

# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

JULY 27, 2006

## Diseases of Turfgrass

*Bruce B. Clarke, Ph.D., Specialist in Turfgrass Pathology*



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### Brown Patch

This disease, caused by the fungus *Rhizoctonia solani*, is very common on tees, greens, and home lawns due to the continuous hot, humid weather. To reduce the incidence and severity of **brown patch**, avoid nitrogen applications during hot weather, irrigate between midnight and 8 a.m. (to reduce the period of leaf wetness), and spray turf with Armada, Banner, Chipco 26GT, chlorothalonil, Compass, ConSyst, Curalan, Eagle, Endorse, Headway, Heritage, Insignia, mancozeb, Medallion, Prostar, Spectro, thiophanate-methyl, Tartan or Touche per manufacturer's recommendations.

### Pythium Blight

**Pythium blight** has been very active on golf and landscape turf during the past two weeks. Since pythium thrives in low or poorly drained areas, especially when the night temperatures are above 70°F, we should see a lot more of this disease as the "hot muggy" weather continues this summer. For best results, improve drainage, water in the early morning hours, avoid overfertilization, and apply Alude, Banol, Chipco Signature, Headway, Heritage, Insignia, Koban, Magellan, Prodigy, Quell, Subdue MAXX, or Terrazole, according to the manufacturer's recommendations. Apron may be used as a seed treatment to prevent damping-off. Mancozeb can be used to control this disease but it is generally less effective than the other products mentioned above. Use of Koban and Terrazole on fairways is prohibited and should be used with caution on other areas due to the potential for foliar burn during hot weather.

### Yellow Tuft

This disease, caused by the fungus, *Sclerophthora macrospora*, is present on greens and irrigated landscape turf at this time. **Yellow tuft** (=Downy Mildew) occurs on almost all cool-season turfgrasses; however, it is usually only a serious problem on turf maintained at a low cutting height. Poorly drained or heavily irrigated sites are often associated with disease development. Infected turf appears stunted, off color (yellow to light green), and may exhibit slightly broadened leaf blades and dense clusters of shoots. Patches ranges in size from 0.25 to 1 inch in diameter for bentgrass and red fescue turfs, and 0.5 to 3 inches for Kentucky bluegrass and perennial ryegrass areas. Tufts are easily

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# Armillaria Root Rot

John Hartman, Extension Plant Pathologist,  
University of Kentucky

*Adapted from Kentucky Pest News, Issue 1068, Aug. 8, 2005*

**D**rought places enormous stress on landscape trees. Drought can influence susceptibility of trees to root and butt rot caused by the fungus *Armillaria mellea*. Some of our most valuable shade and ornamental trees are susceptible to **Armillaria root rot** disease. This disease is also called **shoestring root rot** disease because of fungal rhizomorphs closely resembling shoestrings produced by the fungus underneath infected bark, over infected roots, or in the soil. Among shade and ornamental trees, oaks and maples appear to be the most commonly infected, although the disease is occasionally destructive on a wide range of other woody plants. It is likely that the disease may occur on almost any tree or shrub grown, if the necessary conditions for infection are present. The disease is associated with trees previously in poor vigor, usually caused by winter injury, drought, or even construction damage.

## Symptoms

The aboveground symptoms cannot be differentiated from those produced by many other diseases or agents that cause root or trunk injuries. Probably the most striking external symptom is a decline in vigor of a part or the entire top of the tree. Where the progress of the disease is slow, branches die back from time to time over a period of several years.

## Signs

Clearly identifiable signs of the fungus causing this disease are found at the base of the trunk at or just below the soil line or in the main roots in the vicinity of the root collar.

- Fan-shaped, white wefts of fungal tissue closely appressed to the sapwood are visible when the bark is cut away or lifted. Scraping or lifting the white wefts of mycelium, which have a strong mushroom odor, will reveal water-soaked sapwood. Where the entire top has wilted and died back, the fungal tissue will be found completely around the trunk. Where a large branch has died back, or only one side of the tree shows poor vigor, the fungus will be found on one or two main roots or on one side of the trunk base.
- Where the tree has been dead for some time, dark brown to black "shoestrings," also called rhizomorphs, may occur beneath the bark or in the soil near the infected parts.
- Clusters of light brown mushrooms, called honey mushrooms, may appear in the vicinity of the rotted wood in late autumn. In landscape circumstances, infected trees are often removed before the mushrooms have a chance to form.

