

Date: For August 08, 2011
Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator

SOOTY MOLD ON PLANTS IS A SURE SIGN OF INSECT

I often get calls in the Cooperative Extension office from homeowners who ask, "What is this black stuff on the leaves of my crape myrtle and gardenia?" My answer is sooty mold.

Sooty mold is a secondary problem that is caused by an infestation of aphids, whiteflies or scale insects. It frequently develops on the foliage of many ornamental plants in the summer. It covers the top surface of leaves which reduces the photosynthetic process.

Sooty mold often goes unnoticed until a large number of leaves are covered with a black unsightly substance. It is not really a disease, but a black fungal coating on the leaves.

Insects can't be far away

Sooty mold indicates an insect problem on the plant. The insects feeding on the plant excrete a sugary substance called honeydew. In the summer months when aphid or whitefly populations are high, plants may look like vegetable oil has been poured on them. This shiny substance is honeydew.

Summer rains help rinse this substance away and may even delay the onset of the sooty mold. However, if there is insufficient rain to rinse off the honeydew, it will stick to the leaves. Sooty mold fungus does not feed on plant tissue, but on the secretions from the insects that are feeding on the plant.

Aphids, scales, whiteflies and other sucking insects primarily cause sooty mold to form on plants like fig, crape myrtle, azaleas, tulip tree, oleander, and other ornamentals. The feeding of a large number of these insects and the coating of the sooty mold may lead to reduced vigor in the plant. These sucking pests take in large amounts of sap. Much of the water and sugars in the sap pass through the insect and onto the leaf.

Remove insects to control sooty mold

To control sooty mold, control the aphids, scales or other pests that are creating the honeydew. Aphids can often be washed off by a strong spray of water from a water hose. This may also remove some of the honeydew and sooty mold. Remaining sooty mold will eventually dry up and flake off the leaves.

To control heavy infestations of aphids, scales and mealy bugs, on ornamental plants, use horticultural oil initially; it is less toxic than acephate, imidacloprid, malathion or other synthetic insecticides. Read and follow the pesticide label carefully.

Controlling insects will in turn prevent the eyesore sooty black mold from forming on plants in your landscape. Plan now to take action to prevent this issue from being a problem later in the season.

To Mulch – Organic or Inorganic?

Mulch choices can say as much about the gardener as they do about the mulch itself. A stony mulch of white marble tends to look formal, "imported," expensive and hot. A mulch of lawn clippings suggests the gardener values easy access, recycling, organic approaches and saving money. The most basic division among mulches is that some are inorganic and some are organic. But some also are easier to find or apply. Some are semi-permanent, while others aren't. As a group, garden and planting bed mulches are very diverse, with widely varying pros and cons on everything from controlling soil erosion to attracting termites.

Weighing the Inorganics

The inorganic options include some materials gardeners may not think of as mulches - e.g., black plastic sheeting and fiber mats. Even so, the more popular choices tend to look like or be rocks: gravel, pea gravel, pebbles, river rock, lava rock, and chipped or shredded ("crumbed") rubber tires. Depending on the site, these materials can look natural, unusual, exotic or near-alien. What determines an option's visual "tone" is often how it blends, complements or contrasts with the area's native rocks and soil.

Because they last longer, inorganic mulches tend to cost more than the average organic product. But, the rock-like types also trap empty spaces as they pile up in a layer - spaces that will gradually fill up with mud from below and with debris and seeds from above. At the very least, you have to put porous weed-barrier fabric under them, to keep the rocks from slowly sinking into the ground. If they get kicked or cat-scratched out of place, the rock types also can be a mowing problem. And, if you ever change your mind, the fabric and inorganic mulch will be hard work to remove.

As do all mulches, the rock types can provide moist cover for insects. But, if layered deeply enough, they help control weeds, the horticulturist said. They also can play mulch's traditional role of evening out nature's fluctuations in soil moisture and temperature - but perhaps not in ways homeowners expect. For example, rocks and rubber can often lead to extra watering. Their heat-absorbing and heat-reflecting properties speed up evaporation. And, the heat itself can impact the health and sometimes the very survival of plant roots. Next to a house, rocks can actually affect home cooling costs. Shiny and/or dark materials tend to be the worst.

Two particular types of inorganic mulch require extra investigation and thought before buying:

* University research has found gravel can have a high pH level that can lead to chlorosis or iron deficiency in susceptible woody plants.

