



OCTOBER 2006

HOMEOWNER PLANT DISEASE CLINIC REPORT

Holly Thornton, Homeowner IPM Specialist

Beginning this fall (October 2006), a monthly homeowner plant disease report will be available on-line at the Plant Pathology Department's webpage, in the Plant Disease Clinic section, available at <http://www.plant.uga.edu/> (click on Extension, then Plant Disease Clinics). This monthly report will contain information regarding what types of samples we are receiving in the clinic, what the diagnoses are for each sample, and the county from which each sample was sent. This report will also contain useful information regarding a "Disease of the Month," which may vary from a plant disease seen regularly in the clinic during that month to an upcoming plant disease to expect the following month.

This report will contain information on plant disease samples received from September through mid-October.

County	Plant	Common Name of Disease (Pathogen)
Berrien	St. Augustine	Large Patch (<i>Rhizoctonia solani</i>)
Bibb	Begonia	Root rots (<i>Pythium</i> & <i>Rhizoctonia</i>)
Bibb	Grass mix	Take-all root rot (<i>Gaeumannomyces graminis</i>)
Bibb	Salvia	Parasitic vine (Dodder)
Bibb	Ajuga	No disease-overwatering
Bibb	Hydrangea	Powdery mildew (<i>Oidium</i> sp.) & contact burn
Bibb	Leyland Cypress	Needle blight (<i>Cercosporidium</i>)
Bulloch	Daylily	No disease
Bulloch	Magnolia	Algal Leaf Spot (<i>Cephaleuros virescens</i>)
Camden	St. Augustine	Take-all root rot (<i>G. graminis</i>)
Camden	St. Augustine	Take-all root rot (<i>G. graminis</i>)
Candler	Hydrangea	No disease-possible insect damage
Charlton	Centipede grass	Take-all root rot (<i>G. graminis</i>)
Cherokee	Bluegrass	No disease
Clarke	Chinese Elm	No disease
Cobb	Hedera Helix	Anthracnose leaf spot (<i>Colletotrichum</i>)
Columbia	Zoysia	No disease
Crisp	Centipede grass	No disease
DeKalb	Hibiscus	Insect damage

DeKalb	St. Augustine	No disease
DeKalb	Liriope	Anthrachnose (Colletotrichum) & Phyllosticta
DeKalb	Boxwood	No disease-planted too deep
DeKalb	Zoysia	Rust
Dougherty	St. Augustine	Gray Leaf Spot (Pyricularia grisea)
Fayette	Bermuda	Anthrachnose (Colletotrichum)
Fulton	Crepe Myrtle	Oedema-cultural
Fulton	Viburnum	No disease
Gordon	Oak	No disease
Gordon	Arborvitae	No disease-planted too deep
Gordon	Holly	Black root rot (Thielaviopsis basicola)
Grady	Mushroom i.d.	Lactarius or Russula
Gwinnett	Leyland Cypress	No disease
Gwinnett	Arborvitae	No disease
Jasper	St. Augustine	Take-all root rot (G. graminis)
Jasper	St. Augustine	No disease
Jefferson	Peas	Charcoal Rot (Macrophomina phaseolina)
Jefferson	St. Augustine	Take-all root rot (G. graminis)
Johnson	Centipede grass	Take-all root rot (G. graminis)
Jones	St. Augustine	Take-all root rot (G. graminis)
Lee	Centipede grass	No disease-site problems-no drainage
Lee	Centipede grass	Take-all root rot (G. graminis)
Monroe	Centipede grass	No disease
Monroe	Zoysia	Take-all root rot (G. graminis) & Rhizoctonia
Monroe	Begonia	Root/crown rot (Rhizoctonia)
Morgan	Creeper	Root rot (Leptosphaerulina)
Morgan	St. Augustine	Take-all root rot (G. graminis)
Morgan	Bermuda	Take-all root rot (G. graminis)
Muscogee	Zoysia	Rust
Muscogee	Zoysia	No disease-thatch build-up
Newton	Pecan	Pecan scab (Fusicladium)
Putnam	St. Augustine	Root rots (Pythium and Rhizoctonia)
Putnam	St. Augustine	Take-all root rot (G. graminis) & Chinch bug
Richmond	Tomato	Tomato-spotted wilt virus (TSWV)
Rockdale	Bermuda	No disease
Rockdale	Bermuda	No disease
Spalding	Muscadine	Root rot (Possible Pythium & Phytophthora)
Walton	Oak	Possible bacterial leaf scorch (Xylella)
Ware	Ligustrum	Slime mold
Webster	Centipede grass	Take-all root rot (G. graminis)
Worth	St. Augustine	Take-all root rot (G. graminis)