## Disease management

Armillaria root rot is very difficult to control:

- Provide good growing conditions for the tree. Pay attention to the need for additional water during drought.
- An infected tree whose entire root system or trunk is diseased cannot be saved. When the tree dies, the large roots in the vicinity of the trunk as well as the trunk itself should be removed and destroyed. Soil in the immediate vicinity should also be removed.
- Avoid replanting the same species as the one removed. Oaks, maples, and other highly susceptible species should be avoided.
- The following trees are thought to be less susceptible to Armillaria root rot except when growing under extremely stressful conditions: Bald cypress, boxwood, callery pear, catalpa, Chinese elm, cork tree, crabapple, ginkgo, hackberry, holly, honey locust, Japanese maple, magnolia, mulberry, pine, smoke tree, sumac, sweetgum, sycamore, tree-of-heaven, tuliptree, white fir.

*Submitted by Ann B. Gould, Ph.D., Specialist in Plant Pathology.* □

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### TURF DISEASES FROM PAGE 1

removed from the soil due to the absence of adventitious roots. To control, improve drainage, avoid overwatering, mow only when the grass is dry, apply iron sulfate to mask symptom expression, and spray turf with Chipco Signature, Insignia, Prodigy, or Subdue MAXX now or on a preventive basis from late March to early June.

Rutgers Turf Research Field Days Next Week

This year's Rutgers Turfgrass Research Field Days will be held on August 2, 2006 (Landscape Turf Research Field Day at Adelphia, NJ) and August 3, 2006 (Golf Turf Research Field Day at Hort Farm II, Ryders Lane, New Brunswick, NJ). Additional information, on-line registration, and directions can be accessed at: <http://www.rutgers.turf.edu>. □

# Notice of Rule Proposal: Agricultural, Aquacultural, and Horticultural Water Usage Certification – N.J.A.C. 7:20A

## Public Notice

Take notice that the NJ Department of Environmental Protection is proposing to readopt with amendments the agricultural, aquacultural, and horticultural water usage certification rules – N.J.A.C. 7:20A. A statement of the substance of the proposal follows: Under the Water Supply Management Act, the Department implements a regulatory program to ensure that the ground and surface water supplies of the State are managed in a way that protects their quantity and quality, thereby protecting public health and safety, and natural resources. N.J.A.C. 7:20A contains the rules governing water usage certifications for agricultural, aquacultural, and horticultural purposes. The rules establish the schedule and reporting procedure that persons having the capability to divert 100,000 or more gallons of water per day for agricultural, aquacultural, or horticultural purposes must follow to establish their privilege to divert water and prescribes the application, review, notification and hearing procedures for establishing privileges to divert water and to obtain water usage certifications and/or registrations. The Department is proposing to readopt these rules with amendments that include new definitions, requirements for more precise source location information, additional assessment of natural resource impacts, more stringent certification conditions to protect natural resources and other users, requiring that cranberry growing operations provide the method used to determine water usage, a requirement to submit an Agriculture Development Plan to justify maintaining allocation amounts at the level approved in the certification when water use reports indicate less than that amount is being used and increase civil administrative penalties for violations.

The proposal is scheduled to be published in the New Jersey Register dated July 17, 2006. A copy of the proposal is available from the New Jersey Department of Environmental Protection by calling 609-292-2957 or:

<http://www.nj.gov/dep/rules/proposals/071706b.pdf>

Public hearings concerning the proposal are scheduled as follows:

August 8, 2006 at 6:00 p.m.

Rutgers EcoComplex  
Environmental Research and Extension Center  
1200 Florence-Columbus Rd  
Bordentown, NJ 08505-4200

August 10, 2006 at 6:00 p.m.

Somerset County Complex  
Freeholders Meeting Room  
20 Grove Street  
Somerville, NJ 08876

Written comments may be submitted by September 15, 2006 to:

NJ Department of Environmental Protection, Oneida Cuevas, Esq.,  
ATTN: DEP Docket Number: 05-06-06/429, Office of Legal Affairs, PO  
Box 402, Trenton, New Jersey 08625

## Plant Diagnostic Laboratory Highlights

*Richard J. Buckley, Laboratory  
Coordinator*

### Golf Turf

Wet roots are the watchwords for turfgrass stands in our area in late-July. Unlike last year when the rain suddenly ended in mid-July and everything cooked, this year we seem to have a never ending cycle of rain, humidity, and spotty thunderstorms. Kind of a bummer – my lawn won't go dormant! That is beside the point; there are some among us who haven't had dry roots in 6 to- 8 weeks. The worst cases are putting greens on native soil, in pocketed or shady areas, or those with excessive organic matter in the root zone. These sites just can't dry out. Subsequently, the roots are long gone and the plants are fading in the heat. All we need is some high and dry skies and I think all will be lost for the summer. Back to my lawn, of course, if you don't have the pressures of growing golf turf and don't mind mowing things look pretty good.

