

# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

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## Diseases of Turfgrass

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

### Anthracnose

This disease, caused by the fungus *Colletotrichum graminicola*, is apparent on bentgrass, annual bluegrass, fine fescue, perennial ryegrass, and Kentucky bluegrass at this time. The fungus typically attacks turf growing under low soil fertility and/or heat and drought stress. Low cutting height 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 light applications of nitrogen, maintain adequate irrigation, reduce thatch, and raise the cutting height (when possible). Apply Banner, Bayleton, Chlorostar, Cleary 3336, Compass, ConSyst, Daconil, Eagle, Fungo, Heritage, Manicure, Rubigan, Sentinel, Spectro or Thalonil on a preventive basis per manufacturer's recommendations. Once the disease develops, good results have been obtained with a tank mix combination of Bayleton 50W (1 oz /1000 ft<sup>2</sup>) + Daconil Ultrex 82.5 WDG (2.8 to 5.5 oz/1000 ft<sup>2</sup>) or Cleary 3336 50W (4 to 6 oz) + Daconil Ultrex 82.5 WDG (2.8 to 5.5 oz/1000 ft<sup>2</sup>).

### Brown Patch

Begin preventive control measures now to suppress this destructive summertime disease caused by the fungus *Rhizoctonia solani*. For best results, avoid heavy applications of nitrogen fertilizers during hot, humid weather, water in the early morning hours (12 midnight to 8 AM) and apply Banner, Chipco 26019, Chlorostar, Cleary 3336, Compass, ConSyst, Curalan, Daconil, Eagle, Fungo, Heritage, mancozeb, Manicure, Pentathlon, Prostar, Sentinel, thalonil, or Touche, on a preventive basis in areas with a previous history of brown patch.

### Dollar Spot

This disease, caused by the fungus *Sclerotinia homoeocarpa*, has been very active on greens and tees. To prevent **dollar spot** from causing damage on susceptible turf again this year, maintain adequate nitrogen fertility, water in the early morning hours, reduce thatch, avoid the sole use of any fungicide for prolonged periods of time (to reduce the possibility of fungicide resistance), and apply Banner, Bayleton, Chipco 26019, ConSyst, Curalan, Daconil, Eagle, Mancozeb, Manicure, Pentathlon, Rubigan, Sentinel, Spectro, Thalonil, Touche, or Vorlan per manufacturer's recommendations.

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Repeat fungicide applications as needed through mid-October.

### **Powdery Mildew**

This disease has been identified on landscape turf recently. In most cases, **powdery mildew** occurs in shaded areas and on lawns with poor air circulation. Although control is usually not required, present infections may be checked with Banner, Bayleton, Eagle, Rubigan, or Sentinel, if desired.

### **Turf Field Days**

The Landscape Turf Research Field Day has been set for August 2, 2000 at the Turf Research Farm (Ryders Lane) in North Brunswick, N.J. Registration will begin at 8:00 AM. Guided field tours will commence at 9:00 AM and will conclude at 3:30 PM, "rain or shine". The registration cost is \$20 (\$30 with lunch). The Golf Turf Research Field Day will also be held at the Turf Research Farm (Ryders Lane) in North Brunswick, NJ. This event will occur on August 3, 2000 at 12:30 PM (registration) and field tours will run from 1:00 to 5:00 PM. Registration is \$25.

Recertification credits will be available at the conclusion of each program. Call Marlene at (732) 932-9400 Ext. 339 for additional information. Mark your calendars now for this year's Rutgers Turfgrass Research Field Days. □

## **Plant Diagnostic Laboratory Highlights**

*Richard Buckley, Plant Diagnostic Laboratory Coordinator*

### **Turfgrass**

**Anthraxnose basal crown rot** continues to be a problem for golf turf managers in late-May. Golf greens with high populations of annual bluegrass are the primary sites with this disease. Field symptoms are characterized by small dime-sized patches corresponding to individual plants that soon lead to overall thinning and yellowing of irregular turf areas. It is troubling to see so much **anthracnose** so soon. It's not even hot yet!

