

# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

JULY 12, 2001

## After Armyworm Lawn Care

*James A. Murphy, Ph.D., Turf Management*

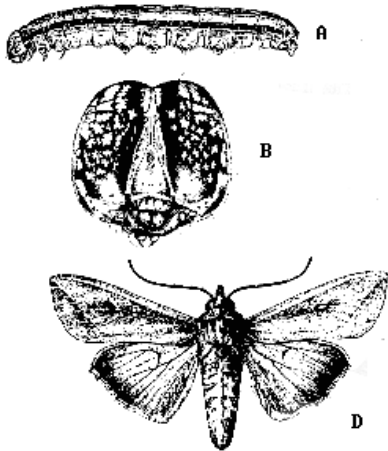
**Question:** Will lawns come back after armyworm damage? What should be done now after armyworms are controlled/gone?

**Answer:** Many lawns should grow back since armyworms generally do not destroy the crowns of the plants; they eat mainly the leaves. Patience, however, is a key concept that will need to be stressed to homeowners. It will take some time (weeks) for the turf to rejuvenate itself. Moreover, the hot humid weather of summer could work against recovery. Irrigation and moderate fertilization will aid recovery. Nitrogen fertilization at 1/2 pound per 1000 square feet per application should be a good target rate to start the rejuvenation process. Additional 1/2 pound applications of nitrogen should be made as the rejuvenation process dictates. Phosphorus and potassium applications will be necessary where soil test results indicate a response.

Weed invasion will be another challenge to be prepared for. The soil surface is exposed and the weed seeds at the surface will likely germinate with rain or irrigation. Although annual grasses will be a likely weed problem, Dr. Steve Hart, Extension Weed Specialist, discourages the use of preemergence herbicides. Preemergence herbicides will eliminate the option of overseeding/reseeding if the need arises. Overseeding may be needed in areas where the turf was weak from some stress other than armyworm feeding and, thus, was killed when the armyworms invaded.

Additionally, Dr Hart suggests that broadleaf weed control be withheld until fall. For the average property owner, use of broadleaf herbicides in the summer weather is too risky. If improperly applied, herbicides could further damage the turf, making the problem worse. If a property owner insists on controlling weeds in the summer, it should be done by a licensed applicator that is familiar with summer herbicide use.

In summary, leave the weeds alone until fall (broadleaves) and next spring (summer annual grassy weeds). Ground cover (grass or weeds) is needed to reduce erosion, mud and dust. Encourage the surviving grass plants to recover with modest fertilization and irrigation. Note areas that do not recover sufficiently and prepare to overseed those areas in mid to late August. Sod is another option that can be used to repair weak or thin areas of the damaged turf. □



Armyworm. A, Larva. B, Larval head capsule. C, Pupa. D, Adult.

## INSIDE

After Armyworm Lawn Care.. 1

Diseases of Turfgrass ..... 2

Plant Diagnostic Lab High-  
lights ..... 3

Important Notice to Fax  
Subscribers ..... 3

Vascular Wilt Diseases of  
Shade Trees, Part III:  
Mimosa Wilt ..... 4

# Diseases of Turfgrass

Bruce B. Clarke, Ph.D., Turfgrass Pathology

## Anthracnose

This disease, caused by the fungus *Colletotrichum graminicola*, has been apparent on annual bluegrass, fine fescue, perennial ryegrass, and Kentucky bluegrass. The fungus typically attacks turf growing under low soil fertility and/or heat or drought stress. Low cutting height and traffic can also enhance symptom development. To identify **anthracnose** in the field, look for small black fruiting bodies with protruding black spines. For best results, increase turf vigor with frequent, light applications of nitrogen, maintain adequate irrigation, reduce thatch, and raise the cutting height (whenever possible). On a preventive basis, apply Banner, Bayleton, Chlorostar, Cleary 3336, Compass, ConSyst, Daconil, Eagle, Fungo, Heritage, Manicure, Rubigan, Spectro or Thalonil per manufacturer's recommendations. Once the disease develops, however, apply a tank mix of Bayleton 50W (2 oz/1000 ft<sup>2</sup>) + Daconil Ultrex 82.5 SDG (6 to 7 oz/1000 ft<sup>2</sup>) or a tank mix of Cleary 3336 50W (4 to 6 oz/1000 ft<sup>2</sup>) + Daconil Ultrex (6 to 7 oz/1000 ft<sup>2</sup>) for best results. In some cases, Prostar may enhance the severity of this disease, therefore, restrict the use of this product to sites that do not have active infections.