At any rate, samples were submitted from Virginia, Delaware, Pennsylvania, New Jersey, New York, Connecticut, Colorado, and Utah. In New Jersey, Atlantic, Bergen, Burlington, Camden, Essex, Morris, Monmouth, Passaic, Somerset, Sussex, and Union County golf courses were represented. We repeatedly identified *Colletotrichum cereale* (**anthracnose**), *Rhizoctonia solani* (**brown patch**), *Curvularia* spp. (**fading out**), *Pythium* **blight** and *Pythium* **root dysfunction** in the plugs. There were 18 samples diagnosed with **summer patch**, caused by the fungus *Magnaporthe poae*, alone. **Fairy ring**, **dollar spot**, **slime mold**, **nematodes**, **bacterial wilt**, and a host of **opportunists and saprophytes** (*Curvularia*, *Leptosphaerulina*, *Cephalosporium*, and *Fusarium*) were all well represented in the parade of samples. Saw a couple plugs with **annual bluegrass weevil** pupae too. To date, we have not confirmed a case of **gray leaf spot**, but I can smell it coming!

SEE LAB HIGHLIGHTS ON PAGE 4

### Ornamentals

Samples from landscape plantings are less common at this time of year, but we have seen a few none-the-less. **White pine weevil** and **pine oystershell scale** were identified on Eastern white pine and Japanese black pine, respectively, from the same Ocean County landscape. **Tiny bagworms** were found on a beech sample from

Essex County. **Smaller European elm bark beetles** infested several Zelkova located along a Bergen County street. The trees were submitted for Dutch elm disease diagnosis, but were free of the pathogen. Zelkova is not a reported host for the disease. We are also seeing assorted **powdery mildews** and **gray molds** on the usual hosts.

## Weekly Weather Summary

*Keith Arnesen, Ph.D., Agricultural Meteorologist*

Temperatures averaged much above normal, averaging 76 degrees north, 79 degrees central and 80 degrees south. Extremes were 101 degrees at Hammonton and Toms River on the 18th, and 56 degrees at Charlotteburg on the 24th. Weekly rainfall averaged 1.10 inches north, 1.43 inches central, and 2.39 inches south. The heaviest 24 hour total reported was 2.82 inches at Seabrook on the 21st to 22nd. Estimated soil moisture, in percent of field capacity, this past week averaged 81 percent north, 68 percent central and 57 percent south. Four inch soil temperatures averaged 76 degrees north, 79 degrees central and 80 degrees south.

Weather Summary for the Week Ending 8 am Monday 7/24/ 6										
WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
CANOE BROOK	MISSING									
CHARLOTTEBURG	.83	19.66	-.19	92	56	75.	3	1516	386	76
FLEMINGTON	1.52	25.59	6.56	94	57	77.	3	1731	307	94
NEWTON *	.94	19.97	1.81	91	60	76.	3	1297	60	80
FREEHOLD	1.15	18.40	-.08	98	59	78.	3	1759	227	78
LONG BRANCH	1.13	18.86	.48	99	70	79.	4	1669	214	67
NEW BRUNSWICK	1.31	19.35	.98	97	59	78.	2	1849	232	85
TOMS RIVER	.67	15.95	-2.90	101	64	79.	4	1766	304	53
TRENTON	2.89	20.27	2.75	96	66	79.	2	1891	210	93
CAPE MAY COURT HOUSE	1.40	12.62	-3.70	96	66	79.	3	1783	224	81
DOWNSTOWN *	2.01	16.37	-.76	98	65	80.	3	1655	-38	96
GLASSBORO	.80	17.02	-1.13	98	65	81.	5	2028	357	58
HAMMONTON	1.52	15.10	-3.02	101	66	81.	4	1950	283	84
POMONA	2.62	17.51	1.19	99	65	80.	5	1832	282	100
SEABROOK	5.60	23.01	6.45	98	64	80.	3	2089	389	94
SOUTH HARRSION	.89	17.34	-1.00	98	69	81	NA	2004	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
LAST WEEK 271 (Ending 7/17/06)										
THIS WEEK 277 (Ending 7/24/06)										
* SOME CUMULATIVE VALUES ESTIMATED DUE TO EARLIER MISSING DATA										

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