

# PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

APRIL 20, 2006



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## Diseases of Turfgrass

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

### Leaf Spot and Melting-Out

This disease, caused by the fungus *Drechslera poae*, is once again apparent on susceptible Kentucky bluegrass lawns throughout the State. To prevent severe damage from the melting-out phase of this disease during the next few weeks, avoid heavy applications of nitrogen in the spring (especially quick-release formulations such as urea or ammonium nitrate), maintain the cutting height at or above 2 to 2-1/2 inches, remove excess thatch, and apply Chipco 26GT, chlorothalonil, Compass, Curalan, Heritage, Insignia, mancozeb, Medallion, or Touche now per manufacturer's recommendations. Avoid the use of acropetal penetrant fungicides (e.g., benzimidazoles or sterol inhibitors) this spring in areas with a history of **leaf spot** and **melting-out**, since these fungicides may intensify symptom expression.

### Red thread

This disease, caused by the fungus *Laetisaria fuciformis*, is present on susceptible turf (particularly perennial ryegrass and fine fescues) throughout the State. Infections are characterized by the appearance of short red threads (1/8" to 1/4" long) emerging from tan-colored leaf blades. Affected patches are typically pink in color and range from 1 to 6 inches in diameter. Bentgrass, bluegrass, bermudagrass, and tall fescue may also be affected. Red thread is typically found on "hungry" (low fertility) turf during cool, wet weather. Well-fertilized turf may also be attacked but to a lesser extent than nitrogen deficient turf. To obtain optimum disease control, maintain adequate fertility levels, keep turf properly irrigated, avoid excessive thatch, and apply Banner, Bayleton, Chipco 26GT, Compass, Curalan, Eagle, Heritage, Prostar, Insignia, Rubigan, or Touche per manufacturer's recommendations.

### Take-All Patch

We just received a report of this disease on a golf course in the State. Take-all patch is caused by the root and crown infecting fungus *Gaeumannomyces graminis* var. *avenae*. Although infection takes place during cool, wet weather in the fall, winter and spring, symptoms are most striking in April and May after periods of stress. Infected grass first appears bronzed to reddish-brown and then fades to a dull brown color. Patches are usually circular, range in size from several inches to two feet or more in diameter, and may exhibit a bronzed colored outer ring when active. The centers of patches on affected greens, tees, or fairways are

SEE TURF DISEASES ON PAGE 2

## Spring Seeding Notes

James A. Murphy, Ph.D., Specialist  
in Turf Management

Spring brings many questions regarding seeding of turf. Rutgers Cooperative Research & Extension Factsheet FS684, Turfgrass Seed Selection for Home Lawns, lists suggested seed mixtures for a variety of settings. The URL for the website to download the publication is <http://www.rcre.rutgers.edu/pubs/publication.asp?pid=FS684> or it is available through your county extension office.

Note the dry spring weather this year is hindering establishment from seed, unless irrigation is being performed. A mulch will be useful to reduce the need for irrigation.

Also recognize that spring seedings are slow because of cool soil temperatures. Perennial ryegrass has the best seedling emergence under cool soil temperatures. □

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### TURF DISEASES FROM PAGE 1

frequently colonized by bluegrass (*Poa* spp.), fescue (*Festuca* spp.), or weeds. Upon close examination, decaying roots and leaf sheaths appear black and dark strands of mycelium often develop parallel to the root axes. The disease is enhanced by poorly drained, light textured soils, and high pH. For best results, use acidifying fertilizers during cool-weather to lower soil pH (e.g., between 5.5 and 6.0) and apply Banner, Bayleton, Heritage, Insignia, or Rubigan now and repeat in 4 weeks. Apply manganese (2 Lb Mn/A) if soils are deficient in this nutrient to reduce disease severity.

### Turf Field Day

Mark your calendars now for this year's Rutgers Turfgrass Research Field Days which 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 will appear in future issues of this newsletter. □

## Volutella Blight of Pachysandra

Ann B. Gould, Ph.D., Specialist in Plant Pathology

Although the growing season has just started, folks are already thinking about their pachysandra beds. I've had several inquiries recently about the most common disease of this widely utilized landscape plant - **Volutella blight of pachysandra** (also known as **pachysandra leaf and stem blight**).

