THE UNIVERSITY OF GEORGIA
COOPERATIVE EXTENSION
Colleges of Agricultural and Environmental Sciences & Family and Consumer Sciences

MARCH 2008

HOMEOWNER PLANT DISEASE CLINIC REPORT

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When I think of March, I picture delicious **Morels** poking up through the crowded leaf litter on the forest floor, and I wait impatiently until the end of the month when I can desperately search for these edible fungi. As you may know, I love mushroom hunting, especially when I know there are appetizing fungi just waiting to be eaten.

Late March, early April is also the time of year when most Master Gardener classes, Green updates, and other statewide travels near an end, allowing me to actually spend some quality time in the diagnostic clinic. It is evident from the table below that homeowner sample submission has been relatively slow this winter but I suspect this will change as April approaches and it warms up.

Soon, homeowner turf samples will flood the diagnostic lab in Athens. Turfgrass is the largest group of homeowner samples we receive in Athens. The majority of which are warm season grasses (Zoysia, St. Augustine, and Centipede). I expect the numbers for turf to be greater this year due to the extreme drought last year throughout much of the state (stressed turf = more disease). In this report I will review the diagnostic features of the two major disease problems that we see on homeowner warm-season turf grasses – Large Patch and Take-all root rot.

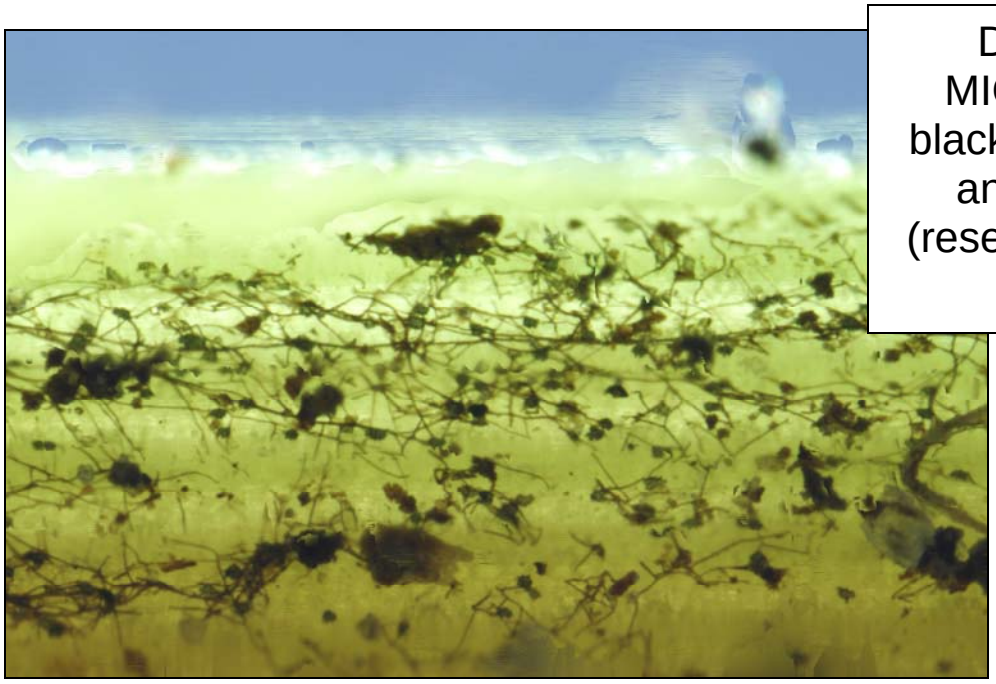
Large patch and Take-all root rot can easily be mistaken for one another. The macroscopic symptoms on turf often times look similar for the two pathogen infections. I have created the simplified key below to distinguish between the two and give you a starting point for diagnosing the problem in your office and/or during site visits.