**Nematodes** are another issue being addressed by the laboratory this period. Symptoms of nematode activity include wilting under moderate moisture stress, slow recovery of wilted turf, thinning and yellowing, stunting, or nutrient deficiency. Nematode populations are erratic in the soil, so symptoms appear in areas of irregular size and shape. Several golf courses have submitted soil samples for population counts over the last week. Obviously, results vary from site to site and occasionally nematicide treatments are recommended to suppress the populations. A number of factors should be considered before making applications of any nematicide product. In fact, many turf pest consultants would consider nematicide use to be a "last resort" solution. There are several management strategies that may reduce the impact of very high populations of nematodes without chemical intervention. It is not unusual for a turf manager to maintain satisfactory turf performance with nematode populations that exceed most reported damage thresholds. At the very least, careful consideration of all options is in order. Nematicide use should not be taken lightly. Contact the laboratory or refer to Rutgers Cooperative Extension Fact Sheet FS757 (see RCE Publications article on page 5) for nematode sampling instructions.

Other diseases of interest include: **dollar spot** from golf turf in Bergen County; **pink snow mold** from golf turf in Sussex County and Philadelphia; **pythium seedling blight** from a grow-in in Somerset County. **Red thread** is very active at this time. We don't get the disease in the lab, but I see it all over the place. My wife can identify it – can you?

### **Landscape**

Various insect pests dominate the submissions from landscape plants this week. **European lecanium scale** was identified on yew submitted by a Bergen County landscaper. The insects were in the crawler stage. **Arborvitae leafminer** was found to be causing tip blight in an arborvitae hedge that was sent from an Atlantic County planting. Dead nettle submitted by an Atlantic County resident was covered with **onion thrips**. **European elm scale crawlers, elm leaf beetle larvae, and elm bark beetles** were infesting an elm branch brought in from a Monmouth County landscape. Finding the **bark beetles** in the sample puts this tree on **Dutch elm disease** alert.

### **Greenhouse**

**Bacterial blight** of geranium, caused by the bacterium *Xanthomonas campestris* pv. *pelargonii* was confirmed in samples of geranium from a Cumberland County producer. The trouble plants were "in-house" cuttings that could be traced back to a single sick stock plant. Early detection and vigorous sanitation appears to have nipped the problem in the bud. □

# Impact of Environmental Conditions on Plant Health, Part IV: Allelopathy, Planting, and Deadheading

Clare S. Liptak, Senior Program Coordinator,  
RCE Resource Center and Ann B. Gould,  
Ph.D., Plant Pathology

In the final part of this four part series, we discuss allelopathy, spring and fall planting, and the practice of deadheading old blooms on flowering plants.

## Allelopathy

**Allelopathy** is the term that describes the positive and negative effects that some plants have on other plants. It is defined as the biochemical modification of the environment by a plant to enhance its chances for survival and reproduction. The most commonly known allelopathic plant is black walnut, although other ornamental plants and turfgrasses also have negative allelopathic effects.

Black walnut exudes a substance called juglone from its roots, stems, and leaves. Mulches made from these plant tissues also release juglone into the soil. Juglone inhibits cell respiration, thus reducing plant growth, in species such as pines, chrysanthemums, peonies, apple, lilac, white birch, and acid-loving plants. Soil moisture, microorganisms, the availability of light, and soil texture all affect the activity of juglone. For example, white and red pines are affected negatively by juglone when the soil is wet, but not when the soil is dry.

## Spring and Fall Planting

Fall is an optimum time to plant many trees, shrubs, ground covers, perennials, and bulbs because rainfall is generally more uniform in the fall compared to the spring and summer. Perennials and bulbs are best planted in early to mid-fall; planting at this time permits sufficient root growth so the plants are not heaved out of the ground during winter cycles of soil freezing and thawing.

Certain trees such as oaks and beeches generate new roots primarily in the spring. They can be planted in the landscape in the fall, but are most likely to survive if they have been container-grown or if the plant was dug from the nursery row the previous spring. Other plants that generate roots primarily in the spring are the true firs (Douglas fir is not a true fir), birch, yellowwood, flowering dogwood, beech, ginkgo, American holly, sweetgum, tuliptree, magnolia, sourwood, oak, and hemlock.

## Deadheading

Referred to as "deadheading," the removal of old blooms prevents seed development and improves the appearance or health of many annuals and herbaceous perennials. Deadheading:

- prolongs the bloom period in plants that flower over a period of several weeks
- stimulates a second period of blooms in plants that flower heavily in a short period (the second burst of blooms will be shorter, the flowers smaller, and there will be fewer of them)
- prevents self-seeding in plants where this is a problem, such as border phlox (*Phlox paniculata*)
- causes some biennials such as sweet William (*Dianthus barbatus*) to behave as perennials
- improves the general appearance of the plant, first because the aging plant parts are removed, and second because the energy that would have gone into seed production goes into leaf, stem, and root growth instead.