## Gray Leaf Spot

**Gray leaf spot** caused by the fungus *Pyricularia grisea*, has just been reported in Maryland by Dr. Peter Dernoeden. To my knowledge, this is the earliest that gray leaf spot has been detected in the Mid-Atlantic/Northeastern region. Gray leaf spot devastated perennial ryegrass and tall fescue plantings throughout the Mid-Atlantic States during late summer and early fall months in 1998. If the current conditions persist throughout the summer months, we may see another major epiphytotic in 2001. Symptoms start as tiny brown leaf and stem lesions covering a 1 to 2 inch area. In severe cases, the leaves curl and lesions may extend the entire width of the blade. As the disease progresses, patches coalesce into large (one to two feet) areas of blighted turf. Extensive foliar blighting may occur during warm (75-85°F), wet weather. Newly established seedlings are more susceptible to infection than mature plantings. When conditions are conducive to disease development, the pathogen produces abundant one to two-celled, pear-shaped spores (conidia). For best results, avoid high rates of nitrogen during July and August and extended periods of leaf wetness (i.e. water in the early morning hours). Fungicide studies conducted in New Jersey, Georgia, Maryland, and Kentucky have shown that Cleary 3336, Compass, Heritage, Spectro, and Zyban were most effective when applied

on a preventive basis every 14 to 28 days beginning in mid July. Chlorothalonil (e.g., Daconil) and the DMI (sterol-inhibiting) fungicides, such as propiconazole (Banner), have also provided effective control when disease pressure was moderate.

## Slime Mold

Although not actually a disease, inquiries have been received recently regarding the appearance of tan to black covered clumps on turf, flowerbeds, and home gardens. In many cases, this material has been reported to occur virtually overnight on plant stems, grass blades, soil mounds, or other vertical objects and is easily removed with light pressure. Leaf tissue underneath these clumps is green and healthy. Upon close examination, these mysterious structures are actually clumps of the common **slime mold** fungus *Fuligo*. *Fuligo* is not injurious to plants and will soon disappear on its own. However, it can be easily dispersed with a rake or steady stream of water if desired. No fungicides are recommended.

## Turf Field Day

Mark your calendars now for this year's Rutgers Turfgrass Research Field Days. The **Landscape Turf Research Field Day** has been set for August 1, 2001 at the Plant Science Research Farm in Adelphia, NJ. Registration will begin at 8:00 AM. Guided tours will commence at 9:00 AM and will conclude at 3:30 PM, "rain or shine". The **Golf Turf Research Field Day** will be held on August 2, 2001 at the Turf Research Farm (Ryder's Lane) in North Brunswick, NJ. This event starts at 9:30 AM (registration); field tours will run from 10 AM to 3:00 PM. The cost of registration is \$20 (\$30 with lunch) for the August 1 field day and \$25 (no formal lunch, but a food vendor will be on site) for the August 2 event. Recertification credits will be available at the conclusion of each program. Call Marlene @ (732) 932-9400 Ext. 339 for further information or directions. □

# Plant Diagnostic Laboratory Highlights

Richard Buckley, Plant Diagnostic Laboratory  
Coordinator

## Turfgrass

Yesterday was hockey puck day in the Plant Diagnostic Laboratory. We finally had a real summer rush dominated by samples from golf greens. Most of the turf, which was submitted as cup cutter plugs, was *Poa annua* at 0.125-0.130 cutting height, with roots just as short, growing on compacted, thatchy root zones. Most of the plugs were dry and rock hard – hockey pucks! The disease identified on almost all of these samples was **anthracnose**. **Anthracnose** is a disease of stressed turf. On most golf courses no stress is spared for a fast green. The stress issues that appear to affect **anthracnose** the most include: using grooved rollers, frequent sand topdressing and brushing, low height of cut, constant spiking/slicing, under-fertilization, compaction, thatch, heavy traffic, moisture extremes, and scalping. Root-infecting diseases – like **take-all** or **summer patch** – influence **anthracnose** as well as high **nematode** populations. The identification and alleviation of the primary stress factors are essential for disease control. Your own situation may be different, but we generally recommend that you raise the height of cut to 5/32nds, suspend topdressing during active disease outbreaks, switch to solid rollers, fertilize lightly to stimulate growth, syringe or hand water hot spots, hydroject or spike compacted areas, and apply fungicides. A tank mix of chlorothalonil plus a sterile-inhibitor, strobilurin, or thiophanate-methyl product should provide control. Make three treatments at 14-day intervals. Be patient because it may take some time for a turnaround. **Anthracnose** samples were submitted to the laboratory from West Virginia, Virginia, Maryland, Pennsylvania, New York, and from Burlington, Bergen, Morris, Middlesex, Monmouth, and Union Counties in New Jersey.