Pachysandra leaf and stem blight is easy to spot. Plants infected with the fungus *Volutella* exhibit fabulously large, "bulls-eye" leaf spots and elongate cankers on petioles and stems. Within several weeks, highly diagnostic, pink-colored fruiting bodies form on affected tissue. This disease can be very destructive in beds, causing circular patches of dying plants to form and enlarge rapidly.

Like many diseases in the landscape, *Volutella* blight cannot be sufficiently managed by only using fungicides. There are cultural factors that contribute to disease severity. First, water is essential in the disease infection process, so "managing the moisture" helps to manage the disease. Avoid practices that encourage excessive moisture (such as including heavy mulching and over watering). Periodically thin the beds to increase light and air circulation. Avoid watering during times of the day, such as late afternoon, when the beds are apt to remain wet for long periods. Consider that heavy shade may also contribute to longer periods of leaf wetness.

Second, *Volutella* is an "opportunistic pathogen" that is more aggressive to plants that are stressed. Winter injury and wounding predispose pachysandra to this disease. Common things to watch out for include mechanical injury (foot traffic, pets, or children playing in beds), scale insects, and poor nutrition.

To prevent *Volutella* blight this season, control scale insects that predispose plants to disease, avoid mechanical injury (keep those children and pets out of beds), remove debris and excess leaf litter, and maintain vigor through proper irrigation. Should the disease become troublesome, discard severely affected plants as soon as they appear. Apply copper-based fungicides, chlorothalonil, mancozeb, maneb, Spectro, or Zyban at the first sign of disease and then repeat applications at the appropriate interval (see label). Add a spreader-sticker to enhance spray coverage.

In general, it is good practice to work pachysandra beds only when they are dry - spores of the fungus can be spread on gardening tools, especially when the bed is wet. When working with diseased plants, dip your shears in rubbing alcohol between cuts (no need to dry the alcohol off the shears). Do this periodically even if disease is not present. Remove diseased plants completely - the fungus will continue to sporulate even after plants are pulled from the ground. □

# Diseases of Ornamentals

Ann B. Gould, Ph.D., Specialist in Plant Pathology

## Fungicides for ornamental disease control: common names and trade names

Common name	Trade name
<b>azoxystrobin</b>	Heritage 50WDG Quadris 2.1F (conifers only)
<b>calcium polysulfide</b>	Rex Lime Sulfur Solution
<b>captan</b>	Captan 4L Captain 50W Captan 50 Wettable Powder Captan 80W Captan 80-WP Captan Pro 50WP Captan Pro 80WDG Captec 4L
<b>chlorothalonil</b>	Bravo Ultrex 82.5 DG (conifers only) Bravo WeatherStik 6F (conifers only) Chloronil (conifers only) Chlorothalonil 720F 6F (conifers only) Countdown L&G 4F Daconil Ultrex 82.5WDG Daconil Weather Stik 6F Daconil Zn 4F Echo 90DF Echo 720 6F Echo Ultimate 82.5WDG Echo Zn 4F Equus DF 82.5DF (conifers only) Equus 500 ZN 4F Equus 720 SST 6F (conifers only) Exotherm Termil (commercial greenhouse fumigant) Manicure 6 Flowable Manicure T/O Flowable Fungicide (not for commercial use) Manicure Ultrex 82.5WDG Manicure Ultrex 82.5WDG Quali-Pro Chlorothalonil 500 ZN 4F Quali-Pro Chlorothalonil 720 SFT 6F Quali-Pro Chlorothalonil DF 82.5DF
<b>copper hydroxide</b>	3 LB Copper Flowable Fungicide 3F (professional use only) Kocide 4.5LF Kocide DF 4DF Kocide 101 (50% copper) Kocide 2000 35DF Kocide 2000 35DF Nordox 75WG (cuprous oxide) Nu-Cop 3L Nu-Cop 50DF
<b>copper, metallic</b>	Copper-Count-N 1L (professional use only)

SEE FUNGICIDE TABLE ON PAGE 4

# Plant Diagnostic Laboratory Highlights

Richard J. Buckley, Laboratory  
Coordinator

## Turf

There is still not much happening on the golf turf front quite yet, although I did see my first tent caterpillars in a tree along the first fairway at the Peddie School golf course (I was driving by). We did get our first **anthracnose** sample of the season from a Morris County golf course. Another plug, from a Union County course was diagnosed with **yellow patch**. An Atlantic County course sent soil samples with high populations of **stunt** and **ring nematodes**.

