

PLANT & PEST ADVISORY

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Planting Vegetation Around Ponds to Deter Canada Geese Activity

An Untested Idea

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Canada geese cause problems when congregating in mowed areas such as private lawns, recreational and industrial parks, athletic fields, cemeteries, and golf courses. Canada geese prefer to feed on lawns that are close to a pond or lake where they can flee if they see a predator. *Habitat modification* involves changing the landscape where geese reside in a manner that alters the patterns of goose movement and decreases food availability, thereby reducing or eliminating the number of geese present. This technique usually involves elimination or modification of vegetation, planting of non-palatable, i.e., "goose-resistant" species, or creating cover or foraging areas to draw geese away from specific areas. (For more information: Paulin, J. B. and D. Drake. 2003. Fact Sheet FS1026 "Canada goose Management Series: Habitat Modification." Rutgers Cooperative Research and Extension. Factsheets are available at your RCRE County office or at <http://www.rcrc.rutgers.edu/>).

Planting vegetation around ponds to obstruct the line of sight of geese may make the site less attractive because of potential attack from predators. To be effective, a vegetative barrier must make geese feel that if they are threatened, their ability to escape is reduced. Allowing grass to grow tall in areas adjacent to ponds will reduce the number of young grass shoots that geese prefer to feed on, but may provide suitable nesting habitat. *It is important to discourage the presence of Canada geese before they establish their nests in mid March.* (For more information: Paulin, J. B. and D. Drake. 2004. Fact Sheet FS1032 "Canada goose Management Series: Harassment." Rutgers Cooperative Research and Extension). *Modifying a small area of habitat to ensure satisfaction prior to implementing a large-scale modification is recommended.*

Deterring Canada geese around ponds in managed landscapes utilizing warm season grasses is an *untested* and *unproven* idea, yet may be worth trying.

Any planting will require protection from geese and other wildlife during establishment. Vegetation should be high enough (at least 30

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Grasses to consider include:

- ❖ switch grass (*Panicum virgatum*)
- ❖ Indian grass (*Sorghastrum nutans*, drier sites)
- ❖ big blue stem (*Andropogon gerardii*, wetter sites)
- ❖ little blue stem (*Andropogon scoparius*, drier sites)

Canada geese will readily feed on almost any short grass or legume such as:

- ❖ Kentucky blue grass (*Poa pratensis*)
- ❖ brome grass (*Bromus species*)
- ❖ new growth on canary grass (*Phalaris arudinacea*)
- ❖ colonial bentgrass (*Agrostis tenuis*)
- ❖ perennial ryegrass (*Lolium perenne*)
- ❖ quackgrass (*Agropyron repens*)
- ❖ red fescue (*Festuca rubra*, a grass)
- ❖ new growth on mowed or burned switch grass (*Panicum virgatum*)

Canada geese tend to avoid plants such as:

- ❖ mature tall fescue (*Festuca arundinaceae*, a grass)
- ❖ periwinkle (*Vinca species*, a ground cover)
- ❖ myrtle (*Myrtus species*, a groundcover)
- ❖ pachysandra (*Pachysandra terminalis*, a ground cover)
- ❖ English ivy (*Hedera helix*, a groundcover)
- ❖ hosta or plantain lily (*Hosta species*, a groundcover)
- ❖ *Euonymous fortunei* (an evergreen prostrate vine or shrub)
- ❖ ground junipers (*Juniperus species*, an evergreen shrub)

inches) and dense enough so that geese cannot easily walk through the area. The height of the vegetation should be established prior to mid March when resident Canada geese typically nest in New Jersey. Wide plantings, 35 feet wide or greater, are more likely to be successful than narrower plantings. If access to the water is desired, paths should be "S" shaped to prevent the geese from having a direct line of sight through the planting. Wildflowers can be planted within the vegetative barriers to increase attractiveness. Mowing the area should be reduced to once every three years; target woody vegetation and weed species; and take place in late summer. Keep in mind that as resident Canada geese become more accustomed to people the effectiveness of vegetative barriers will decrease.

There are a wide variety of non-lethal and lethal options available for Canada goose management. Each option has associated advantages, disadvantages, and costs. Each situation where conflict exists between people and geese is unique and usually involves the integration of more than one management option. More importantly, resolution of the conflict often requires support from residents of the community where the problem is occurring. For more information on a variety of Canada goose management options including associated advantages, disadvantages, costs, materials suppliers, and when necessary, permitting information, visit the Rutgers Cooperative Research and Extension website at www.rcrc.rutgers.edu, click on extension, then publications, then natural resources and the environment, and then wildlife.