## For More Information

Other Rutgers Cooperative Extension fact sheets and bulletins which may prove helpful include:

- FS121 Herbicide Injury to Trees
- FS191 Pest Resistant Trees and Shrubs
- FS316 Preventing Pests in the Home Landscape
- FS432 Wildlife and Homeowners: New Jersey White-Tailed Deer
- EB433 Landscaping at the Seashore (\$1.00)
- FS631 Plant Disease Control: Sphaeropsis (Diplodia) Shoot Blight and Canker of Pines
- FS663 Plant Disease Control: The Impact of De-icing Salt on Roadside Vegetation
- FS786 Six Ways to Keep Your Newly Planted Tree Alive and Healthy
- FS866 Using Horticultural Oils

Fact sheets and bulletins on this and related topics can be obtained from your Rutgers Cooperative Extension County Agricultural Office, or by contacting the Publications Distribution Center (see RCE Publications article on page 5). Also, write to Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20250 and request a list of available publications on home gardening. □

## S. Jersey Christmas Tree Growers Meeting

The annual Southern New Jersey Christmas Tree Meeting will be held on June 20, 2000, at 6:30 p.m. at Belly Acres Christmas Tree Farm on Royal Ave. in Franklinville, NJ. Owned by Charles and Eileen Rauchfuss, Belly Acres is one of the largest tree farms in southern New Jersey. A Choose and Cut Operation, Belly Acres offers Douglas Fir, White Pine and other conifers as both balled and cut trees. A walking tour of the farm will commence at 6:30 p.m. with discussion and demonstration of production and management problems and practices.

The meeting, sponsored by Rutgers Cooperative Extension, will include presentations by Rutgers Cooperative Extension Specialists, according to Jerry Frecon, Agricultural Agent with Rutgers Cooperative Extension of Gloucester County.

Dr. Mark Vodak, Specialist in Forestry, will demonstrate shearing with hand and mechanical aids. Dr. Jim Lashomb, Specialist in Ornamental Insects, will discuss insect problems and recommendations. Mr. Richard Buckley, Plant Pathologist with Rutgers Diagnostic Laboratory, will discuss common disease problems and control strategies.

Also on hand will be Dr. John Meade, Professor Emeritus of Weed Science who will discuss weed identification and control strategies for growers.

The Rauchfuss Family will also share their unique marketing perspectives. Dr. George Hamilton, Specialist in Pesticides and Pest Management, will finish up the program with a discussion of Pesticide Safety and Revised Regulations.

All attendees will receive NJ Pesticide Application Units for various categories and CORE.

A map and detailed information on the program can be obtained by contacting Jerome Frecon at 856-307-6450. □

## EPA Increases Risk Estimate of Pesticide Dursban

David Brown and Joby Warrick, Washington Post Staff Writers

*Excerpted from The Washington Post, June 1, 2000.*

The Environmental Protection Agency has concluded that one of the most commonly used pesticides, a compound sold as Dursban and found in dozens of home-and-garden products, may be more dangerous to people than previously thought, according to sources familiar with the decision.

The EPA's conclusion, which is expected to be announced June 8, will effectively remove the pesticide, also known as chlorpyrifos, from all over-the-counter products. Although farmers will still be allowed to spray it on crops, the chemical's agricultural use will be reduced to a degree not yet decided. Whether professional exterminators will be allowed to employ it to kill termites, ants and cockroaches is uncertain.

The move culminates the most extensive scientific assessment of a pesticide in EPA history, and one of the more contentious. Last October, the agency proposed making the acceptable exposure level of chlorpyrifos one-third of what it is currently. Now the level will be even more stringent: one-tenth of what's currently allowed.

The decision is part of a systematic review of the safety of pesticides EPA is required to make under the 1996 Food Quality Protection Act. The law is designed to protect children in particular from the toxic effects of pesticides. The newly estimated hazards of chlorpyrifos are based on experiments showing the substance can cause brain damage in fetal rats, not on human studies.

The pesticide is a member of the organophosphate family of compounds, whose most potent cousins include nerve gases used as chemical weapons. Its only American manufacturer is Dow Chemical Co. About 800 consumer products contain the compound. They include Ortho Lawn Insect Spray, Real Kill Wasp & Hornet Killer II, and Spectracide Dursban Indoor & Outdoor Insect Control. The EPA has determined that the compound poses no imminent threat to public health, and consequently won't order a recall of products containing it.

About 11 million pounds of chlorpyrifos are used each year by farmers and fruit growers; about 5 million pounds by industrial, commercial and government buyers; and about 3 million pounds by the home-and-garden market.