## Ornamentals

Last week it was boxwood with *Volutella*, this week it is pachysandra. Several samples of pachysandra have been brought to the laboratory in recent days with leaf lesions and stem blight caused by the fungus *Volutella pachysandrae*. The species of *Volutella* found on pachysandra does not attack boxwood (*Volutella buxi*). *Volutella pachysandrae*, which causes **pachysandra stem and leaf blight**, attacks succulent new growth during wet periods in the spring or plant material damaged in the winter. Plantings with significant damage can be mowed (use a bag) to remove the dead plant material. Fertilize the area according to soil test results and protect the new growth during wet periods with applications of a labeled fungicide material. Another ground cover, English ivy, which was submitted from Bergen County, was diagnosed with **Anthracnose** and **Phyllosticta leaf spot**.

We are also seeing tons of winter injury. Broad leaved evergreens and conifers of all assortments are the usual suspects. Spruce seems to have taken the most damage. Most of the conifers also have evidence of overwintering mite populations, so keep vigilant in your IPM scouting as we move into May. □

FUNGICIDE TABLE FROM PAGE 3

**copper oxchloride**  
 COC DF 50DF  
 COC WP 50WP  
 C-O-C-S WDG 50WDG

**copper salts of fatty and rosin acids**  
 Camelot (51% copper as soap)

**copper sulfate**  
 Cuprofix Disperss 36.9DF  
 Cuprofix Ultra 40D  
 Phyton 27 2L  
 Triangle Brand Copper Sulfate Instant Powder

**debacarb**  
 Fungisol (RTU capsules)

**etridiazole**  
 Terrazole 35W (nursery and greenhouse only)  
 Truban 5G  
 Truban 25EC (professional use only)  
 Truban 30WP (professional use only)

**fenarimol**  
 Rubigan A.S. 1EC (no greenhouse uses)  
 Rubigan A.S. 1EC (no greenhouse uses)  
 Rubigan E.C. 1EC

**fenhexamid**  
 Decree 50WDG (horticultural use only)

**ferbam**  
 Ferbam Granuflo 76WDG (commercial use only)

**fludioxonil**  
 Medallion 50WP

**flutolanil**  
 Contrast 70WSP  
 ProStar 70WP

**fosetyl-Al**  
 Aliette WDG 80WDG  
 Prodigy 80 DG

**iprodione**  
 18 Plus 2F (commercial use only)  
 26GT 2EC (commercial use only)  
 Chipco 26019 50W (commercial use only)  
 Chipco 26019 FLO 2F (commercial use only)  
 Chipco 26019 N/G 50WP (commercial use only)  
 Iprodione Pro 2SE  
 Sextant 2F (commercial use only)

**kresoxim-methyl**  
 Cygnus 50WDG (commercial use only)  
 Cygnus 50WG (commercial use only)

**mancozeb**  
 4 Flowable Mancozeb 4F  
 Dithane 75DF Rainshield  
 Dithane DF Rainshield 75DF (conifers only)  
 Dithane F45 Rainshield 4F (conifers only)  
 Dithane M45 Rainshield 80WP (conifers only)  
 Fore 80WP Rainshield (professional use only)  
 Mancozeb DG 75WDG  
 Manzate 75DF (conifers only)  
 Manzate Pro-Stick 75DG (conifers only)  
 Penncozeb 4FL (conifers only)  
 Penncozeb 75DF (conifers only)  
 Penncozeb 80WP (conifers only)  
 Polyram 80DF (roses only)  
 Protect DF 75DF

**maneb**  
 Maneb 75DF (commercial use only)  
 Maneb 80WP (commercial use only)

**mefenoxam**  
 Fenox ME 2F  
 Mefenoxam 2 2EC  
 Quali-Pro Mefenoxam 2 AQ

Quali-Pro Mefenoxam 2 EC  
 Subdue GR (professional use only)  
 Subdue MAXX  
 Subdue WSP