Contact Information:

- Your local Rutgers Cooperative Research and Extension County Agent. Refer to the blue pages of your local phone book for listings.
- Rutgers Cooperative Research and Extension, Wildlife Extension Program, 732-932-1509
- New Jersey Division of Fish and Wildlife, 609-292-2965.
- United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services, 908-735-5654.
- Natural Resources Conservation Service, 732-537-6080

Sources:

Conover, M. R. 2002. *Resolving Human-Wildlife Conflicts, the Science of Wildlife Damage Management.* CRC Press LLC

Paulin, J. B. and D. Drake. 2004. FS1032 *Canada goose Management Series: Harassment.* Rutgers University, Rutgers Cooperative Research and Extension

Paulin, J. B. and D. Drake. 2003. FS1026 *Canada goose Management Series: Habitat Modification.* Rutgers University, Rutgers Cooperative Research and Extension

Smith, A. E., Craven, S. R. and P. D. Curtis. 1999. *Managing Canada geese in urban environments.* Jack Berryman Institute Publication 16, and Cornell University Cooperative Extension, Ithaca, NY □

Diseases of Turfgrass

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

Year-in-Review

This has been one of the hottest summers on record in the tri-state area. As a result, turf managers have seen unusually severe and sustained outbreaks of both root (e.g., **summer patch** and **pythium root rot**) and foliar (e.g., **anthracnose**, **pythium blight**, **gray leaf spot**, and **brown patch**) diseases. Cool-season grasses can withstand hot weather, however, the unusually prolonged heat wave and high humidity this summer predisposed turf to infection. In many areas, even sound preventive fungicide programs did not preclude the development of severe disease outbreaks. Significant acreage was lost due to disease. For best results at this time, overseed and/or renovate severely damaged areas and implement preventive disease management programs next spring and summer, since inoculum of these disease causing agents is likely to remain high for 2006.

General

Anthracnose, **dollar spot**, **gray leaf spot**, **rust**, and **stripe smut** are all active at this time. Refer to recent issues of this newsletter for additional information about the identification and management of these diseases.

Stripe Smut

This disease, caused by the fungus *Ustilago striiformis*, will soon develop on sensitive Kentucky bluegrass varieties. Symptoms typically appear as long black streaks (striations) between the veins of infected blades. These areas eventually rupture releasing abundant black smut spores. Research at Rutgers has shown that one well-timed application of a systemic fungicide in early to mid-October offers excellent control and is, therefore, far superior to multiple applications in the spring (mid-May). For best results, apply Banner, Bayleton, Cleary 3336, Eagle, Fungo, or Rubigan, now per manufacturer's recommendations.

Take-all patch

This disease, caused by the root and crown infecting fungus, *Gaeumannomyces graminis* var. *avenae*, may redevelop on bentgrass greens and fairways during the next few weeks. Although this disease is most prevalent from April through June, late-summer and fall outbreaks are not uncommon. Infection takes place during cool, wet weather and symptoms are most striking after stress. Infected grass first appears bronze to reddish-brown in color and then fades to a dull brown. Patches are usually circular or ring-shaped and range in size from several inches to two feet or more in diameter. The centers of affected turf are frequently colonized by bluegrass (*Poa* spp.), fescue (*Festuca* spp.), or weed species. 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, and high pH soils. Although take-all is difficult to control, best results have been achieved through the use of acidifying fertilizers during cool weather (e.g., ammonium sulfate) and preventive applications of Banner, Bayleton, Heritage, Insignia, or Rubigan in October and November. If the disease has been particularly severe, fungicides should be reapplied twice next spring at 21 to 28-day intervals beginning in early April. Chemicals should be applied in 4 gal water/1000 sq ft or irrigated into the root zone (1/8 to 1/4" of water) for maximum effectiveness. When-

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Plant Diagnostic Laboratory Highlights

Richard J. Buckley, Laboratory
Coordinator

Turf

Gray leaf spot continues to be a disease of concern for golf course superintendents. The disease was diagnosed this week on samples of perennial ryegrass from golf courses in Pennsylvania and from Morris and Middlesex Counties in New Jersey. Mid-September and the unseasonably warm weather brought a couple lingering samples of **brown patch** from residential lawns and **summer patch** from golf turf. Summer patch, which might have been the most common disease submission this summer, continues to wreak havoc on area golf courses. It is not uncommon to get late-season flare-ups as preventive fungicide programs run out. Several samples of the disease were sent to the laboratory from sites in Pennsylvania, New York and New Jersey. All of the summer patch samples submitted also had **anthracnose**. Samples with anthracnose alone came from golf courses in Atlantic, Morris, and Passaic Counties.