The major issue in home landscape at this time is **brown patch**. Samples of **brown patch** were submitted from Cape May, Ocean, Middlesex, and Bergen County landscapes. We are also beginning to get samples of residential turfgrass with **armyworm** injury. The turf obviously looks as if it was chewed to the ground. Although serious death and destruction abounds, much of the crown tissue is green and once the samples incubate in the laboratory, we see some recovery (see related article on page 1). With adequate moisture and light fertilization, we feel that a lot of the injured turf will also recover in the field. At any rate, be vigilant in your monitoring because we may get another generation.

Adults will fly to light traps and larvae can be monitored with a soap flush. We are still in need of specimens to use in our winter turf classes, so if you have them we would appreciate a jarful. Please send them to the Plant Diagnostic Laboratory PO Box 550 Milltown, NJ 08850. Place the specimens in alcohol and use a sturdy box.

## Nursery

**Verticillium wilt** was diagnosed on red maple from a Cumberland County grower. **Phytophthora crown and root rot** was the problem for a container grower in Burlington County. Rhododendron and Pieris were the plants with the problem. Chrysanthemum producers have also had their share of trouble. **Rhizoctonia** and **Pythium crown and root rots** were identified on container-grown mums from Sussex and Hunterdon County growers.

## Landscape

Insect and mite problems dominate the samples from landscape plants at this time. **Birch leaf minor** was identified on birch from Monmouth County. **Juniper scale** was present on arborvitae from Bergen County. **Maple bladder gall mites** and **poplar tentmaker** were found on maple and poplar from a Monmouth County landscape. **Spider mites** had a party on a viburnum from Essex County, and **redheaded ash borer** was diagnosed in elm branches and on new oak transplants from Atlantic and Monmouth Counties respectively. □

## Important Notice to Fax Subscribers

The fax broadcast and fax back services have been restored. This issue of the newsletter will be sent by both fax and mail to fax subscribers. *If you are a fax subscriber and you receive this issue only by mail and not by fax, please call Cindy Rovins at 732-932-4539. Leave your name and fax number.*

Thank you for your patience while we were waiting for system repair. □

# Vascular Wilt Diseases of Shade Trees, Part III: Mimosa Wilt

Ann Brooks Gould, Ph.D., Plant Pathology

In the third part of this four part series on vascular wilt diseases, an important disease of mimosa is addressed.

## Introduction

The mimosa (or silk) tree, *Albizia julibrissin*, is a legume in the family Fabaceae that has small compound leaves and puffy, light to deep pink flowers. The tree grows in hardiness zones 6 to 10 through the southern and Atlantic regions of the United States. Mimosa grows in the southern counties of New Jersey but can be injured if subject to extreme cold (below -5°F).

Mimosa is affected by a vascular disease known as **mimosa wilt**. This fatal disease, caused by the soilborne fungus *Fusarium oxysporum* f. sp. *perniciosum*, is limiting the use of mimosa as a landscape tree in the southeast region of the United States.

## Symptoms

Symptoms of mimosa wilt first appear in mid-summer as a conspicuous wilting of leaves on individual branches in the canopy. As the leaves droop, they rapidly turn yellow, then brown, and may drop from the tree. Affected branches eventually die. The disease affects the crown branch-by-branch, killing the tree within a period of months to a year after symptoms are first observed. In New Jersey, mimosa trees that fail to break bud in the spring are usually affected by this disease.

In seriously affected trees bark splitting accompanied by a frothy or gummy ooze may become evident on the trunk and major branches. In addition, suckers may be produced at the base of trees killed by the disease.

## Disease Development

*F. oxysporum* f. sp. *perniciosum* lives in the soil and infects trees by penetrating roots directly or through wounds. Once inside the roots, the fungus grows through xylem tissues of progressively larger roots. The fungus moves within the xylem by producing spores that travel in the sap stream. These spores become lodged at the ends of xylem vessel elements, germinate, and grow into adjacent xylem cells. As the cells die, they secrete gummy substances in an attempt to block movement of the pathogen. Once the pathogen penetrates the taproot, the disease then spreads into the stem and branches of the tree. Vascular tissues in the canopy become clogged, and affected branches then wilt and die.

In dying branches, *F. oxysporum* f. sp. *perniciosum* grows from the xylem through to the bark and produces pinkish fruiting bodies on the bark surface. Spores produced in these fruiting bodies are spread by irrigation or rainwater to contaminate the soil. The pathogen is also spread by movement of infected nursery stock and on infested seed.