**myclobutanil**  
 Eagle 20EW  
 Eagle 40WP  
 Nova 40W (conifer nurseries only)  
 Systhane 40WSP

**oxycarboxin**  
 Plantvax 75W (enclosed structures only)

**oxytetracycline-calcium complex**  
 Mycoject (RTU capsules)

**PCNB (quintozene)**  
 PCNB 10G Turf & Ornamental  
 Revere 10G  
 Terraclor 75WP  
 Terraclor 400 4F  
 Turfcide 10G

**phosphite (mono- and di-potassium salts of phosphorous acid)**  
 Alude 5.1L  
 ArborFos  
 Fosphite 6.2EC  
 Magellan 6.7Sc  
 Resyst 5.1L  
 Topaz 6.2L

**piperalin**  
 Pipron 2LC (enclosed structures only)

**propamocarb hydrochloride**  
 Banol 6S (not for field nursery use)

**propiconazole**  
 Alamo 1.3EC  
 Banner GL 41WP  
 Banner Maxx 1MEC  
 Propiconazole G-PRO 1.3EC  
 Propiconazole Pro 1.3EC  
 Quali-Pro Propiconazole 14.3 1.3EC  
 Savvi 1.3EC

**streptomycin sulfate** (17% streptomycin)  
 Agri-mycin 17  
 Agricultural Streptomycin  
 Streptrol

**Sulfur, dusting** (98% sulfur)  
 Dusting Sulfur  
 Dusting Sulfur  
 Dusting Sulfur  
 Dusting Sulfur  
 Signal Dusting Sulfur  
 Special Electric  
 Yellow Jacket Special Dusting Sulfur

**Sulfur, elemental** (90% sulfur)  
 Sulfur 90W

**Sulfur, flowable**  
 Suffa 6F (52% sulfur)  
 Sulfur 6L (52% sulfur)  
 Sulfur DF 80DF (80% sulfur)  
 Sulfur Flowable 6 (52% sulfur)  
 THAT Flowable Sulfur (52% sulfur)

**Sulfur, wettable**  
 80% Thiosperse (80% sulfur)  
 Microspurse Wettable Sulfur (90% sulfur)  
 Micro Sulf (80% sulfur)  
 Microthiol Disperss (80% sulfur)  
 Spray Sulfur (97% sulfur)  
 Wettable Sulfur (90% sulfur)  
 Yellow Jacket Wettable Dusting Sulfur II (90% sulfur)

SEE TABLE CONTINUED ON PAGE 5

TABLE CONTINUED FROM PAGE 4

**tebuconazole**  
Tebuject (RTU capsules)

**thiabendazole**  
Arbotect 20-S  
Mertect 340-F 40WP

**thiophanate-methyl**  
3336F 4F  
3336WP 50WP  
3336G 2G  
3336GC 2G  
Cavalier Flowable 4F  
Fungo 50WSB  
Fungo Flo 4.5F  
OHP 6672 50W  
OHP 6672 4.5L  
Quali-Pro TM 4.5 4.5F  
Quali-Pro TM 85 WDG 85WDG  
Systec 1998 4.5F  
Systec 1998 WDG 85WDG  
Topsin M 4.5FL  
Topsin M 70WP  
Topsin M 70 WDG  
Topsin M WSB  
Thiophanate Methyl 85WDG (conifers only)

**triadimefon**  
Bayleton 50 50WSP (not for commercial use)  
Bayleton 50 WP 50WP (not for commercial use)  
Strike 50WDG

