins <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap
Garden Webworms	Fertilome Bug Blaster	Natural Guard Bt (<i>Bacillus thuringiensis</i>) <i>or</i> Natural Guard Neem <i>or</i> Natural Guard Rotenone/Pyrethrins
Tomato Hornworms, Pickleworms, Cabbageworms & Cabbage Loopers	Fertilome Liquid Sevin	Natural Guard Bt (<i>Bacillus thuringiensis</i>) <i>or</i> Natural Guard Neem <i>or</i> Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap
Codling Moth	Fertilome Liquid Sevin <i>or</i> Fertilome Liquid Fruit Tree Spray	N/A
Earwigs	Fertilome Eliminate Snail, Slug & Bug Bait <i>or</i> Hi-Yield Dursban	Natural Guard Diatomaceous Earth <i>or</i> Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap
Slugs & Snails	Fertilome Eliminate <i>or</i> Fertilome Eliminate Snail, Slug & Bug Bait	Natural Guard Diatomaceous Earth
Pillbugs & Sowbugs	Fertilome Eliminate Snail, Slug & Bug Bait	Natural Guard Diatomaceous Earth
Cutworms	Fertilome Eliminate Snail, Slug & Bug Bait <i>or</i> Fertilome Bug Blaster <i>or</i> Hi-Yield Dursban	N/A
Mexican Bean Beetle	Fertilome Triple-Action <i>or</i> Fertilome Bug Blaster	Natural Guard Rotenone/Pyrethrins <i>or</i> Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap <i>or</i> Natural Guard Neem
Asparagus Beetles	N/A	Natural Guard Rotenone/Pyrethrins <i>or</i> Natural Guard Insecticidal Soap Concentrate <i>or</i> Natural Guard RTU Fruit & Vegetable Insecticidal Soap <i>or</i> Natural Guard RTU Rose & Flower Insecticidal Soap



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Pests: Emerald Ash Borer

From an 8/28/08 posting on the GardenStuff Blog at HoerrNursery.com

With all the news regarding the Emerald Ash Borer, we are getting many inquiries. Ranging from beetle identification to panic about what to do, we get calls and visits daily regarding this exotic pest. I'll try to summarize the highlights about this insect.

The Emerald Ash Borer is considered exotic, because it is not native. Since it isn't native, it doesn't currently have any natural controls to keep it in check. The frightening aspect of the pest is that it can attack healthy trees. Most other borers attack only stressed trees. The good news is that it doesn't appear to be a problem in the Peoria area yet.

The Illinois Department of Agriculture has taken aggressive steps to determine the actual status of this pest in our state. 5,000 traps were placed throughout Illinois to determine where the borer is active. The traps are being taken down now, but it will take a couple of months to analyze the large volume of traps.

The insect found in Bloomington appears to be isolated at the moment. They were not able to find an infestation in the area around where the beetle was located. They believe it was brought in from someone who transported the pest in firewood. However, there was an infestation found in Chenoa, IL that appears to have been there for awhile.

What does this mean to homeowners?

1. Don't bring firewood in from other areas. The borer cannot travel far on its own, so hitching a ride on a load of firewood is the most effective way to transport exotic wood boring insects.
2. The adult EAB is a mall, slender, green beetle that can fit on a penny.
3. The larval stage feeds under the bark of the tree; you won't see it unless you cut into the tree.
4. The borer is very slow moving unless it is aided by humans.
5. You don't need to treat your ash yet. The University of Illinois insists there is no need to treat until the insect is verified within 15 miles of your home. Some companies are advertising that you must treat your ash trees now, we do not consider this prudent. First of all, as we mentioned, the EAB is not yet present in Peoria, so chemical treatment is premature.
6. Stressed and weakened trees will most likely be attacked first. Keep your tree healthy for the best control.
7. If the insect becomes numerous, it is then that healthy trees become infected.
8. Once confirmed in your area, the U of I believes you will have adequate time to inoculate your ash tree(s) against the Emerald Ash Borer.
9. Because it is slow to spread, you will most