* The rubber mulch that became popular on school playgrounds also earned kudos for recycling troublesome trash - used tires. But, teachers soon learned that manufacturers often can't remove all of the bits of steel from radial tires. They learned that when ignited by an open flame, rubber burns hotter than wood mulch, and the fire is harder to put out. They discovered sun-heated rubber smells and can trigger allergy-type reactions.

Assessing the Organics

Any organic mulch is better for plants, soil and home air conditioning costs. Used correctly, the organics can do everything a good mulch is supposed to do. Because they're organic, though, they'll also gradually decompose, enriching the soil and improving its structure. In general, the smaller and finer the pieces, the more often gardeners have to replenish organics ... and, the more easily the material can blow or wash out of place. Peat moss, for example, has such small, fine particles that it works better as a soil amendment than as a mulch. Cottonseed hulls, crushed leaves and sawdust can be hard to keep in place, although the latter two can compact, instead.

"You have to be sure organic mulches aren't contaminated by weed seeds, which can be the case with some straws and hays that haven't aged for a several years. Composts can have that problem, too, if they aren't fully 'cooked'. These are materials vegetable gardeners want to plow in at the end of the season. Many decorative mulches are a byproduct of trees. They may be shredded or chipped. Those with big, coarse pieces tend to last longest, as do those from such pest-resistant woods as cypress and cedar.

If you use a mulch that may contain non-resistant woods, you shouldn't pile it deeply or plow it in later. You shouldn't even think of placing in contact with your house. Herbicide carryover can be a lawn-clippings mulch problem. With most types of weed killers, clippings from the fourth mowing after treatment will be safe to use. If, however, the lawn was treated with a product containing quinclorac (Drive), homeowners should just let the clippings drop back into the grass. The great thing about lawn clippings is they're free. But you need to let them dry out for several days before using them as mulch. Wet clippings can form a mold so hard that water can't pass through. Shredded newspapers are another organic that's basically free. And, leftover sections of newspaper, laid flat on the ground, can function for a while as a weed barrier "fabric."

To be safe, stick to newspapers without colored ink, especially around edibles. To make the freebees look more expensive, remember that you can always spread a thin layer of a better looking mulch product over your newspaper sections or grass clippings mulch.

Date: For August 22, 2011
Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator
From the Pender Gardener

Charlotte Glen, Horticulture Agent – Pender County Cooperative Extension

Good Bug, Bad Bug

There are all kinds of insects in this world. Some of them eat plants, others feed on nectar, a few feed on blood, and then there are the bugs that eat each other. Officially known as beneficial insects, these good bugs help keep plant damaging insects under control naturally. They are definitely something you want in your garden. Luckily, creating a yard that beneficial insects will want to call home is simple and inexpensive.

Meet the Good Guys

There are dozens of different beneficial insects roaming the yards and gardens of eastern North Carolina. Some are predators who hunt down bad bugs and devour them on the spot. This group includes insects like the well known ladybug, bee look-alikes known as syrphid flies, delicate appearing lacewings, the aptly named assassin bug, and even wasps. Some of these good insects feed most voraciously on pests when they are young and less easily recognized so it is important to be familiar with what these good guys look like as juveniles as well as adults to avoid accidentally killing them. While not insects, other good guys you will find in your garden that help with pest control include spiders, lizards, frogs, toads, and birds. Many of the things you do to attract beneficial insects will also attract these garden helpers.

Another group of beneficial insects have a more stealthy way of attacking bad bugs. They lay their eggs inside the bad guys and devour them from within. These are the parasites. Many of them are extremely small and rarely seen, though you may run across their handiwork. One the most frequently encountered is the tiny, non-stinging braconid wasp, whose white, cigar shaped cocoons are sometimes found attached to caterpillars. If you find a caterpillar covered with these cocoons, leave it in place to allow the wasps to hatch and seek new prey.

Attracting Beneficials

One of the most important things you can do to attract beneficial insects to your yard is to grow a variety of different plants, including trees and shrubs, and especially flowers. Many beneficial insects feed on nectar and pollen in addition to bad insects, so include several types of flowers in your yard and try to have something in bloom from spring through fall. Plants that have many small flowers clustered together or daisy type blossoms are especially attractive to beneficials. These include annuals like marigolds, cosmos, sunflowers, gomphrena, and zinnias, all which are easy to grow from seed and can be planted now.