**trifloxystrobin**  
Compass 50WDG (not for greenhouse use)  
Compass 50WSP (not for greenhouse use)  
Compass O 50WDG

**triflumizole**  
Terraguard 50W (enclosed structures only)

**ziram**  
Ziram 76DF (not for residential use)  
Ziram Granuflo 76WDG (not for residential use)

**Combination Products**

**chlorothalonil + fenarimol** TwoSome Flowable Fungicide 4F (not for commercial use)

**chlorothalonil + thiophanate-methyl**  
ConSyst WDG 50WDG  
Quali-Pro TM/C 50WDG  
Spectro 90WDG

**debacarb + abamectin**  
Abasol (RTU capsules)

**debacarb + carbendazim**  
Fungisol (RTU capsules)

**debacarb + imidacloprid**  
Imisol (RTU capsules)

**flutolanil + thiophanate-methyl**  
SysStar 28WDG

**mancozeb + copper hydroxide**  
Junction DF 15DF  
(professional use only)

**mancozeb + dimethomorph**  
Stature DM 50WP (nursery and greenhouse only)

**mancozeb + myclobutanil**  
Manhandle 60WP (registered through 2006)

**mancozeb + thiophanate-methyl**  
Zyban WSB 80WP

**thiophanate-methyl + etridiazole**  
Banrot 8G  
Banrot 40WP

**Biorational and Biological Control Products**

**Bacillus pumilis QST 2808**  
Sonata

**Bacillus subtilis QST 713**  
Rhapsody  
Rhapsody AS

**borax**  
TriCon

**Gliocladium virens GL-21**  
SoilGard 12G

**hydrogen dioxide**  
ZeroTol

**neem oil**  
Triact 90EC

**paraffinic oil**  
JMS Stylet-Oil  
Ultra-Fine Oil

**potassium bicarbonate**  
Armicarb 100  
Kaligreen  
MilStop

**Streptomyces griseovirides K-61**  
Mycostop  
Mycostop Mix

**Trichoderma harzianum KRL-AG2**  
PlantShield HC  
RootShield Granules

**Weather Summary for the Week Ending 8 am Monday 4/17/ 6**

WEATHER STATIONS	RAINFALL			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
CANOE BROOK	.18	2.22	-4.59	79	34	57.	7	100	100	93
CHARLOTTEBURG	.29	2.66	-3.90	76	32	53.	5	65	65	96
FLEMINGTON	.15	2.54	-3.93	78	33	55.	5	97	97	93
NEWTON	.05	2.45	-3.33	78	30	55.	7	74	74	90
FREEHOLD	.09	2.60	-3.93	80	35	58.	7	129	126	88
LONG BRANCH	.10	2.51	-4.26	81	34	55.	4	82	81	82
NEW BRUNSWICK	.14	2.33	-3.85	80	35	58.	6	125	119	91
TOMS RIVER	.05	1.55	-4.97	82	30	56.	5	108	108	77
TRENTON	.06	2.47	-3.45	79	36	58.	5	121	106	76
CAPE MAY COURT HOUSE	.02	1.41	-4.35	80	34	56.	4	124	114	75
DOWNSTOWN	.04	1.78	-4.14	80	31	57.	4	132	116	77
GLASSBORO	.00	1.90	-4.32	78	38	59.	6	143	128	73
HAMMONTON	.10	1.98	-4.03	80	31	58.	5	138	124	75
POMONA	.06	1.05	-4.80	81	32	57.	5	122	117	74
SEABROOK	.10	1.83	-3.40	80	41	61.	8	191	173	74
SOUTH HARRISON	.00	1.58	-4.16	79	40	60.	NA	171	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW	LAST WEEK	51	(Ending 4/10/06)	THIS WEEK	124	(Ending 4/17/06)				

# Landscape IPM Pest Notes

Steven K. Rettke, RCRE Ornamental IPM Program Associate

✓ **Gypsy Moths (90-448 GDD = early instars):** In New Jersey, for the past 15 years or more the “golden moth” has been only a shadow of itself compared to the peak infestation periods of the early 1980’s. Since the late 80’s or early 90’s, the number of acres defoliated by gypsy moth caterpillars has *decreased by 95-97%* during a typical year compared to previous peak years. The *Entomophaga maimaiga* fungus has primarily been responsible for the devastation and collapse of this pest since its infamous former glory. However, in 2005 there was an 85% increase in defoliation in NJ compared to levels in 2004. The pathogenic fungus become relatively ineffective last year during unusually dry, late spring conditions. The controls against the larger, later instar caterpillars became less successful. The four NJ counties experiencing the largest number of acres defoliated included Ocean, Burlington, Sussex and Monmouth. Despite this 2005 increase, the statewide gypsy moth aerial defoliation survey showed a total of 44,131 acres defoliated. Even with the 85% increase, it is almost insignificant when compared to the over 800,000 NJ acres defoliated in the 1981 peak year.

Municipal egg mass surveys completed by the end of last year indicated a total of over 32,000 acres of residential properties that required treatment this spring. The NJ Department of Agriculture plans to oversee treatment of much of this area through the use of aerial treatments of *Btk* (a *Bacillus thuringiensis* strain). Interestingly, double applications are planned for 10,000 acres because of the extremely high egg mass counts observed in certain areas (over 4,000 EM/acre!). Usually when average sized egg masses exceed only 1500 EM/acre then a single Bt treatment may not provide effective suppressions. The areas to receive the double Bt aircraft applications are located within the counties of Atlantic, Burlington, Ocean, Monmouth, Middlesex, Sussex and Warren. The suppression program is scheduled to begin on May 3<sup>rd</sup> and conclude by the beginning of June.

