

# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50 NOVEMBER 6, 2008

## Prepare for Phosphorus Reduction in Fertilizers; Test Soil Now

Loren Muldowney, Rutgers Soil Testing Lab



Photo credit: Robert Muldowney

Are you spreading money on the lawns you service? The New Jersey Department of Environmental Protection (NJDEP) is getting serious about reducing the amount of phosphorus (P) entering the streams and storm sewers of New Jersey. Guidance documents and ordinances restricting the application of fertilizer P can be expected to follow shortly. Do not be caught unawares! <http://nj.gov/dep/fiw/>

To determine appropriate fertilizer N-P-K ratios needed, consider first the grasses' N need which depends on many factors including grass type, time of year, clippings removed or returned to lawn, irrigation amount & frequency, and light conditions (full sun - full shade). N is not "stored" in soil to a significant extent; fertilizer N "feeds the plant." In contrast, fertilizer P & K "feeds the soil;" that is, soil stores P & K for plants. So how much P and K is needed in a fertilizer application? The only way to know is by testing the soil. Soil testing is part of the Best Management Practice for landscapers.

At the October 28<sup>th</sup> meeting of the NJDEP Fertilizer Initiative Technical Working Group, Dr. Stephanie Murphy of the Rutgers Soil Testing Laboratory presented the lab's data for 2007 which show that 70% of the samples received do not need any additional P. Extra phosphorus will not result in better grass, but it will waste money spent on P, squander scarce natural resources, and cause non-point source pollution. Establish yourself as a knowledgeable and environmentally conscious professional: test every property before applying P. On the other hand, 30% of the samples do need P for optimum growth. The goal is to get fertility just right so that your expert management can reach its full potential.

You can also beat the spring rush by getting your soil tests to the Soil Testing Laboratory now. Soil test results from the fall are still valid for spring application, and you will not have to wait. Many fertilizer vendors will raise their prices in the new year, so it is also a good time to make an advance purchase if you know what you need. Some suppliers already have the newly formulated, low-P fertilizers in stock. While the cost of special tests have increased effective November 1, 2008, the Rutgers Soil Testing Laboratory is keeping its 2009 basic fertility and lime requirement testing fees the same as in 2007 and 2008. Together, we can keep the grass green and the water clean. Test, Don't Guess! <http://njaes.rutgers.edu/soiltestinglab>

SEE PHOSPHORUS REDUCTION ON PAGE 2

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*Improper fertilizer application/cleanup is responsible for much of the runoff problem. Possibly 99.9% of fertilizer granules sprayed onto roads will be washed into storm sewers. Above: Note how each pellet in the street is releasing its nutrients or chemicals. Those dark spots are not rain. Also notice in this picture the leaves along the curb and the storm sewer clogged with leaves, another source of nutrients going to water. Landscapers would benefit by making street cleanup part of their services.*



*Fertilizer granules on their way into the storm sewer. Photos courtesy of Ocean County Utilities Authority.*

#### **PHOSPHORUS REDUCTION FROM PAGE 1**

The Rutgers Soil Testing Laboratory sells soil sampling kits directly to landscape professionals and provides prompt, expert analysis and advice to the industry based on lab results. Many of our professional clients include a copy of the lab test results to their customers. Be part of our Landscaper Green Star program! Call for details 732-932-7000, ext. 4231. □

## **Diseases of Turfgrass**

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

### **General**

**Stripe smut, stem rust, cool-season brown patch** (yellow patch) and **dollar spot** are all active at this time on landscape turf. These diseases should soon decline as the weather gets colder over the next few weeks.

### **Pink Snow Mold**

This disease, caused by the fungus *Microdochium nivale* (= *Fusarium nivale*), will develop soon on golf and landscape turf. To prevent pink snow mold from developing this fall, avoid excessive nitrogen applications, continue mowing turf until dormancy, and apply Armada, Banner, Chipco 26GT, chlorothalonil, Compass, ConSyst, Eagle, Headway, Heritage, Insignia, Instrata, Medallion, PCNB, Spectro, Tartan, thiophanate-methyl, Trinity, or vinclozolin. For best results, apply any of these fungicides now and then repeat in late-January if the snow cover recedes. However, do not reapply PCNB after January 15 due to the possibility of phytotoxicity during warm weather next spring.