- you choose to, before it might attack your tree.
10. Emerald Ash Borer is not known to attack any other species but ash.
11. When and if you decide on a chemical treatment for your ash trees, you can treat the tree(s) yourself with imidacloprid. It is easy for a homeowner to apply imidacloprid. It is available through several brands such as Fertilome and Bayer. This gives 90% control, which the U of I considers to be excellent control measures.
12. If you are applying the imidacloprid, it requires annual applications. It takes 2 years before older trees are fully inoculated.
13. There is some concern about the affect of imidacloprid on bees. While it is not substantiated, consider whether to use an alternative control when available. Since bees do not pollinate ash, imidacloprid for ash should not be a threat to bees.
14. A tree service can apply Tree-Age. This control can give up to 2 years of control. A homeowner cannot apply this.
15. Ash trees can be subject to many problems. If you have problems on your ash, and the EAB is not in your area, there is likely to be another cause.
16. EAB cannot be detected until it has been in the tree for a few years.
17. Early detection requires destructive measures to the tree. Such methods are reserved for areas where EAB is confirmed.
18. Per the Illinois Department of Agriculture, symptoms of EAB-infestation include decline, crown dye-back, D-shaped exit holes, excess woodpecker damage, basal sprouting, and larval galleries.

If, after consultation with a local expert, an EAB infestation is suspected, you should contact the Illinois Department of Agriculture at 1-800-641-3934 or the EAB USDA hotline at 1-800-322-4512.

Eventually, a homeowner may want to consider whether his or her tree is worth the annual cost to treat against EAB. This is a choice the homeowner must make. While we at Hoerr Nursery are no longer selling Ash trees, it is too early to give up on your tree. Perhaps treatment options will improve in the future. Time will tell what action you need to take in your area. For now, keep your eyes and ears open. When conditions or treatment options change significantly, we will keep you updated!

Related Links:

- <http://www.emeraldashborer.info/>
- <http://www.emeraldashborer.info/treeage.cfm>
- <http://www.agr.state.il.us/eab/>



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Pests: Japanese Beetles

Adult Japanese Beetles seem to be everywhere from late June through July, munching away on your much-loved garden plants. Take heart in the fact that they are typically around for up to six weeks and won't likely do enough damage to kill a plant.

Prevention and control are key in keeping your roses from becoming Beetle food. But where do they come from, and what are they looking for when they arrive?

Life-Cycle

- 1- Eggs. White, oval shaped and about 1/16 of an inch long.
- 2- Larvae. Typically white grubs that have a V-shaped series of bristles.
- 3. Pupae. First a cream color, turning to a light reddish-brown with age.
- 4. Adult. Brilliant metallic green color, oval in shape. The wing-covers are coppery brown.

The larvae usually mature in June, pupate, and emerge as adults any time between the last week of June thru the month of July. During warm weather, the adults crawl onto lower-growing plants to get warm before taking flight. They will immediately seek out sustainable food and begin feeding as soon as possible.

When the adult Japanese Beetle emerges from the soil, it is hungry, and your garden may provide the plants it is looking for. They will eat the leaf tissue between the veins, but will leave the veins behind. The attacked leaves look like lace, and will soon wither and die. Adults often attack flower buds and fruit.

These plants and trees are in the Japanese Beetle's preferred diet:

Japanese maple, Norway maple, Birch, Pin Oak, Horse Chestnut, Rose of Sharon, Sycamore, Ornamental Apple, Plum, Cherry, Rose, Mountain Ash, Willows, Lindens, Elms, Virginia Creeper, Perennial Hibiscus.

So, what to do?

There are several options for controlling the adult form of the Japanese Beetle.

Japanese Beetles have a hearty appetite, but won't necessarily eat "everything" in your landscape. Habitat modification is a

form of cultural control, whereby you plant things that the beetles don't like to eat.

They typically tend to avoid the following plants:

Red maple, Silver maple, Holly, Boxwood, Euonymus, Flowering Dogwood, Cedar, Juniper, Arborvitae, Red Oak, Tulip Tree, Magnolias, Red Mulberry, Forsythia, Privet, Lilac, Spruces, Hydrangeas and Yews.

It is also helpful to avoid additional irrigation during the egg and young grub development stages, which typically take place in Mid July-mid August. The eggs and young grubs thrive in wet soil conditions.

Mechanical Control (or, trapping) is another method. The traps use a mixture of reproduction pheromones and aggregation pheromones to attract adult Japanese Beetles. This method does not produce a significant reduction in the Japanese Beetle grub population, but is effective in controlling adults.

Depending on the amount of affected plants and their size, the least harmful method to your plants is to knock the Japanese Beetles off into a dish of soapy water. Dishwashing soap is highly effective, but should not be sprayed on a tree.

A third option is Chemical Control (Insecticides). There are a number of insecticides that are effective. But keep in mind that they are also effective in greatly reducing or eliminating populations of beneficial insects such as bees and ladybug beetles.