The flowers of many herbs make great beneficial bait. If you have basil, parsley, cilantro, or dill growing in your garden allow them to go to flower to lure beneficials to your yard. The blossoms of perennial herbs are also highly attractive to beneficials. These include chives, thyme, oregano, and especially fennel. Perennials that beneficials find irresistible include purple coneflower, sedum, yarrow, joe pye weed, goldenrod, asters, butterflyweed, ironweed, agastache, rudbeckia, and coreopsis. Plant groups of these flowers in your landscape and vegetable garden to lure beneficials into your yard.

Pesticides and Beneficials

Beneficial insects are easily killed by insecticides and usually take longer to recover from being sprayed than pest insects. Avoid spraying pests when they first appear to give beneficials time to move in and do their job. When you do need to spray use an organic product like neem, spinosad, B.t., horticultural oil, or insecticidal soap since these products break down quickly and are less damaging to beneficials. Keep in mind that in order to maintain a healthy population of beneficial insects there will always need to be a low level of pest species present for them to feed upon and that controlling pests naturally aims to maintain a balance of good and bad species, rather than eradication of pests.

Learn More!

Learn more about cultivating a beneficial friendly yard and other methods of natural pest control by contacting Brunswick County Cooperative Extension Services, [\(910\) 253-2610](tel:9102532610).

Date: For August 29, 2011
Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator

LANDSCAPING for BIRDS

Birds entertain and inspire me, and keep bugs under control. So I return the favor by giving them safe haven.

You don't need acres of woods or wetlands to create a bird habitat — just some food, water, nesting places and shelter from the elements and predators.

Most birds have a preferred diet. A number eat insects, worms and other "meat"; some restrict their diet to seeds and fruits. Many enjoy flower and leaf buds, nuts and vegetable seedlings, while others exist only on nectar.

Diets change with seasonal activities, too. When raising babies, vegetarians hunt worms and insects for the extra protein. Migrating birds look for high-fat seeds and fruits for energy. Overwintering residents eat a lot more food to keep warm.

Birds also have preferred eating locations. Some grub on the ground, others snack in the treetops. Fast-food fans catch their meals on the fly, while private diners favor the centers of shrubs or trees.

Bright red fruits are favorites. Winterberry, holly, crabapple and mountain ash are highly visible. Viburnum's blue and dogwood's red or white berries, which hang from red stems, are sure to attract. In the fall, sumac's changing color announces that its fruit is ripe. Nectar drinkers like hummingbirds use tube-shaped red flowers such as weigela and honeysuckle.

Almost every kind of seed is on the menu, too. Coreopsis, goldenrod, purple coneflower and Eulalia grass are great producers. Just remember that deadheading means no seeds, so save some spent flowers from the pruners. And while male plants provide good shelter and nesting spots, they won't make food. Check with the nursery to be sure you're getting female plants.

Swallows, robins and other protein feeders need a good supply of insects — another reason to avoid pesticides. Naturally, the same plants that attract insects, such as butterfly bush, milkweed, violets and clover, are great pantries for meat-eaters. Water gardens develop large insect populations, and the cool, dark, moist soil under a thick layer of organic mulch is perfect for millipedes, worms and many other delicious snacks.

Birds don't sweat, they pant, and lose huge amounts of moisture in the heat of summer and the dry air of winter. Year-round water is vital. Birds are attracted to the sound of running water, like a garden waterfall or even a slowly dripping faucet, but they won't wade into deep water. Keep a shallow depth — say, 2 to 3 inches — in birdbaths. I've made a small pile of gravel in a corner of my water garden so their feet can touch bottom. Use an electric de-icer to open a patch of water in the winter.

Birds nest on the ground, in tree cavities, in treetops and the centers of bushes. Some urban birds even prefer man-made locations like a hanging basket on the eaves under a porch. When you clean up in spring and fall, tuck some twigs, leaves, string and other nesting materials in a convenient corner of your garden for them.

Birdhouses aren't necessary, but if you do provide them, be sure they fit the birds' requirements. Blue martins, for example, prefer large, open fields. Houses set in the trees will attract more sparrows than martins.

Before you start a birdscape, inventory the species that live in your area. Then ask the local Audubon Society what they need and see what your gardens, and gardens nearby, already provide. You'll attract and support your local bird populations in style, and they'll reward you with a year-round spectacle.

Date: For September 5, 2011

Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator

Soil Health

Don't worry about feeding your vegetable plants; take care of your garden soil and the vegetables will grow beautifully! Focus your efforts on making your garden soil loose, rich, consistently moist but not soggy, and slightly acidic. Let's look at some common soil problems and the remedies to fix them.