SIMPLIFIED KEY to differentiate between TAKE-ALL ROOT ROT & LARGE PATCH

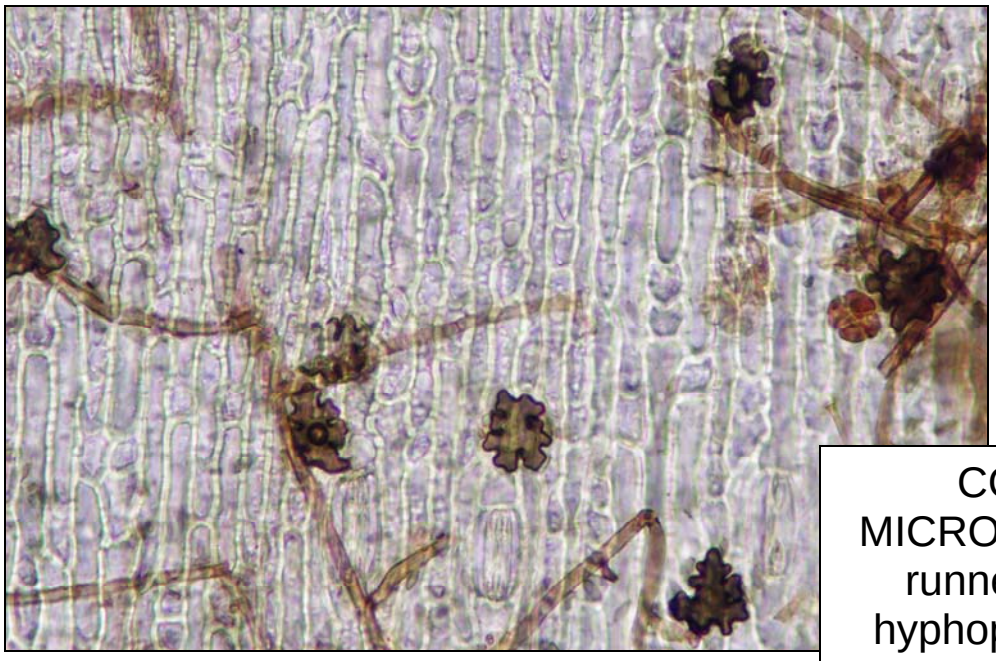
1. Distinct yellow/straw-colored/brown patches (regular or irregular in shape) are seen in the landscape……. 2
2. No lesions seen on leaf blades…….. 3
3. Roots
    a. Healthy (or moderately so), in tact roots & root hairs……. 4
    b. Dark, rotted, blackened roots or none at all……. 5
4. Water-soaked, reddish or dark lesions observed on leaf sheaths and/or crown of the plant……. 6
5. In the dissecting scope, black, runner hyphae seen on stolons of the grass and also along the roots…….. 7
6. In the compound scope, robust, brown (pigmented) mycelia with septations (cross walls) and right angle branches seen on/in the plant tissue……..*Rhizoctonia solani* (Large patch)
7. In the compound scope, loped hyphopodia (resembling puzzle pieces) are seen surrounding the brown, thin mycelia…..... *Gaeummanomyces graminis* var. *graminis* (Take-all root rot)