Public concern about pesticide exposure - and the expectation of further government regulation - has driven many users of the compound in the last few years to find alternatives. For example, some dog and cat flea collars now contain insecticides called pyrethroids instead of chlorpyrifos. Many exterminators use chemical baits rather than pesticides to rid houses of termites.

"Dursban is still an important product, but not the most important product in every category," said Mancer Cyr, a consultant with Kline & Co., a Little Falls, NJ, company that gathers market data for the chemical industry. In the home-and-garden market, about half the chlorpyrifos used is bought by consumers and half is applied by

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## RCE Publications

Holly Kennington, Publications Manager, RCE Resource Center Services

Rutgers Cooperative Extension (RCE) Publications Distribution has educational publications available that might be of interest to the commercial industry. Available are both free and charged publications authored by the Rutgers Cooperative Extension specialists, county agents, and program associates. The RCE publications mentioned in this newsletter are available, in addition to the many other RCE publications listed in the RCE Publications List.

The Publications List and many of the publications appear in their entirety on our web site <http://www.rce.rutgers.edu> with downloading capabilities. For a hard copy contact your County Extension office listed on the back of this newsletter (or in your local phone directory) or call the Publications Distribution office at (732) 932-9762; fax order to: (732) 932-5023; or mail your order to: RCE Publications Distribution, 57 Dudley Road, Cook College, New Brunswick, NJ 08901-8520. Some charged publications have an added cost for postage not listed in the Publications List. If ordering from the RCE Publications Distribution, please call ahead for the exact price.

Sample titles are:

- FS105 - "Maintaining Athletic Fields"
- FS183 - " Rhabdocline Needlecast and Its Control"
- FS184 - "Chemical Control of Turfgrass Disease"
- FS630 - "Effects of Ozone, Fluoride, and Sulfur Dioxide Pollution on Landscape Plants"
- FS659 - "Root and Crown Rots of Herbaceous Ornamentals in the Landscape - Diseases Caused by the Fungus *Rhizoctonia*"
- FS660 - "Root and Crown Rots of Herbaceous Ornamentals in the Landscape - Diseases Caused by the Fungus *Pythium*"
- FS688 - "Fine Fescues: Low-Maintenance Species for Turf"
- FS738 - "New Jersey Seed Standards for Sod Certification"
- FS740 - "Thatch Management in Turf"
- FS808 - "An Integrated Approach to the control of Canker Diseases in Woody Ornamentals - I. Cytospora Canker of Spruce"
- FS809 - "Pine Wilt Diseases"
- FS814 - "Managing Diseases of Landscape Turf"
- FS875 - "Oak Leaf Scorch"
- FS876 - "An Integrated Approach to Control of Canker Diseases in Woody Ornamentals - II. Black Knot of *Prunus*"
- FS877 - "An Integrated Approach to Control of Canker Diseases in Woody Ornamentals - III. Perennial Nectria Canker"
- FS878 - "Foliar Nematodes in Ornamental Plants"
- E159 - "Common Spring-Time Diseases of Woody Ornamentals in the Nursery" - \$3.00
- E160 - "An Integrated Approach to Necrotic Ring Spot Control in Turf" - \$3.00
- E161 - "Needlecasts and Common Needle Diseases of Christmas Trees" - \$2.00
- E162 - "An Integrated Approach to Summer Patch Control in Turfgrass" - \$1.00
- E166 - "Common Spring-Time Diseases of Wood Ornamentals in the Landscape" - \$1.00

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exterminators and lawn care companies, he said.

Crucial in the EPA's decision was a study by Dow - one of more than 100 the company was required to perform - that showed brain damage in fetal rats whose mothers were given the compound.

Normally, EPA sets a safe exposure level for a pesticide such as chlorpyrifos at one one-hundredth of the maximal concentration at which there are no detectable effects on an adult animal. Under the 1996 law, however, that hundred-fold safety margin is increased ten-fold more if there is any evidence that infants or children are especially vulnerable to a pesticide. The detection of "neurodevelopmental effects" in the rats triggered that part of the regulation.

The level of chlorpyrifos that will now be deemed safe for children will be one one-thousandth of the "no-effect level." Such a stringent level effectively rules out home use of chlorpyrifos because consumers couldn't use the chemical without bumping up against that very low ceiling.

EPA is negotiating with Dow Chemical over what uses of chlorpyrifos will be permitted. If the manufacturer (and its customers) don't voluntarily agree to restrict its use to reach the new exposure level, the agency can force the restriction. □

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