Carbaryl (sold as the product 'Sevin') is highly effective, as are any of the products containing Pyrethrins, Pyrethroids, and Permethins.

Imidacloprid also provides good results and can be found in Ferti-Lome Tree and Shrub Systemic Drench. This should be applied as a drench in April.



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Pests: Mole Control

The Antagonists

In the near corner it's you: the gardener. You reign unchallenged at the top of the food chain. You are armed with a large, intuitive brain, two opposable thumbs and the innate desire to protect your property from invaders.

In the far corner it's a mole. He (or she) is perfectly adapted to life underground. They are not cunning, or vindictive, or determined to drive you crazy. What they are is far worse: they're hungry.

Your Strategy

Your strategy for winning this battle is simple: Eradicate the moles. If you do not kill your opponent you won't win.

First the Bad News

Here's a paradox for you: The healthier, more lush and vibrant a landscape is the more inviting it is to a mole. Moles eat earthworms. Sure they eat grubs, ants, and a few seeds and small quantities of vegetable matter too, but earthworms are their preferred diet. The healthier a soil, the greater the earthworm population.

Moles feed all year long, day and night, weekends and holidays. Surface runs are the ridges you see in the soil and lawn. They may be used daily, intermittently or only once and abandoned. A mole can tunnel at the rate of 100 feet per day.

As moles tunnel, the worms or insects fall on the runway floor and are eaten by the mole upon the encounter. Deep runs, 3 to 12 inches under the surface, are used for main runways for daily travel to the surface runs.

Now Some Good News

Moles are extremely territorial. Chances are that all that damage you're seeing in your lawn is being caused by one mole in its pursuit of food.

Just because they are loners doesn't mean that if you kill one your problems

are over. Moles will also take advantage of existing but empty runs. Kill the original builder and another, less creative mole may move in.

Trapping is the most reliable and effective means of control. Spring-triggered traps are available with the harpoon style (*Victor Mole Trap*) being the easiest and most readily available. To be successful, in spring or fall set the trap carefully over an active run, and load up with patience and persistence. Moles have the uncanny capability of detecting, avoiding and springing these traps, especially when improperly set.

To locate an active runway, poke finger holes into the runway at several locations, or depress a portion of a tunnel to half its original dimension. If active, the mole will repair it in a day or two. Deep runways, will be the ones with periodic volcano-like mounds; these main runs are also likely to be located along artificial borders, such as fence row, hedgerows, and concrete paths and woody perimeters.

Use two or three traps per yard, or three to five per acre. Setting traps over mounds will not achieve desirable results.

After setting the trap, cover with a box or plastic pail to prevent animals and children from tampering with it. Check the trap once or twice a day, carefully avoiding stepping on the runs. If no mole is trapped in 4 to 5 days move it to another location. As you become experienced, you will become successful.

Once you catch one mole, expect to catch its mate too. If conditions are ideal, there may be more than one pair, though less likely. However, once a pair moves out, another pair can quickly move in. In addition, moles breed in February and March; if you can trap the pregnant female you save yourself hassles later. The young are born in litters of 3 to 5, six

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parents for about a month before leaving to create more runways search of a mate and a new home.

Additional Options for Control

Controlling The Food Source

Chemical control of the food source is not the sole answer. Earthworms should not be destroyed as they play a vital role in keeping the soil productive. White grubs can be easily controlled, though these are not a favorite food source; therefore grub control is no guarantee for mole control. Controlling the food source is only temporary; long term food source control is expensive and detrimental in other ways.

Pets

Pets may provide control. Unfortunately dogs cause more damage in their pursuit. Cats, if interested in mole control, are much more adept and successful than dogs.

Mole Watch

Setting up a "mole watch" in the more active times of spring or fall may yield more success. Locate active runways as previously suggested then insert a thin wire marker flag over the compressed area. When movement occurs quickly insert a shovel or spade directly behind the mole then impale it with a pitchfork or stomp hard directly on top of the creature. For those desiring more humane methods, scoop out the mole with a shovel, put it in a bucket, and release it miles away from any residences in a wooded field.

Mole Barriers

Mole barriers are practical for small gardens and lawns. Bury sheet metal or galvanized hardware cloth to a 2 foot depth, bend 3 inches of the base outward so the mole can't dig under it. Leave the barrier 6 inches above ground.

Gimmicks

Ultrasound and electronic devices are reportedly useless, as are many commercial and home remedies. Poisons and fumigants give only temporary, if any, control. Chewing gum, flooding of tunnels, lye, car exhaust,

windmills serve more to relieve the frustrations of the homeowner.