Landscape

Red oak and pin oak with **bacterial leaf scorch** (BLS) are the main focus of the laboratory at this time. Symptoms on trees known to be infected are quite spectacular this year. **BLS** is a slow killer, so sadly we can watch the decline of large specimens over time. To date, all of the new samples with positive tests come from trees in and around Trenton and Princeton in Mercer County. Other diseases of note include: **Diplodia (Sphaeropsis) tip blight** and **Lophodermium needlecast** on pines from Atlantic County; **pine bark beetles** on white pines from Middlesex; and **Botryosphaeria canker** on rhododendron from Morris County. □

Pythium Aphanidermatum in Mum

Ann B. Gould, Ph.D., Specialist in Plant Pathology and Margery Daughtrey, Senior Extension Associate, Cornell University

Growers in the Northeast are seeing increasing incidence of a disease that used to be troublesome only for those in the south. The disease? **Pythium aphanidermatum of chrysanthemum.**

Symptoms of the disease include plants that appear dull gray-green or brown with wilted, brown, or yellowing leaves. Some of the darker-flowered cultivars have deep purple veins. Growers will notice that these symptoms are most evident in portions of the field that don't drain well or that puddle for an extensive period. Of course, with all diseases caused by *Pythium*, the real action is below the soil line. A good tug on the plants reveals rotten roots; sometimes fungus gnat larvae will appear, browsing away at their own kind of picnic, with rotted roots instead of deviled eggs.

Unlike some other *Pythiums* which prefer cooler temperatures, *P. aphanidermatum* tends to show up on crops grown at the hottest time of the year, such as poinsettia and outdoor mum. While these other species are hiding out as oospores in the soil, just waiting for the weather to cool, *P. aphanidermatum* is reveling in the heat. Its favorite soil temperature range is 85 to 95°F, which you'll note was fairly common even in the Northeast this growing season.

P. aphanidermatum is a soilborne water mold, more officially known as an oomycete. When soil moisture is high, this oomycete fungus produces fruiting structures called sporangia that release zoospores. These motile spores aggressively attack at the root tips and invade root tissues. As the infection spreads, a substantial portion of the root system is killed and foliar symptoms develop. In addition to excessive soil moisture, other factors that predispose plants to disease development include a dry-down period, over fertilization, or anything that makes nutrients leak from roots into the growing media.

Diseases caused by *P. aphanidermatum* as well as other species of *Pythium* can be confused with problems such as excessive moisture or Fusarium wilt. Unlike Fusarium wilt, however, *Pythium* does not cause vascular discoloration and may attack more than just a few cultivars in a field.

Options?

Moisture management is key. Growers must take care not to over water to compensate for very warm temperatures, especially in areas of the field that puddle or don't drain well. Other cultural strategies:

- use only pathogen-free stock
- practice scrupulous sanitation
- select field sites with good drainage
- control fungus gnats
- maintain proper levels of soil nutrients, moisture, and pH
- avoid cultural practices that promote overly succulent growth
- remove affected plants from the field.

Apply an appropriate fungicide when necessary. Fungicides such as Banrot, etridiazole, fosetyl-Al, mefenoxam, metalaxyl, phosphite, or propamocarb-HCl are useful when applied as a preventive drench per manufacturer's recommendations. Check the label for timing and rates. Be aware, however, that most fungicides arrest further disease but do not actually kill fungi within infected roots and soil.

Growers should not rely on one material for *Pythium* control; populations of fungi have been identified that are resistant to mefenoxam or propamocarb. Use combination products, tank mix, or rotate classes of compounds to avoid the development of fungicide resistance. Remember: although fungicides are useful for disease control, they cannot replace good cultural practices. □

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ever practical, overseed infested areas with less susceptible grasses such as fine fescue, Kentucky bluegrass, or perennial ryegrass to mask symptom expression. Maintain soil pH at approximately 6.0 since the disease is enhanced in alkaline soils.