(Source: Forest Pest Reporter; New Jersey Department of Agriculture; Winter 2005: Vol. 40 No. 2)

✓ **White Pine Weevils (7-58 GDD = adult treatment):** Stop! Do not waste your sprays. It is *too late* to treat the terminal leaders of pines and spruces to control the egg-laying adults of the white pine weevil. Many arborists and landscapers often find it difficult to prevent this pest, because they are typically applying fertilizer and dormant oil treatments during the control window. The growing degree-day (GDD) control window was over more than 2 weeks ago in most areas of the state.

Treatment timing is critical with this pest and it is necessary to control the adult female prior to egg laying.

Adults overwinter in the duff beneath trees. Eggs are laid beginning in mid to late March (sometimes earlier) and continue into April. Before egg laying, adults will chew holes near the terminal bud of the central leader and cause a characteristic pitch flow that becomes white in color. Eggs are then laid in the protected holes usually within the top 12 inches of the terminal leader.

Prune out any infested terminals (2005 leader growth) before the end of June, when the next generation of adults begin emergence (only one feeding generation per year). The white pine weevil larvae will cause a “shepherd’s crook” before killing the main terminal leader. The new candle growth is capable of extending during the spring months, but by early summer the feeding larvae will have destroyed much of the water-conducting tissues in the previous year’s leader. Smaller trees may lose their Christmas-tree shape and/or develop multiple leaders. Side laterals can sometimes be staked and trained to regain single leader dominance. Once white pines reach a height of 20 feet or more, they are more tolerant of this pest because they naturally develop multiple leaders.

✓ **Eastern Tent Caterpillar (90-190 GDD = younger larvae treatment):** During the week, observations along the I-195 and I-295 corridors show evidence of the many expanding white webbings of the tents of this caterpillar. Newly hatched caterpillars feed on foliage and increase the size of their nest/tent as they grow. Unlike the Gypsy Moth, this native caterpillar has never been a genuine threat to the health of our forests and its concern in the urban landscape is only aesthetic. It is found feeding primarily within crabapple and wild black cherry trees. The caterpillars are black and hairy, with a white stripe running down their back.

Since they are still small, now is the best time to control them. Don’t use flaming torches, but simply prune/rub out webs if they are within easy reach. Prune early in the morning/late afternoon or during rainy days when caterpillars are inside the nest. When the tents are still small the spraying of horticultural oil or B.t. (*Bacillus thuringiensis*) insecticides can be effective. When using B.t. it is important to spray adjacent foliage, since the caterpillars must ingest the crystal toxins. Once larvae get large, they leave the tent to feed at night and hide during the day. Penetrate the nest and control with carbaryl (Sevin), Conserve, Orthene, or one of the pyrethroids.

✓ **Southern Red Mites (69-157 = Egg hatch):** Some of the early 1<sup>st</sup> generation egg hatch of this cool season spider mite has commenced and may continue for another couple of weeks in the central sections of the state. The spruce spider mite that feeds on needle conifers often receives the most attention during the spring months, but the southern red mite can cause a great deal of aesthetic damage to broadleaf evergreens (especially Japanese Holly). Adults are purple-red and the size of the period at the end of this sentence. Look for white stippling damage on the foliage, particularly near the leaf

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midrib. Lower leaf surfaces often appear dusty because of the numerous eggshells and shed skins.

If more than 10-15 mites can be knocked onto a beating tray/white paper, then control with horticultural oil or insecticidal soap. If more than 10% damage is evident, then use Avid, Hexygon, Florimite, or one of the labeled pyrethroids. Especially when using pyrethroids, return monitoring visits are important to evaluate effectiveness since eggs are not killed, but native mite predators are. Typically additional sprays will be required with high infestations. Adults will be active into June, "hibernate" during summer heat, and then resume activity in September.