For more detailed information on moles and their control, obtain a copy of Dr. Mole. Written by a local author, the booklet gives detailed instructions to help you avoid the frustrations of learning to control moles by trial and error.

When one accepts that the battle will be ongoing, maintains patience and self-control, employs traps at the proper time and setting them as directed, in time, control will provide satisfaction. **Maybe.**





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Pests: Zimmerman Pine Moth

"What's causing the holes in my pine trees?" is a common question at the Garden Shop. The answer depends upon where the holes are on the tree.

It could be a bird

If they are located on the trunk between branch whorls, Sapsuckers are probably the culprit. These woodpecker-like birds first drill evenly spaced horizontal holes around the trunk. When the holes result in strong sap flow they then make vertical holes to take advantage of the flow. They, and other birds, drink the sap and feed off any hapless insects caught in the sap. The damage to the tree is minimal and there isn't anything you could do about it anyway.

Or it could be a real pest

But if the holes are where the branches meet the trunk and there is also a hardened, crusty, whitish substance, it's an entirely different matter: the Zimmerman pine moth.

The larvae of this moth is the most serious insect pest of Austrian and Scotch pine in our area. Damage is most obvious on trees 10 to 15 years old or those stressed by drought or poor growing conditions.

Zimmerman pine moth over-winters in the larval stage and begins feeding in the spring, first on the bark, later tunneling into the cambium area of new growth on the branches.

Infested terminals become "fish-hooked," turn yellowish-green, then brown.

Toward the end of June, the larvae leave the new growth and tunnel in the whorl area where they girdle the branches and leaders, producing a whitish pitch mass mixed with sawdust.

The larvae pupate, emerge as adults in late summer, mate and deposit eggs in bark crevices, near wounds or on terminal buds. The eggs hatch in 10 days and the new generation immediately spin hibernating cocoons.

Too many years of repeated attacks can eventually kill your pine.

Timing is critical

Only newly hatched or immature larvae are vulnerable to chemical control. We recommend Ferti-lome Ornamental & Evergreen Spray. Only one application a year is needed and you have two windows of opportunity.

In the spring

Spray the entire tree when the larvae are moving from their over-wintering positions. This migration occurs when common Saucer Magnolias are in the pink bud or early bloom stage. If there are no Magnolias in your neighborhood look around for Soft or Silver Maples and spray when the new leaves are 1-2" long. Another indicator plant is Serviceberry, also known as Shadblow and Amelanchier. It will be in full bloom when it's time to spray.

In the late summer

Newly hatched larvae are vulnerable when Pee Gee Hydrangea, *Hydrangea paniculata* 'Grandiflora', is in pink bloom. Other indicator plants to watch for are two common roadside weeds: Goldenrod, in bloom and Queen Anne's Lace, when it's just about finished flowering and you can see some brown seed heads.





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Pests: White Grubs in Lawns

The Insect

It's late summer. You begin to notice brown spots in your lawn even though you've been diligent about watering. When you kneel down to study the matter you grasp the sod and it comes up like a piece of carpet. That's when you see them, beneath that section of lawn, grubs: ¼ to 1 inch long, white C-shaped creatures with a brown head, six small legs and a semi-translucent body. They've been munching on the roots of your grass, growing fat on your lawn. Not only do they kill the grass when their population is too high but starlings, raccoons, skunks and moles wreck your lawn as they hunt and devour these grubs.

Their Lifecycle

In late June the adults of the white grub emerge as lumbering, stupid, tan beetles commonly called June Bugs. These Baby Hueys of the insect world do not feed; their only purpose is to mate, lay eggs, crash into yard lights and die like mindless Kamikazes. The eggs are laid in moist soil in July and hatch in 2 to 3 weeks. The ravenous grubs begin feeding immediately. A few grubs here and there are no big deal. But when the grub population in non-irrigated lawns reaches 10 per square foot, and in irrigated turf 15 to 20 per square foot, severe damage can occur. And you may not even notice it until mid to late August.

In winter grubs burrow below the frost line where they hibernate until spring. Then in April the grubs wake from their stupor and begin crawling back to the root zone of your lawn where they feed sporadically until late May when pupation occurs. Don't waste time or money attempting control in the spring. They don't feed enough to justify it.

Controlling White Grubs

Beginning in early May and no later than the middle of August, apply Grubex, a season long insecticide to the entire lawn. It's available in a granular form and the earlier in the season it goes down the better. (Granular is the quickest and easiest. Simply apply it with a fertilizer spreader.) It has to be watered in with 1/3 to 1/2 inch of water to push the chemical 1 to 2 inches deep to reach the grub zone.