Turf Expo

This year's Turf Expo will be held at the Trump Taj Mahal Casino/Resort on December 6-8, 2005. This is an excellent opportunity to receive the latest turf management information from nationally renowned speakers. For additional information, please contact Michelle Rickard (215) 757-6582. □

Landscape IPM Pest Notes

Steven K. Rettke, Ornamental IPM Program Associate

Fall Pest Monitoring

As we enter the fall months and then the winter dormant season, there are a significant number of potential pests of ornamentals that require monitoring. Pest populations ignored during the months ahead often become more serious next year. These problems can be especially pronounced on evergreen shrubs and conifers. Therefore, this autumn do not make the mistake of thinking that landscape problems can be forgotten about until next spring. A little vigilance now can go a long way toward reducing future problems. The following is a review of some of the major pest problems that require monitoring and possible management actions during the fall months.

❖ **DEFOLIATORS: Gypsy Moths, Eastern Tent Caterpillars and Fall Cankerworms** all have overwintering egg masses on twigs, branches, and/or trunks. Learn the appearance of these egg masses so they can be mechanically removed or pruned out. If the egg masses are too numerous or out of reach, then indicate in your records that treatments will be required next spring.

❖ **SPIDER MITES:** Spruce mites and Southern Red mites are the common cool season mites that increase their activity during the fall months. Their peak populations occur during October and November. Generally by December, most overwintering eggs have been laid on leaves, needles and twigs. With magnification, the clear or reddish-orange bubble shaped eggs can be observed. Horticultural oils can be very effective at suppressing both eggs and active adults.

❖ **WOOD BORERS:** Dogwood, Lilac, Ash and Rhododendron borers are the larvae of clearwing moths and produce pencil-sized holes in trunks or branches. Fresh borer holes on the bark with flight colored sawdust (frass) indicate active larvae. These can be treated with entomopathogenic nematodes (use the H.b. nematode) if the weather is not below freezing. Infested plant material can also be pruned out if smaller branches are infested. Residual chemical sprays on the bark are of no value at this time of year.

❖ **BAGWORMS:** Obviously any type of spray applied in the fall or winter would be a waste of time and material. Overwintering eggs are contained within the dead female bags. Most of the bags containing eggs are located on the upper portions of infested trees or shrubs. With this higher elevation, it is theorized that a certain percentage of a recently hatched population can more effectively be transported by the wind to new hosts. Remove individual bags by hand when populations are low and the upper portions of the plant can be reached.

Otherwise, indicate in your records that sprays may be required during the late spring or early summer when the young larvae hatch and begin feeding.

❖ **LEAFMINERS:** Arborvitae, Boxwood and Holly leafminers all overwinter as live larvae within foliage tissue. Pale colored lines or blotches indicate the leafminer presence in evergreen leaves. Inspect mines for live larvae and physically remove infested leaves when populations are small. Heavily infested plants can be noted in your records and scheduled for treatment next season. If soil moisture is adequate, then a soil systemic (e.g. Merit) can be applied during the fall months.

❖ **ADELGIDS:** The **Eastern Spruce Gall, Cooley Spruce Gall and Hemlock Woolly Adelgids** all overwinter as immature females and are vulnerable to control treatments during the late months of the year. The product of choice with smaller plants is the use of horticultural oils or soaps when good coverage can be achieved. Remember to target sprays onto only the most recent growth or terminal twigs and buds where the adelgids are located. Heavy populations of HWA on large hemlocks are best controlled with an imidachloprid (Merit) treatment.

❖ **SOFT SCALES:** Tuliptree, Magnolia, Fletcher, Calico, Lecanium, Cottony Maple and Cottony Camellia are all examples of soft scales that overwinter as nymphs on twigs or branches of mostly deciduous trees and shrubs. Before leaves drop in the fall, many scale species crawlers move back from the leaves to the bark where they will spend the remaining part of their life cycles. Late winter dormant oils are particularly effective against soft scales. Monitor for their presence before spraying by investigating further when the black sooty mold on needles, twigs or branches are first observed. Close inspection is often required since many overwintering soft scales are difficult to see as translucent nymphs. Avoid cover sprays in order to conserve beneficials. Predators and parasitoids can often effectively control soft scale populations when not destroyed by unnecessary sprays.