### **Green Industry Expo**

This year's Green Industry Expo will be held at the Trump Taj Mahal Casino/Resort on December 9-11, 2008. This is an excellent opportunity to receive the latest turf management information from nationally renowned speakers. For additional information, go to [www.njturfgrass.org](http://www.njturfgrass.org), contact Cece Peabody (973) 812-6467 or e-mail [execdirector@njturfgrass.org](mailto:execdirector@njturfgrass.org) or Barbara Fitzgerald (732) 932-9375 ext. 338 or e-mail [bfitzgerald@aesop.rutgers.edu](mailto:bfitzgerald@aesop.rutgers.edu). □

## **Rutgers Soil Testing Laboratory Services**

The Rutgers Soil Testing Laboratory is a part of Rutgers New Jersey Agricultural Experiment Station outreach component. Located on the George H. Cook campus, the Rutgers Soil Testing Laboratory is a service unit that performs chemical and mechanical analyses of soils for the residents of New Jersey and for University research personnel. The mission of the Laboratory is to provide accurate and timely soil and water test reports to meet the increasing agricultural and environmental needs of the state.

For testing and fees provided for landscape, greenhouse and sports turf, go to the web at: <http://njaes.rutgers.edu/services> or call the Lab at 732-932-7000, ext. 4231 or e-mail [soiltest@rce.rutgers.edu](mailto:soiltest@rce.rutgers.edu). Soil test kits are available through your county Rutgers Cooperative Extension office. □

# Winter Injury in the New Jersey Landscape

*Ann B. Gould, Ph.D., Specialist in Plant Pathology and Gladis Zinati, Ph.D., Specialist in Nursery Management*

One might think that it's too early to think about "winter injury," since fallen leaves are just now carpeting lawns and landscapes, but some forms of winter injury begin as trees and shrubs approach their dormant winter period. Consider also that many sensitive species may be protected with measures implemented during the fall.

Winter injury is a result of many environmental factors. The causal factors are diverse and include late spring frosts, a cool summer followed by a warm fall and a sudden drop in temperature, excessive or late season fertilization, excessive temperature fluctuations and abnormal cold temperatures during winter, drying winds, and lack of snow cover.

A wide range of plants can be affected by winter injury. However, winter injury is most prevalent on broad-leaved evergreens such as rhododendron and mountain laurel, needled evergreens such as hemlock, yew, pine, and juniper, and deciduous trees and shrubs such as the flowering cherry and almond, maple and dogwood. The most common winter injury symptoms on rhododendron and mountain laurel are characterized by a marginal browning and longitudinal rolling along the mid-vein. Needled evergreens exhibit a slightly different symptom with browning of the tips of needles, needle drop, and tip and twig dieback.

## Types of winter injury

Excessive drying is quite common in dormant evergreens, where when water evaporates from leaves or needles on windy or warm sunny days during the winter or early spring. Drying occurs because this water is not replaced since the roots cannot take up enough water from cold or frozen soil.

Freezing injury is common for plants that are not acclimated to cold winter temperatures. Plants acclimate by extracting water from plant cells into intercellular spaces, where it can freeze without causing harm to the plant, and by supercooling water that remains within cells. When acclimation is delayed in the fall, typical winter cold injures these susceptible tissues.

Frost damage occurs in the spring when tissues deacclimate normally, but are subject to cold temperatures. Newly developing buds and twigs may be killed outright by these unseasonable temperatures. Periods of extremely high winter temperatures combined with windy conditions are causal factors of sunscald or sunscorch. Common symptoms are bark splitting of stems or branches often on the southwest side of the tree, dried buds,

scorching or shriveling and dying of newly emerged foliage, twig dieback, scalding of foliage and bark, stunted annual twig growth and root death.

Winter injury predisposes plants to secondary pests. Unfortunately, symptoms of winter injury are not often evident until after (spring or summer) the injury has occurred.

Strategies to minimize wind exposure, winter injury, and sunscald include:

- Install physical barriers such as canvas, burlap, or wood slats on the exposed sides to reduce winter desiccation (the screens should be placed two feet away from the tree or shrub and anchored securely).
- Select the appropriate plants (e.g. pine, spruce or juniper) as windbreaks in areas of high exposure to wind (northwest side).
- Apply sufficient moisture in the root zone before the soil freezes in the fall, and mulch the ground to retain moisture in the winter.
- Avoid late summer and early fall fertilization (this stimulates and encourages plant growth late in the season which may not harden off properly for the winter).
- Select ornamental plants that exhibit medium to high tolerance to low temperatures (refer to Rutgers NJAES Cooperative Extension Fact Sheet FS528 for detailed information on winter hardy plants <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS528>).
- Protect conifers and broadleaf evergreens from drying by spraying antidessicants in late fall and throughout the winter months when temperatures are above 45oF.
- Prevent winter sunscald in newly planted, thin barked trees (such as maple, tuliptree, ash and crabapple) by wrapping the trunk with burlap or other tree wrapping materials (the wrap can be kept in place up to two years).
- Prune dead twigs and branches that serve as sites for secondary pests.
- Fertilize with complete fertilizer, if soil test results showed nutrient deficiency, by spreading the fertilizer on the ground in early spring (refer to Fact Sheet FS031 for more details on placement of fertilizer <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS031>). □



## Poinsettia Open House

Dec. 3 - Dec. 5, 2007

From 9:00 a.m. until 3:00 p.m.