## Detection

To detect mimosa wilt, look for vascular discoloration in the outer layers of wood of infected branches. Peel the bark using a pocketknife; vascular discoloration usually appears in the sapwood as brown streaks which may encompass all or a portion of the circumference of the branch.

## Disease Management

Mimosa wilt can be fatal to affected trees, and effective treatments have not been proven. Thus, preventive measures for this disease include:

- Do not plant susceptible mimosa trees in sites where the disease has been previously diagnosed.
- Inspect trees for symptoms of mimosa wilt before planting.
- Avoid movement of infested soils.
- Avoid stress, compaction, and wounding of roots.
- Plant resistant varieties if available.

In infected trees:

- Water affected trees and use balanced fertilizers to help alleviate symptoms. High levels of nitrogen fertilizers may exacerbate disease development.
- Prune and destroy affected branches during dry weather; surface sterilize pruning tools before use on healthy tissue.
- Fungicides are not effective for management of mimosa wilt and are, therefore, not recommended.

Sources: Florida Division of Forestry. *Insects and Diseases: Mimosa Wilt*.

[http://www.fl-dof.com/Pubs/Insects\\_and\\_Diseases/td\\_hrd\\_mimosa\\_wilt.htm](http://www.fl-dof.com/Pubs/Insects_and_Diseases/td_hrd_mimosa_wilt.htm)

Goldberg, N., and Smith, R. G. 1999. *Mimosa Vascular Wilt*. College of Agriculture and Home Economics, New Mexico State University Guide H-160.

[http://www.cahe.nmsu.edu/pubs/\\_h/h-160.html](http://www.cahe.nmsu.edu/pubs/_h/h-160.html)

Sinclair, W. A., Lyon, H. H., and Johnson, W. T. 1987. *Diseases of Trees and Shrubs*. Comstock Publishing Associates, Cornell University, Ithaca, NY. □

Rutgers Cooperative Extension - NJAES  
U.S. DEPARTMENT OF AGRICULTURE  
Rutgers - The State University of New Jersey  
Plant & Pest Advisory  
18 College Farm Road  
Cook College  
New Brunswick, N.J. 08901-8551

## PLANT & PEST ADVISORY LANDSCAPE NURSERY & TURF EDITION CONTRIBUTORS

### RCE Specialists and Staff

Bruce B. Clarke, Ph.D., Turf Pathology  
Ann B. Gould, Ph.D., Ornamentals Plant Pathology  
Steven Hart, Ph.D., Weed Science  
Joseph R. Heckman, Ph.D., Soil Fertility  
Albrecht Koppenhofer, Ph.D., Turfgrass Entomology  
James A. Murphy, Ph.D., Turf Management  
George J. Wulster, Ph.D., Floriculture  
Richard J. Buckley, Coordinator, Plant Diagnostic Laboratory  
RCE County Agricultural Agents and Program Associates

Atlantic, Charlene H. Costaris (609-625-0056)  
Bergen, Joel Flagler (201-599-6162)  
Burlington, Raymond J. Samulis (609-265-5050)  
Camden, James Willmott (856-566-2900)  
Cumberland, James R. Johnson (856-451-2800)  
Essex, Jonathan H. Forsell (973-678-7988)  
Gloucester, Jerome L. Frecon (856-881-4191)  
Hunterdon, Winfred P. Cowgill, Jr. (908-788-1338)  
Middlesex, William T. Hlubik (732-745-3443)  
Monmouth, Richard G. Obal (732-431-7261)  
Morris, Pedro Perdomo (973-285-8307)  
Ocean, Deborah Smith-Fiola (732-349-1246)  
Somerset, Nick Polanin (908-526-6293)  
Union, Madeline Flahive-DiNardo (908-654-9854)  
Warren, William H. Tietjen (908-475-6505)

### Newsletter Production

Jack Rabin, Assistant Director, NJAES  
Cindy Rovins, Editor and Designer

Rutgers Cooperative Extension (RCE) provides information and educational services to all people without regard to sex, race, color, national origin, disability, or age. RCE is an Equal Opportunity Employer.

**Pesticide User Responsibility:** Use pesticides safely and follow instructions on labels. The pesticide user is responsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

**Use of Trade Names:** No discrimination or endorsement is intended in the use of trade names in this publication. In some instances a compound may be sold under different trade names and may vary as to label clearances.

**Reproduction of Articles:** RCE invites reproduction of individual articles, source cited with complete article name, author name, followed by Rutgers Cooperative Extension, Plant & Pest Advisory Newsletter.

For back issues, visit our web site at: <http://www.rce.rutgers.edu/pubs/plantandpestadvisory/index.html>.