DISEASES of THE MONTH

TAKE-ALL ROOT ROT on various Turfgrass genera

Seen most commonly in spring and fall when soil temperatures are 60-65°F



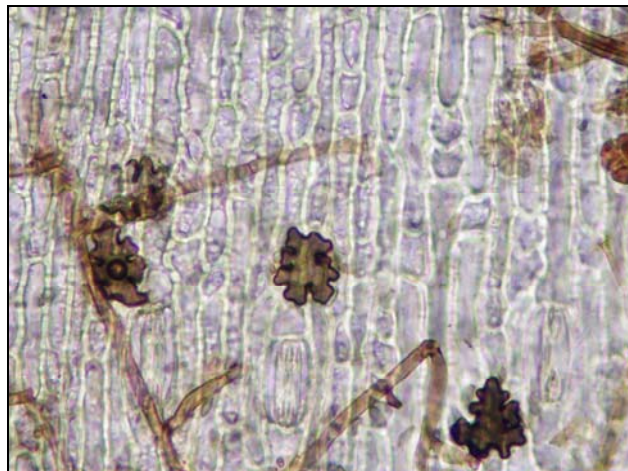
Take-all root rot, caused by the fungal pathogen *Gaeumannomyces graminis* var. *graminis*, has been wreaking havoc on lawns in Georgia this summer and fall. Symptoms of disease are most prominent on lawns stressed by hot, dry weather like we've had this past summer across Georgia. Initial symptoms of take-all root rot are circular to irregular straw-colored to light brown thinning patches (anywhere from 6 inches to 3 ft in diameter) in the turf. As the disease progresses, patches may coalesce, eventually killing large areas of the lawn. The patches can reappear in subsequent years causing extensive damage to the turf.

Take-all root rot is sometimes confused with Brown/Large Patch (caused by *Rhizoctonia solani*) because of field symptoms. These two diseases can be distinguished from each other by pulling on a yellow or brown blade/leaf of grass. The blade infected with *Rhizoctonia* Brown Patch will give some resistance when pulled on, whereas turf infected with Take-all will easily pull from the ground. Also, the stolons infected with *Rhizoctonia* generally will not be brown/black as with Take-all.



Picture 2

Take-all root rot causes affected stolons to be easily pulled from the ground because of the root rot infection that takes place. The roots will be blackened, shortened, and rotted (shown above in **Picture 1**). Under a dissecting microscope, one can see the brown/black ectotrophic (external) mycelia of the fungus growing along the stolon (shown above in **Picture 2**). This growth will produce structures within the grass tissue that can be seen in the compound microscope (by slicing a very thin layer of the stolon and making a slide) and are easily identifiable characters of the pathogen termed hyphophodia (shown below-resembles a puzzle piece).



Management

Integrated management is the best approach to preventing and controlling take-all root rot in home lawns. Take-all root rot severity is closely related to soil pH. Maintaining a soil pH below 6.5, preferably between 5.5 and 6.0, will reduce severity of the disease. Acidifying fertilizers (ammonium-based fertilizers, such as ammonium sulfate) can be used once a pH test has been conducted to determine the nutrient content of a particular lawn. Manganese deficiency also increases the severity of take-all, so supplements of this nutrient can be applied, if needed. Fungicides are available for homeowners but have limited efficacy and are more beneficial when applied preventively. (When the disease is discovered by the homeowner, it is usually too late for preventive control). Fungicides can also help with subsequent infections. Since take-all root rot is associated with stressed lawns, management for this disease involves good cultural practices, such as:

- 1) Good surface and sub-surface DRAINAGE (core-aeration of the lawn in the spring and removing the cores produced);
- 2) Water infrequently but deeply (watering once a week at a depth of 3-4" is sufficient);
- 3) Proper fertilization (this depends on the turfgrass Genus and species and site conditions-sunny or shady; for example, Centipede grass lawns should only receive 1 lb Nitrogen/year-half in spring and half in fall);
- 4) Proper mowing height for your particular turfgrass species;
- 5) Avoiding application of herbicides to damaged areas of the lawn (St. Augustine, for example, does not have a high tolerance for herbicides);
- 6) More recently, a professor from Texas A&M, Dr. Phillip Colbaugh, has found that applying a sphagnum peat moss topdressing to St. Augustinegrass has proven to reduce symptoms of Take-all root rot in home lawns. Additional information on the application and rate (recommended 3.8 cu ft. sphagnum peat moss/1000 sq ft) can be found at [http://dallas.tamu.edu/People/pcolbaugh/PeatmossPoster\(051605\).pdf](http://dallas.tamu.edu/People/pcolbaugh/PeatmossPoster(051605).pdf).
- 7) Lastly, if chemicals must be used, application in the fall (before dormancy) and early spring will prove to be most effective. Immunox Lawn Disease Control (active ingredient: Myclobutanil) is one registered fungicide available to homeowners at local retail garden centers for control of this disease. Fungicides containing Triadimefon (Bayleton), such as Bayer Advanced Fungus Control for Lawns, are also registered to help manage Take-all root rot. Remember if applying fungicides to ALWAYS read and follow label directions carefully.

ALGAL LEAF SPOT (see images below)