Take-all infection on St. Augustine grass

No roots and/or blackened rotted rots – Take all infection on St. Augustine



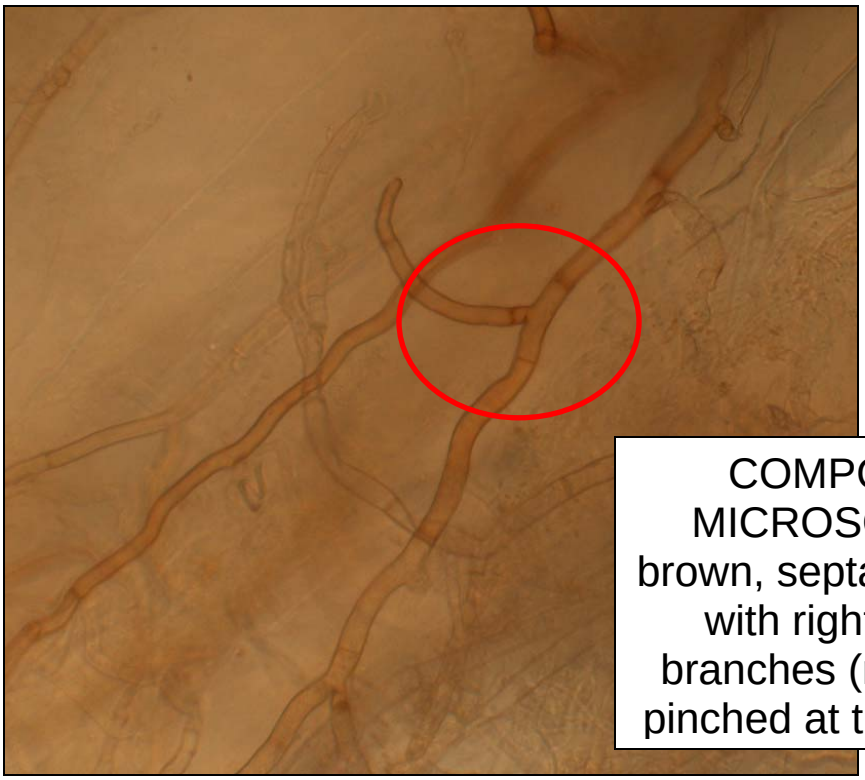
DISSECTING MICROSCOPE – black, runner hyphae and hyphopodia (resembles specks of pepper)



COMPOUND MICROSCOPE – black, runner hyphae and hyphopodia (resemble puzzle pieces)

Large Patch infection on St. Augustine grass

DISSECTING SCOPE – sheath infection with reddish/brown lesions



COMPOUND MICROSCOPE – brown, septate mycelia with right angle-branches (mycelia is pinched at the branch)

Large patch may be more difficult to diagnose because the mycelia of the fungus is hard to find and/or easily mistaken with other saprophytic fungal mycelia. You may give up and send the sample to the clinic before ever finding the large patch mycelia. Both diseases are active in the spring and fall when soil temperatures are ~60-65˚F. Homeowners usually see symptoms of Take-all throughout the summer and this is due to the fact that summers in Georgia are very stressful and as you may recall, this is a stress-related pathogen. Take-all root rot is a disease related to improper soil pH, heavy thatch, poor drainage, improper mowing, etc.

Both diseases often cause foliar tip dieback because of the crown and/or root infection that is occurring. Therefore, this symptom alone is not useful for distinguishing among the two diseases.

Also, remember these pathogens are problems in the landscape because of one or more different cultural issues and applying pesticides will not exclusively correct the problem. For more information about management practices, please see one of the following references:

- http://pubs.caes.uga.edu/caespubs/pubcd/B1233.htm#BrownPatch
- http://pubs.caes.uga.edu/caespubs/pubcd/C891.htm
- GA Pest Management Handbook – Homeowner or Commercial edition
- Vargas Jr., J.M. 2005. Management of Turfgrass Diseases.
- Turgeon, A.J. 2005. Turfgrass Management. 7th edition.
- Christians, N. 2004. Fundamentals of Turfgrass Management. 2nd edition.

MARCH 2008 Homeowner Samples

County	Plant	Common Name of Disease (Pathogen)	Type of Sample – DDDI or Physical
Camden	Red Cedar	Unable to determine	DDDI
Camden	Carolina Sapphire	No disease – possible cultural stress	Both
Camden	Podocarpus	No disease – possible cultural stresses – fertility	Physical
Catoosa	Aucuba	Leaf spot – possible powdery mildew	DDDI
Clarke	Lemon	No disease	Physical
Elbert	Zoysia	No disease – cultural – thatch & compaction	Both
Fayette	Browns Yew	No disease – possible site problem – saturated soils	Physical
Gilmer	Fig	Possible Anthracnose	DDDI
Pierce	St. Augustine sod	Take all root rot (*Gaeumannomyces graminis* var. *graminis*)	Physical
Thomas	Indian Hawthorne	Entomosporium leaf spot (*Entomosporium* sp.)	DDDI
Toombs	Camellia	Possible cold damage	DDDI
Ware	Camellia	Unable to determine – blurry images	DDDI
Total samples (late-February to late-March) = 12			