❖ **ARMORED SCALES:** **Euonymus, Elongate Hemlock, Pine Needle, Juniper, White Prunicola, Pine Oystershell, Obscure and Oystershell** are all examples of armored scales that should be monitored during the fall and winter. Look for the white or gray colored scale covers of the overwintering adult females on twigs, branches or trunks. Dormant oil control sprays can be helpful, but are not as effective on armored as compared to soft scales. When infestations are very high, the scale populations may be lightly brushed off of the trunk and branches, or simply pruned out.

❖ **LACEBUGS:** Species of lacebugs with evergreen hosts will overwinter in the egg stage. Lacebugs with deciduous hosts, on the other hand, will overwinter as adults in protected areas. Attempting to control overwin-

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tering adults with oils would probably be unsuccessful, and therefore is not recommended. Wait and monitor for egg hatch next spring and apply oil/soap (if good coverage can be achieved) or Orthene at that time. Imidachloprid (Merit) treatments as a soil drench also offer long-term control.

❖ **HALLOWEEN LADY BEETLES:** This *Harmonia* beetle can become a major nuisance during next month. These lady beetles are often orange in color, with or without many spots. They tend to congregate in huge numbers on white colored homes with a southern exposure. If they can find small cracks and openings they then move inside to overwinter. Since this is a beneficial insect, sprays are not recommended. A light trap developed by USDA scientists has been developed for inside of structures. After trapping they can then be released outdoors. Information is available via H&T Alternative Controls (877/967-6777). □



Typical adult *Harmonia axyridis* color variation.



Mature larva (fourth instar).

Photo Source: *Biological Control: A Guide to Natural Enemies in North America*, Cornell University
<http://www.nysaes.cornell.edu/ent/biocontrol/>

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged much much above normal, averaging 73 degrees north, 75 degrees central and 77 degrees south. Extremes were 95 degrees at Canoe Brook on the 14th, and 53 degrees at Charlotteburg, Newton and Freehold on the 13th. Weekly rainfall averaged 1.55 inches north, 0.90 inches central, and 0.53 inches south. The heaviest 24 hour total reported was 2.71 inches at Canoe Brook on the 14th to 15th. Estimated soil moisture, in percent of field capacity, this past week averaged 76 percent north, 61 percent central and 39 percent south. Four inch soil temperatures averaged 72 degrees north, 73 degrees central and 73 degrees south.

Weather Summary for the Week Ending 8 am Monday 9/19/ 5

WEATHER STATIONS	R A I N F A L L			T E M P E R A T U R E				GDD BASE50		MON
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	missing									
CANOE BROOK	2.82	22.39	-5.93	95	56	76.	13	3255	752	90
CHARLOTTEBURG	1.55	23.64	-4.96	90	53	72.	12	2696	709	80
FLEMINGTON	.55	25.18	-1.92	93	55	74.	11	3050	484	68
NEWTON	1.26	20.07	-6.28	90	53	72.	12	2820	578	79
FREEHOLD	.39	24.12	-2.22	93	53	74.	9	3081	360	64
LONG BRANCH	.06	22.52	-4.16	91	60	75.	10	3066	401	33
NEW BRUNSWICK	1.43	25.12	-1.63	94	58	75.	11	3228	371	84
TOMS RIVER	.03	23.94	-3.33	89	55	75.	10	3021	351	31
TRENTON	2.60	26.80	1.48	92	58	76.	10	3266	300	79
CAPE MAY COURT HOUSE	.47	25.11	1.47	88	57	76.	8	2865	175	34
DOWNSTOWN	.39	20.20	-4.64	93	56	75.	9	3111	133	42
HAMMONTON	.02	21.82	-4.23	93	59	77.	11	3206	251	22
POMONA	.28	20.80	-2.92	93	56	77.	12	3123	366	35
SEABROOK	1.47	23.59	-.30	92	63	78.	11	3454	457	70
SOUTH HARRISON	.45	24.98	-.48	91	60	77	NA	3192	NA	NA
*SOME CUMULATIVE VALUES ESTIMATED DUE TO MISSING PAST DATA										
WES KLINE — GDD BASE 40 PINEY HOLLOW										
Last Week 201 (Ending 9/12/05)										
This Week 251 (Ending 9/19/05)										

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