If you have a tendency to step into your garden to pull weeds or harvest your veggies you will have **compacted soil**. High clay content or muddy soil can also cause this problem. Plants' roots require oxygen, which they pull from air pockets in the soil, when the air is squeezed out by soil compaction your plants will suffer. A quick fix is to mix in compost or other organic matter (shredded leaves) to loosen up the soil and attract earth worms. The earth worms create air pockets as they tunnel through the soil and their excretion (casts) further enriches the soil. For a long term solution to compacted soil plant a cover crop with a vigorous root system to break up the soil. Clod busting annual rye grass is especially effective for this purpose. Sow the seeds in fall and then about three weeks before spring planting time chop it down and turn the grass and its roots into the soil, where they will break down into organic matter.

Soggy soil will lead to many plant problems including diseases and root rot. Soil that drains too quickly is not able to retain nutrients and dries out before the plants' roots can take in the moisture they need to survive. Both types of **drainage difficulties** are solved the same way; add organic matter which will hold moisture and then disperse it gradually so the plants can make use of it. Mix in two to three inches of compost or leaf mold (aged, decomposed leaves) before planting. When the growing season is over, plant soybeans in wet soil or hairy vetch in dry, sandy soil. These cover crops add organic matter to the soil and improve soil structure and drainage when you cut them down and incorporate them into the soil prior to planting your vegetable garden.

A soil test will tell you what nutrients and or minerals are missing from the soil as well as the **acidity or alkalinity** or pH of the soil. Most vegetables grow best in slightly acidic soil with a pH of 6.5 to 6.8. If the pH of your garden soil is too low spread ground limestone on the soil a few months before planting. Five pounds of lime per 100 square feet will raise the pH level of the soil by one unit. Sandy soils often need less limestone while clay soils need more. Wood ash also raises pH; apply judiciously and avoid inhaling the dust. If you have a wood burning fireplace the ashes are readily available! To lower pH apply elemental sulfur in powder or pellet form, following lab recommendations. In general one to two pounds of sulfur per 100 square feet lowers the pH one unit. Acid loving plants such as blueberry shrubs may require a lower pH. It takes about six months for pH adjustments to take place, and they usually last for two to three years. Continually adding compost to your garden soil helps to avoid both extremes.

Most of the microbes and fungi that exist in your soil are beneficial; but there are some bad guys that can wreak havoc with your plants. If you have **root-knot nematodes** in your soil you can diminish their numbers with mustard according to researchers in Washington State. They added crushed seed meal from brown mustard plants to nematode infested soil and recorded a 70 to 80 percent decline in nematode numbers. Plant a mixed mustard cover crop and see similar benefits in your garden soil. By rotating the placement of your crops each season and fastidiously cleaning up garden debris you can avoid many problems caused by **pests, their eggs, as well as disease causing bacteria and fungi**.

The worst soil conditions can be cured by making a raised bed; and Southeastern North Carolina is filled with horrible soil conditions. The only reason that the Venus flytrap is found in our area is because of the lack of nutrients in the soil. This plant gets its necessary nutrients from insects. Crops produce much better in raised beds because they grow in deep, loose soil that is never walked on. The easiest way to make a raised bed is simply to add lots of composted organic materials to your soil as you rake it up into mounds. If you have ever had the pleasure of visiting Frank Galloway's wonderful gardens you have seen this method put to excellent use. He has built up his beds over time by continually adding composted cattle manure and his plants are large, healthy and very happy! If you put in a little extra effort up front and continue to add organic matter to your garden soil, your plants will thrive and your vegetables will produce more.

Thanks to Dawn Pettinelli of the Soil Nutrient Analysis Laboratory at the University of Connecticut for her research based soil facts used in this article.

Date: For September 12, 2011

Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator

THE BEST WAY TO WATER YOUR GARDEN

When it comes to watering your garden thoroughly and efficiently, slow and steady is the only way to go. And nothing delivers water to your plants better than the slow, steady drip of a micro-irrigation system. Keeping the root zone moist without saturating it saves plants from the roller-coaster stress of traditional "drench and dry" watering. The systems use up to 80 percent less water than sprinklers, prevent soil erosion and reduce weed pressure by preventing off-target watering.

The drip emitters are the heart of a micro-system. The tiny, button like devices release a predetermined amount of water over time. Color-coded emitters determine the flow rate. For example, red emitters might have a one-half-gallon-per-hour drip rate, and black ones a full gallon and green ones 2 gallons per hour. You can supply more or less water to different plants by using emitters with different drip rates. You can build a system in an afternoon without threading, gluing or digging. Let's walk through a typical installation and look at the various components, starting at the faucet with the control system.