Causal Agent: *Cephaleuros virescens*

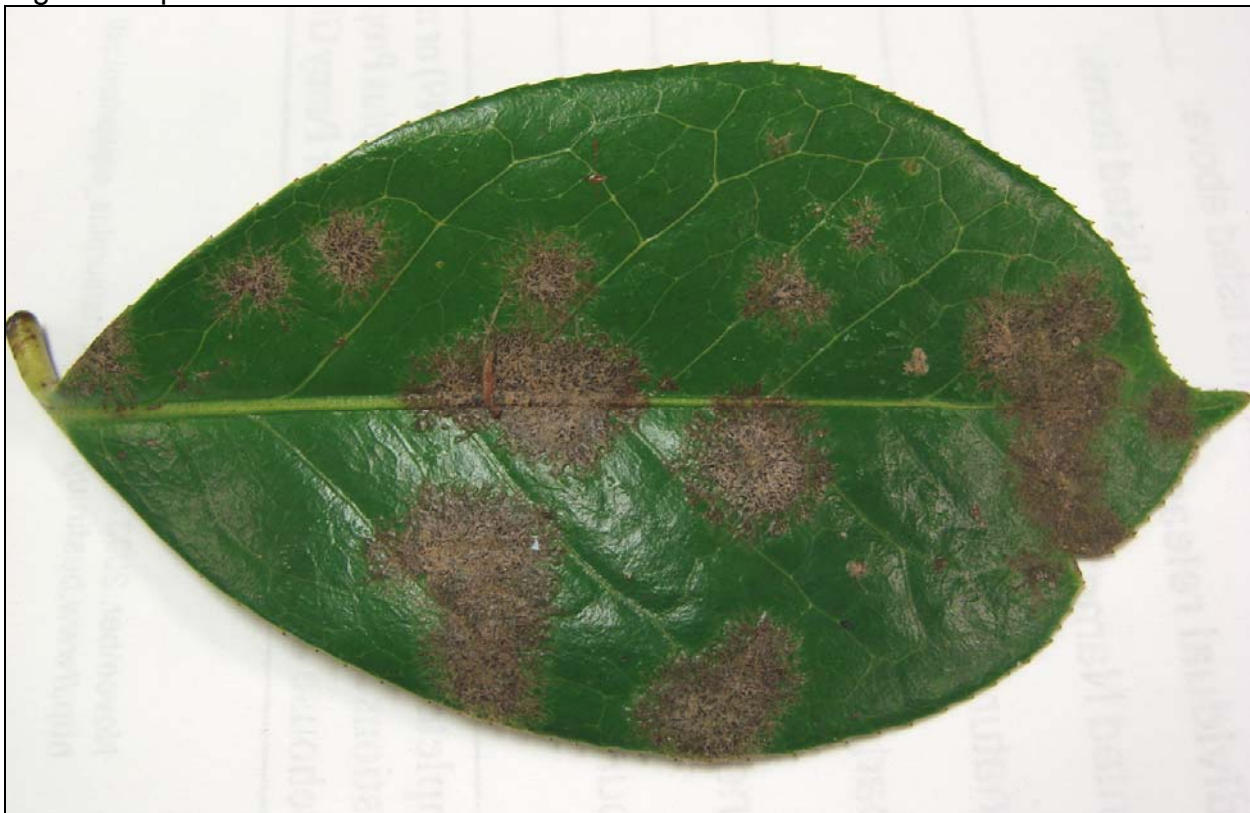
Common Hosts: Magnolia & Camellia

(Other hosts: Azalea, Holly, Honeysuckle, Live Oak, Mahonia, Maple, Privet, Sumac, Sweet gum, and Wax myrtle)

We have received multiple samples in the Homeowner IPM Clinic this fall with Algal Leaf Spot. Symptoms of this pathogen include: pale green or pale red superficial colonies that have a netlike pattern on leaf surfaces. The colonies are usually circular and appear as rough and/or raised spots on host leaves. The margins of the colonies are often times wavy or feathered. Twigs and branches are also sites of infection and symptoms include cracking, formation of a shallow canker, and subsequent girdling and death of the limb/twig. The pathogen remains conspicuous until symptoms occur which usually follows rainy, wet weather in the fall and spring. The pathogen *C. virescens* is most damaging to weakened, stressed plants growing in direct sunlight after abundant rainfall.

Management of algal leaf spot can be achieved primarily by sanitation. If the infection is superficial (on leaf surfaces), remove infected attached and fallen leaves and destroy and/or eliminate them from the planting site. If the infection is occurring on woody tissue such as limbs or branches, prune the affected areas and discard them properly. Also, increasing air circulation around the plants and improving soil drainage will help prevent future infections. Copper sprays, such as Bordeaux's mixture (8 tbsp. /gal.) or Kocide 101, can be used preventively but are usually unnecessary. Remember when applying fungicides to ALWAYS read and follow label directions carefully.

Algal leaf spot on **CAMELLIA**:



Magnified Algal leaf spot colony



NOVEMBER PLANT DISEASE TIPS:

Now that fall has arrived, many landscape plants and warm-season turfgrasses will begin to go dormant. During this time, homeowners can focus their efforts on cleaning-up their yards in preparation for the following spring. **SANITATION** is the foundation for preventing plant disease problems. Since pathogens can survive the winter in plant debris, raking, burning, and/or discarding fallen leaf debris both beneath landscape plants and throughout the yard will help eliminate inoculum for future plant disease infections. Pruning cankers and dead limbs from trees and shrubs within the yard will also help to eradicate pathogens. Remember to prune cankers 4 to 6 inches below the affected area and disinfest pruners between cuts with a 10% bleach solution in water.

Remove and destroy all annuals, vines and fruits of old vegetables, old rose canes, and any other dead plant parts that could potentially harbor pathogens until the following spring.

Composting as a method to dispose of plant debris will kill most plant pathogens if done properly. Some soil-borne pathogens will survive this process though. For more information on composting, see the following publication:

<http://pubs.caes.uga.edu/caespubs/pubcd/c816-w.html>.

Remember PREVENTION is the best management practice for plant disease control in the homescape.

For county agents, as always, when shipping samples to the Homeowner IPM Diagnostic Clinic in Athens, be sure to ship samples so they arrive Monday-Wednesday. This will help to prevent further deterioration of the sample. Remember to complete the online DDDI Homeowner form for the specific sample (available at <http://www.dddi.org/uga/>), print the PDF report generated (it contains the appropriate sample number needed to locate the sample), and place the report in the package with the sample in order for your sample to be processed.

USEFUL LINKS:

1. Turfgrass Diseases: A Quick Reference Guide:
<http://pubs.caes.uga.edu/caespubs/pubs/pdf/C891.pdf>
2. Turfgrass Diseases in Georgia:
<http://pubs.caes.uga.edu/caespubs/pubs/PDF/B1233.pdf>
3. Abiotic Injuries and Disorders of Turfgrasses in Georgia:
<http://pubs.caes.uga.edu/caespubs/pubs/PDF/B1258.pdf>
4. Common Landscape Diseases in Georgia:
<http://pubs.caes.uga.edu/caespubs/pubs/PDF/B1238.pdf>