If grubs are present, in 10 to 18 days the grubs will be sick and quit feeding. Their slow, lingering death will take a little longer. If Grubex is applied in May, it will kill the grubs before they can become large enough to damage turf. Grubs are easy to control. Like every other aspect of turfgrass culture, it's a matter of doing the right thing at the right time.

Tip 1: Grub Attack and other milky spore products you see advertised in magazines do not work on our annual white grubs only on Japanese beetle larvae. The type of grubs milky spore is supposed to control are not a major concern in our area.

Tip 2: Do not apply Grubex to waterlogged areas. The product may not work effectively under these conditions.



For maximizing the lush beauty of your lawn and minimizing the hassle for you, please ask about our Lawn Maintenance program. We'd be happy to give you a free estimate for your lawn.

Pests: Poison Ivy, Sumac and Oak



Poison ivy



Poison sumac



Poison oak

Nothing can ruin a lovely day of gardening like getting tangled up in a poisonous plant. Follow the tips below to learn how to identify and remove these pesky plants.

Identifying Poison Ivy, Sumac and Oak

Poison Ivy usually has three broad, spoon-shaped leaves or leaflets ("Leaves of three? Let it be!"). It may grow as a climbing vine or a low, spreading vine that sprawls through grass. Poison ivy can also grow as a shrub. Know what "leaves of three" look like. Poison ivy's compound leaf is made of two pointed leaves of the same size directly across from each other. The middle leaf has a slightly longer stalk and cone at the end of the stem.

Poison ivy is most often green, but can also be red in the spring, and yellow or orange in the fall. The edges of a poison ivy leaf can either be smooth, or have ridges.

Poison Sumac has 7 to 13 leaflets per leaf stem. The leaves have smooth edges and pointed tips. Poison sumac grows as a shrub or small tree. It is found in wooded, swampy areas, such as Florida and parts of other southeastern states, and in wet, wooded areas in the northern United States. Poison sumac has the same toxic oil as poison ivy, but it is far more potent. According to some botanists, poison sumac is the most toxic plant species in the United States.

Poison Oak has leaves that look like oak leaves, usually with three leaflets per group. It grows as a vine or a shrub. Poison oak is more common in the western United States, but it is also found in the eastern United States and, rarely, in the Midwest.

The potent oil in these poison plants is called urushiol (you-ROO-she-all), and it can remain active on any surface for up to five years. Wash your clothing immediately after coming in contact with poison ivy, sumac, or oak.

The best way to avoid being injured by one of these poisonous plants is to remove them from your property. Follow these steps for safe removal:

- 1. Dress for battle.** All parts of the plant contain a toxic resin, so when removing the poison plant, always wear rubber gloves, a long-sleeved shirt, long pants tucked into socks and boots or shoes that can be hosed off later.
- 2. Time your attack.** A dry day with no wind is the safest time for removing poison ivy, especially if you will be using an herbicide spray.
- 3. Cut plants to ground level.** With shears or pruners, remove all the stems you can see and dispose of them in plastic garbage bags. Don't tear or rip the vines as this may disperse the resin into the air.
- 4. Dig out roots if you can.** If there are only a few plants to remove, use the shovel to remove the roots. Bag these also for removal.
- 5. Destroy what's left.** If you have many plants spread over a large area, cut as much of the top growth as you can, and then spray the remaining roots, stems and stubs with a chemical weed killer containing glyphosate (such as Roundup) or triclopyr (such as Ortho's Brush-B-Gon). For thick, shrubby stems, spray directly onto the cuts you've made. Remember to use extreme care when handling these herbicides, as the spray will kill all other garden plants it touches. Always follow the directions on the label for safest use.
- 6. Dispose of properly.** Do not compost, shred or burn poison ivy, sumac, or oak. Inhaling the smoke can cause serious injury to your lungs. Put the plant parts in heavy plastic bags, tie the bags securely and put them in the trash. If you used rubber gloves, discard these as well.
- 7. Disinfect your clothes and your tools.** Tools used for removing poison ivy, sumac, or oak must be disinfected. Rinse your pruners and shovel, including the handles, with rubbing alcohol. Let them dry and then oil the parts to prevent rust. Likewise, the clothes you have on while removing the plants must be cleaned. Wash your clothing separately and clean your boots or shoes with cold, soapy water and a hose.