A multiport manifold turns a single spigot into two or more connections. I always have one connection dedicated to an ordinary, full-pressure hose. The other holds a timer to deliver the right amount of water to the plants the system irrigates.

Mechanical timers flow for a pre-determined interval, and shut off automatically. They're good for flower beds and vegetable gardens that need consistent moisture. Start them in the morning and they shut the water off for you. Electronic timers can be programmed for specific days and times. You set them once and forget them. They also have a manual override for complete flexibility.

Backflow preventers are required by law in most areas to prevent fertilizers or other contaminants to be drawn back into the public water supply. Pressure reducers drop city water pressure, usually 60 PSI, down to lower micro-system pressure. You'll blow the whole system sky high without a pressure reducer. Finally, a threaded hose adapter connects the low-pressure, slip-fit main line tubing to the control system. Building the line and emitter system is easy. Measure a length of half-inch-diameter mainline tubing to the area you're irrigating, cut with a utility knife and crimp the end of the tube into a figure-8-shaped tube end closer. If you're watering a large area, like the root zone of a tree, lay mainline around it and insert high-flow emitters (like green in our example) directly into the tubing with a special punch. For individual plants, quarter-inch spaghetti lines are connected to the mainline and run directly to the root zones. The appropriate emitter then connects to the end of each line. Elbow-connectors and T-connectors let you change directions and fit the main lines neatly into any shape of area.

Building a micro-irrigation system is straightforward; getting the right amount of water to each plant requires some planning. Divide your landscape into irrigation zones with plants that need the similar amounts and frequency of water. One line may serve a large stand of trees, another a vegetable garden or perennial bed, the third the containers on a patio.

Separate zones let you water each by time: the large trees getting, say, six hours of water three times a week, containers 30 minutes every other day, etc. Further adjust the water within each zone by using different emitters: the trees would get lots of water through several 2-gallon-per-hour emitters, small containers would get about a quart through half-gallon-per-hour emitters running for only half an hour. Every garden has different water needs that change with time. Keep an eye on your zones and tweak the flow to plants as necessary. A good way to get familiar with micro-irrigation systems is to get a kit. It will have everything you need for a basic system, including mainline tubing, spaghetti tubing, different emitters, a punch, various connectors and even "goof plugs" for mistakes. In no time you'll be designing micro-irrigation systems to keep every part of your yard lush and thriving.

Date: For September 19, 2011

Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator

Container Gardening Works in SE North Carolina! Judy Koehly

Container gardening can solve a few problems that face many gardeners; will this gorgeous, expensive plant do well in this spot? How will I fill up that small hole that just appeared in my garden? How can I soften the look of my cement patio, wooden deck or front porch? How can I enjoy beautiful tropical plants without having them die off as soon as frost hits? Putting plants in pots solves all of these problems and more! There are a few things to keep in mind before potting up your favorite plants in the first empty container that comes your way.

Select a container that suits your home's architectural style and color palette. Terra-cotta planters require more water than other types, but can be sprayed or painted inside with marine varnish or a special product sold for the purpose. They are perfect for a casual, country look. Concrete planters are strong and sturdy and tend to lend a more formal look. They are also very heavy and not easily moved around. You can enjoy the visual appearance of concrete or terra cotta by selecting resin or fiberglass look-alikes.

Purchase potting soil designed for container planting. You can add dried cow manure, compost and/or fertilizer that is slowly dispersed over the growing season. A coffee filter in the bottom of the pot over the drainage hole will keep the potting soil from leaking out. Once the plant or plants are situated in the pot, you can add some mulch on top of the soil to conserve water and keep the plant from drying out sooner.

You'll want to combine plants that are compatible in color. They can contrast for visual impact (blue and yellow for example) or contain shades of the same color family for a more serene effect (shades of pink with white). You also must combine plants that require similar water and sun/shade needs. The plants selected should be in proportion to the pot. A large pot looks best a large plant, etc. For visual excitement add plants of different growth habits in the same pot. A tall specimen in the center surrounded by mounding plants with trailing plants along the edges offers great visual impact! Be sure to read the little tags in the plants or the signs posted by the plants or ask your nursery person any questions you have about the plant.

Living in Southeastern NC we have many plants to choose from that are perennial here in this wonderful (but tricky) climate. I have learned by trial and error that what I used to think of as house plants (spider plant and prayer plant) will over winter nicely in our climate. They become an herbaceous perennial here; that is they will die back to the ground in the winter but reappear in the spring.