Floriculture Greenhouses  
School of Environment and  
Biological Sciences

New Brunswick, NJ 08903

Approximately 100 Poinsettia cultivars provided by Fischer, Dummen, Oglevee, Selecta First Class, and the Paul Ecke Ranch, will be on display during our annual Poinsettia open house. The Open House will take place from Dec. 3- Dec. 5 between the hours of 9:00 a.m. to 3:00 p.m. at the Floriculture Greenhouses that are located behind Blake Hall, directly off Nichol Avenue on the Cook College Campus. Regardless of whether you sell them, buy them, or just enjoy a colorful display, it will be a chance to see what's new, exchange ideas, and learn more about growing, handling, and marketing this important crop.

This year, the finishing of the crop under two different temperature regimes to evaluate energy conservation and potential may be of particular interest. One regime will be the traditional day and night temperatures the other will be a temperature regime characterized as "cold production" touted as a way to save on energy costs. While there is information about responses it should be interesting to see how 100 different cultivars respond to this adjustment.

The program is informal and free of charge. It is an educational opportunity open to anyone interested in learning more about this important floricultural crop. For more information call Ms. Nickie Graf at 732-932-9301. □

## Report from the NJDA Division of Plant Industry

### Plant Pest Survey

The Emerald Ash Borer National Survey concluded this month with no suspect insects detected. Eighty traps had been located at twenty sites throughout New Jersey. All traps have now been removed.

### Phytophthora ramorum Screening

Nursery leaf samples collected throughout the growing season were screened for the presence of *Phytophthora ramorum*, the causal agent of Sudden Oak Death Syndrome. A total of 119 samples of 800 samples collected tested positive in an ELISA screening test, which detects *Phytophthora* at the genus level, but not to the species level. A follow-up DNA test is then required to definitively identify *P. ramorum*. Extraction of the DNA is underway; when complete, the samples will be tested in our laboratory, and any DNA positives will be sent to the USDA for confirmation.

### Recoveries of *Rhinoncomimus latipes* on Mile-a-Minute

This past month, *R. latipes* has been recovered from nine new sites. Three of the sites are in Gloucester County, two each in Salem and Hunterdon Counties and one in Camden and Mercer Counties; respectively. *R. latipes* is steadily increasing its range within the state and is dispersing very well. All of the sites where the weevil has been released over the past two years are showing feeding and node damage.

A total of 8,499 weevils have been released this month bringing the seasonal total to 45,509 spread among 28 sites. This is approximately 15,000 (33%) more weevils than the 30,054 that were released in 2007. One of the release sites during this reporting period was at an orchard in Warren County, where the mile-a-minute was taking over a hedgerow causing the grower some concern. A release of 2,200 weevils was made on October 2nd to determine whether the weevils will overwinter that far north. The weevils easily overwintered in South Jersey when released in mid-October.

### HWA Predator *Laricobius nigrinus* has begun to Emerge from Summer Dormancy

*Laricobius nigrinus*, a native predator of the Hemlock woolly adelgid (HWA) which was reared in the Phillip Alampi Beneficial Insect Laboratory last winter and spring, has started to emerge from summer storage conditions. In the field, adult beetles emerge from the soil in the fall to feed and reproduce on the HWA. The beetle is active from October to March, synchronous with the HWA, which breaks aestivation and develops at the same time. Last spring, laboratory reared *Laricobius* larvae burrowed into a soilless medium to pupate. The laboratory reared beetles are right on schedule, as the first emerging adult was observed on September 18. Since then, they have been emerging on a fairly consistent basis.