✓ **Hemlock Woolly Adelgids (150 GDD = 10% egg hatch):** Imidicloprid (Merit) applied as a soil injection or drench has been the material of choice for the past decade to combat this pest. This approach is especially effective for the protection of taller hemlocks when foliar sprays may prove difficult. Since hemlock woolly adelgids (HWA) essentially never leave the host, Merit can be applied anytime during the year as long as the ground is not frozen and adequate soil moisture is present. It is usually best to make most applications during the spring or fall months. With very large trees it may require 6 to 8 weeks before sufficient concentrations of the active ingredient is translocated into the upper canopy.

When using horticultural oils or other labeled insecticides *avoid making spray treatments this time of year* (early spring). HWA eggs will not begin to hatch until late April or early May in the northern half of the state. At 150 GDD's only about 10% egg hatch of the crawlers has occurred. At 350 GDD (late May) only about 50% egg hatch has occurred. Presently, most of the egg-laying females are already dead and the eggs are clumped tightly together within the protective white wooly wax. Although an oil or soap spray may destroy contacted crawlers and exposed outer eggs within the clumps, most of the unhatched eggs will *not* be affected. Egg hatching and crawler emergence can extend for 6 weeks or more. To avoid multiple sprays during the spring, it is more efficient to wait until early to mid-June after all of the eggs have hatched and the exposed, settled crawlers (have a white fringe of wax circling their bodies) are all neatly lined-up at the base of leaf petioles. Being patient to apply sprays during this control window can save time and material as well as being the most effective.

✓ **Honeylocust Plant Bug (58-248 GDD = nymphs/adults):** The 1/8 inch-long pale green nymphs resemble young leafhoppers and feed upon emerging foliage in the spring. During high populations the stippling damage and stunted leaves become obvious and defoliation typically occurs. Black fecal spots on the undersides of the leaves are very similar to lacebug damage, but may be more scattered over the surface. Even as late as June, both nymphs and adults are still active, but unless there is a large population, the tree usually will outgrow the damage and no action is necessary.

If controls are needed, using a 2% oil spray when adults are present will give good control. Use a threshold of one plant bug per compound leaf before spraying (to determine the number of bugs per leaf, knock a branch on a white paper attached to a clipboard and count the number of bugs per compound leaves). □

## Recycle Those Plastic Pesticide Containers – Get One Core Credit

The NJ Department of Agriculture announces its 2006 schedule for a *free* program to recycle empty plastic pesticide containers at the Cumberland County Solid Waste Complex.

Non-refillable, high-density polyethylene # 2 (HDPE #2) containers used by agricultural, professional and commercial pesticide applicators will be accepted at the collection sites. In addition, HDPE #2 plastic pales, bulb crates, and similar items will be accepted.

Pesticide containers must be no larger than 55 gallons and triple rinsed. The MSDS booklet and the lid must be removed. The metal handles must be removed from the plastic pales.

The program is open to anyone who holds a New Jersey Department of Environmental Protection pesticide license including state, county and municipal government agencies. Participants must follow the processing guide or the material will be rejected. You do not need a pesticide license to participate in the program if non-pesticide containers are recycled.

One core credit will be issued to NJDEP pesticide license holders who bring in properly rinsed pesticide containers. To receive credit, participants must bring their pesticide license to the collection site and must follow the processing steps. Pesticide credits will not be issued for recycling items other than pesticide containers.

Contact Karen Kritz, Recycling Program Manager, at (609) 984-2506 or karen.kritz@ag.state.nj.us with questions about this recycling program or other recycling questions.

### 2006 Pesticide Container Collection Program Schedule

**Location:** Cumberland County Solid Waste Complex, 169 Jesse Bridge Road (located off Route 55 Exit 29), Deerfield, New Jersey

**Time:** 9 a.m. to Noon

<b>Dates:</b> Friday, May 19	Friday, September 22
Friday, June 23	Friday, October 13
Friday, July 28	Friday, November 17
Friday, August 25	

## New Publication Available

Landscape and Ornamental Plant Stress: Factors, Symptoms, Diagnosis, and Management, a Rutgers Cooperative Research & Extension bulletin (Publication # E309) by Rich Buckley, Ann Gould, Richard Obal, and Gladis Zinati is available on the web at: <http://www.rcr.rutgers.edu/pubs/publication.asp?pid=E309> or through your county extension office. □

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**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 RCRE 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.

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