I was fortunate to be able to attend the Wilmington Garden Tour this year during the Azalea Festival. We strolled through eleven gardens plus Airlie Garden (included in the cost of the ticket). I was amazed at the creativity of gardeners who placed plants in all kinds of containers to make wonderful, whimsical additions to their gardens! In one garden a small table frame set in a shady corner was covered with moss (a net of chicken wire underneath held the moss in place) with a topiary tea pot and two tea cups in place on the table. Birdbaths became planters with creeping Jenny running over the edges, an old metal watering can with holes drilled in the bottom overflowed with cascading million bells. Not so valuable but eye catching antiques can add zest to your garden when turned into a planter! Time to use your imagination and put your creativity to work! Remember that good drainage is a must with most plants!

Container plants do require more water than plants in the ground, so make it easy for yourself. A watering system with a timer is easiest and highly recommended! Bringing the small watering hose up through the pot keeps the hose safe from an overzealous trimmer and more natural looking. A long shower type handle on your hose makes watering hanging baskets less of a chore. Watering in the early morning hours is a must to avoid inviting fungal infestation.

The next important step is to find a place in your garden where you can relax and enjoy the beauty you have created! Happy Gardening!!!



Date: For September 26, 2011

Contact: Tom Woods, Brunswick County Master Gardener Volunteer Coordinator
Charlotte Glen, Horticulture Agent, Pender County Cooperative Extension

Though individually tiny (seen here compared to a dime), ground pearls cause serious damage to lawn grasses. The common name of this insect pest comes from its resemblance to a miniature pearl and the fact they are found in the soil.

Ground Pearls Are Not Buried Treasure!

The most lethal pest of lawn grasses in our area is also one of the least well known. Called ground pearl or pearl bugs, these insects can be found damaging lawns throughout southeastern North Carolina. In yards infested with ground pearl it is often impossible to maintain a healthy lawn since there are no effective treatments for this pest. Managing lawns infested with ground pearl instead relies on redesigning landscape beds to minimize turf areas, choosing turf grasses that better tolerate ground pearl, and encouraging vigorous turf growth.

Identifying Ground Pearl and Their Damage

Lawns infested with ground pearl often exhibit dead areas where little grows except a few weeds. These areas may be only a few inches across or up to several feet in size depending on how widespread the ground pearls are, and are often roughly circular in shape. The dead areas expand slowly, by up to a foot each year. If grass is replanted in these spots it usually dies within a year.

Ground pearl infestations can be confirmed by digging in the soil where the insects live. As their name implies, ground pearls are small, round insects that are pearly white to tan in color. They look similar to the pellets of slow release fertilizer found in container grown plants. Ground pearls attach themselves to grass roots and feed on plant sap using their needle like mouthparts. This feeding activity is very damaging to all warm season turf grasses, especially during drought. If you suspect ground pearls are in your lawn, dig into the soil 3" to 4" deep around the edges of dead areas and carefully sift through the soil in your hand to find the pearl like insects.

Managing Infested Lawns

There are no pesticides that kill ground pearl, which are a type of scale insect. Since only turf grasses are effected by ground pearl one method of dealing with them is to redesign your yard so that trees, shrubs, and flowers are planted in the areas where ground pearl exist. Ground pearls are only able to move a few inches on their own each year. Be very careful though not to spread them around when moving soil or using tools or equipment in infested areas. The movement of soil and contaminated equipment is the main way ground pearls are spread over large areas.

While all of the turf grasses grown in our area are susceptible to ground pearl, centipede is the most sensitive since it does not recover quickly from damage and shows little response to additional fertilization and watering. Centipede lawns infested with ground pearl should be redesigned or converted to a more tolerant lawn grass. In a recent trial conducted by NC State University, 'El Toro' zoysia tolerated ground pearl damage better than other species in the study. Though often considered a weed, bahiagrass has also been found to be relatively resistant to ground pearl damage. Very vigorous turf grasses like 'Celebration' bermuda can be grown in ground pearl infested areas if they receive supplemental irrigation and fertilization. This is more effective in dark or clay soils. In deep sandy soils it is much more difficult to maintain a dense lawn if ground pearls are present, even when vigorous species are planted.

Ground pearl can be found as deep as 10" or more in the soil and can live for 15 years or longer even when no grass is present. Excavating large areas of soil in the hope of removing ground pearl is a very expensive and minimally effective control strategy. Any insects left behind will repopulate new soil relatively quickly since each female is able to produce one hundred or more offspring each year without mating. Excavating soil also increases the risk of spreading these pests to new areas.