Plans are underway to release the predators in HWA infested stands in northern New Jersey this fall, in cooperation with the US Forest Service and the National Park Service at the Delaware Water Gap NRA. The goal is to impact the HWA population through inundative releases of the predators. By releasing as many beetles as possible in the Delaware Water Gap NRA in areas where the hemlock trees are still relatively healthy, and where high HWA populations are present to rapidly build the *Laricobius* population, the Division is hoping to get a measurable response much faster than would otherwise occur. □

## 2008 South Jersey Landscape Conference and Nursery Growers Meeting

The 2008 South Jersey Landscape Conference and Nursery Growers Meeting will be held on Wednesday, December 3, 2008 from 8:00 A.M. to 4:30 P.M. at Masso's Crystal Manor, South Delsea Drive in Glassboro, NJ. A general session in the morning will be for all growers and landscape professionals. The afternoon session will be split into two concurrent sessions. All commercial producers and marketers of trees, shrubs, and perennials are invited to the growers meeting. The landscape conference will be for all landscapers and ground maintenance professionals. Professional certification credits and NJ pesticide applicator units will be given at the conclusion of each session.

The general session for both groups will feature a keynote address on the "Outlook for the Future of the Nursery and Landscape Industry" by Corey Connors, Director of Legislative Relations of the American Nursery and Landscape Association (ANLA) in Washington, D.C.

Dr. Chris Obropta, Specialist in Water Resources, for Rutgers NJAES, Cooperative Extension will address "Impervious Cover and Its Impact on Water Runoff and Management". "This topic is increasingly important to all landscape and nursery professionals" said Carl Nordstrom, moderator and director of the New Jersey Nursery and Landscape Association.



*Dr. Chris Obropta*

Ms. Pat Hastings, Pesticide Education Coordinator with Rutgers NJAES, Cooperative Extension, will review pesticide safety issues. Two NJDEP Pesticide Applicator Core units will be given to all New Jersey Pesticide Applicators attending this talk. Mr. Mike Korpit of the US Department of Labor OSHA will discuss some new and review some old safety regulations for nurserymen and landscapers.

The Nursery Growers sessions will focus on Weed Management by Dr. Steve Hart, Specialist in Ornamental Weed Science with Rutgers NJAES Cooperative Extension, and New Ornamental Native Plants by Bruce Crawford, Director of the famous Rutgers Gardens in New Brunswick. Mr. Marc Tefteau, Director of Research and Regulatory Affairs at the ANLA in Washington will discuss New Research Initiatives to help the Industry.

Dr. Gladis Zinati (pictured) is pointing out to Glenn Rogers, plant production manager at Pinelands Nursery, the increase in root mass by using natural mycorrhizae in Red Oak. Dr. Zinati, Specialist in Nursery Management at Rutgers NJAES Cooperative Extension will share her research results with growers.



The Landscape Conference, chaired by Jerome Frecon, Agricultural Agent with Rutgers NJAES, Cooperative Extension in Gloucester County, will feature presentations on Proper Tree Planting and Management, Leaf Scald and its Impact on Tree Decline, and Developing an Organic Landscape Management Business. Said Mr. Frecon, "We will close the conference with our popular panel of landscapers sharing ideas that have made their business successful".

Certified Nursery and Landscape Professionals will also receive 7 credits for participating in the entire conference.

Regular information will be posted on the web site at <http://gloucester.njaes.rutgers.edu> including a detailed copy of the program. Pre-registration is required. Contact Jerry Frecon at (856) 307-6450 Ext. 1 for more information. Call Carl Nordstrom at (800) 314-4836 to register for the conference and meeting. □

## Rutgers Plant Diagnostic Laboratory Services

The Rutgers Plant Diagnostic Laboratory & Nematode Detection Service is a full-service plant health diagnostic facility sponsored by Rutgers New Jersey Agricultural Experiment Station. The Lab's mission is to provide accurate and timely diagnoses of plant health problems for the residents of New Jersey.

Located on the George H. Cook campus in New Brunswick, NJ, the Lab provides plant health diagnostic services in cooperation with Extension faculty, staff, and other university personnel. The Lab serves residential and commercial clientele.

The Rutgers Plant Diagnostic Laboratory provides the following services:

- ✓ Disease and Insect Pest Diagnosis
- ✓ Plant and Weed Identification
- ✓ Insect Identification
- ✓ Fungus and Mold Identification
- ✓ Nematode Assays
- ✓ Screening for Acremonium Endophytes
- ✓ Fungicide Resistance Screening
- ✓ Other Services Available by Contract

For fees and instructions on how to submit samples, go to the web at: <http://njaes.rutgers.edu/services> or call the lab at 732-932-9140, fax 732-932-1270 or e-mail [clinic@njaes.rutgers.edu](mailto:clinic@njaes.rutgers.edu). □

**Editor's Note: This is the last issue of the Landscape, Nursery & Turf edition of the Plant & Pest Advisory for the 2008 season. Thank you for subscribing.**

