

PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION \$1.50

NOVEMBER 2, 2006



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Landscape IPM Pest Notes

Steven K. Rettke, Ornamental IPM Program Associate

✓ A Few Things to Remember When Applying Fall Dormant Oils:

In New Jersey, dormant oils (3-4%) are typically applied during March and April. Many landscapers, however, also apply dormant oils during the late fall months. Dormant oils have proven to be an effective material against a wide range of immature insects/mites and their eggs. Common pests controlled include **spider mites**, **soft scales (armored scales to a lesser degree)**, **aphids**, **eriophiid mites** and **adelgids**. Are there any potential problems associated with applying dormant oils during the months of November and December in New Jersey?

Some advisors within our industry have stated that fall oil applications are not recommended. It has been suggested that spraying oils on deciduous trees just after leaf drop, when plants have not yet "hardened off" may interfere with interior growth of twigs, causing damage and even twig death. Also, it has been stated that spraying oils on conifers in November and December removes the protective waxy bloom necessary for winter protection, and should therefore be avoided.

Although the potential negative side effects need to be considered, they do not appear to be widespread problems. The use of a more conservative 2% oil mixture during the fall season on conifers may be a safeguard against undesirable side effects and yet still maintain spray effectiveness. Dormant oils are best applied when temperatures will remain above 40°F. for at least 24 hours. However, several university studies determined that no phytotoxicity occurred at lower temperature applications. When sprays are applied just prior to temperatures dropping below freezing, the emulsion breaks down, causing the oil to adhere to the bark/leaves instead of insects and thus produces poor results.

Before applying dormant oils, monitor the plant to be sure of the susceptible life stage and location of the pest. Properly direct the spray to where the pest is located on the plant (underside of foliage, bark, new growth, etc.). When mixing, add water to the tank first, and then add the oil. The mixture should look like skim milk. Constant agitation is necessary during application (do not apply if the solution has been sitting 10 minutes or more without agitation).

✓ **Fall Tree Transplanting** is recommended for many tree species. Some trees, however, perform better when transplanted in the spring. These sensitive species include: birch, red maple, oak, dogwood,

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hornbeam, hawthorn, hemlock, golden-rain tree, tulip tree, plane tree/sycamore, poplar, *Prunus* spp., willow, silver linden, and zelkova. If these species must be planted in the fall, be sure to allow for extra water at the time of planting and until the ground freezes in December/January.

✓ **Cool Season Mites:** Plan a dormant oil application on plants affected by these pests this fall. Oil sprays will kill the presently active adults as well as some of the overwintering eggs. Be sure to monitor for mites next season, since where it was a problem in the past it will most likely be a problem again, and the dormant oil application will probably not give 100% control. **Remember:** Adult **spruce mites** (which attack conifers) will remain active into December and the overwintering eggs will typically hatch in April of next year. The **two-spotted mites** are warm season mites that overwinter as adults under the plant and will not become active again until the weather warms in late May. Dormant oil applications are *not* effective against the two-spotted mites.

✓ **Winter Storms:** Severe winter storms (“nor’easters”) may cause flooding in coastal areas. Some plants can tolerate flooded or waterlogged soil, such as green ash, deciduous holly, red maple, and red osier dogwoods. Others are intolerant of flooding: European mountain ash, basswood, beech, birch, cedar, crabapple, American holly, dogwood, forsythia, hawthorn, hemlock, black locust, Norway maple, white oak, white pine, privet, redbud, sassafras, sourwood, spruce, tulip tree, black walnut, yellowwood, and yew. Dormant plants, no matter how intolerant, can tolerate flooding or waterlogging for several weeks without much damage.

✓ **Future Effects of De-Icing Salt on Plants:** Winter snow falls and icy roads and sidewalks create the need for the increased use for deicing salts. The most commonly used salts are sodium chloride and calcium chloride. Sodium chloride is commonly called rock salt and is more damaging to plants. Calcium chloride is a better material for melting, but more expensive and harder to handle. Both products are usually mixed with abrasives (sand, gravel, or sawdust) that accumulate along roadways and may cause drainage problems.

Adjacent plants become injured by salt when roots come in contact with salt-laden water. The damage symptoms include: stunted leaves, heavy seed loads, twig and branch dieback, leaf scorch, and premature leaf drop. A general unthrifty appearance and poor growth is also a typical symptom. Plants may show symptoms of K & P deficiencies. Conifers tend to suffer damage from accumulated salt more easily than do deciduous plants.

The best solution to the problem is to prevent salt buildup in the first place, if possible. Suggest that your clients use abrasives (kitty litter, sand) instead of salt when treating driveways and walkways. Antidesiccants can also prevent injury, especially on evergreens. After

the fact, leach the salt with fresh water as soon as possible following exposure. Gypsum can also be applied: incorporate into the topsoil surface under the plant canopy at the rate of 50-lb./1000 sq.ft.

✓ **Anti-transpirant Applications:** Within a few weeks, many landscapers will begin to apply their annual anti-desiccant sprays to broadleaf evergreen plants. An anti-transpirant is a film-forming complex of polyethylenes and polyterpenes that when applied to foliage will reduce the moisture vapor transmission rate. These applications help reduce excessive water loss from leaves during the dry winter months when the ground is frozen. When 1 gallon of an anti-transpirant is applied to 10 to 20 gallons of water, plant moisture loss during the winter months is reduced between 15 to 20%. In addition, at the 5-10% dilution rate, the sprayed film produces a glossy sheen on broadleaf evergreens that is appealing to many clients during the holiday season.

Some product labels state that a single application will last through the winter season, whereas other labels indicate a second application during mid-winter provides best results. Note that some of the most severe moisture loss from broadleaf evergreens typically occurs during late winter periods (e.g., February). Hence, an anti-desiccant in place during early winter/December (with some requiring re-application in late winter) will usually be most beneficial.

The use of an anti-desiccant does not guarantee that foliage will be spared against winter “burn” type injuries. It should be remembered these treatments do not prevent, but only reduce moisture loss during the winter. Furthermore, anti-desiccants do not protect against plant cells being damaged from the formation of ice crystals within the foliage during excessively cold temperatures.

As always, it is important to read the label included with all anti-transpirant products. Notice that these products are designed to be used only with broadleaf and needled evergreens and should not be applied to evergreens having scale leaf type foliage. Using anti-desiccants on juniper or arborvitae evergreens, for example, may actually encourage winter type injuries.

✓ **Blacklegged Ticks (= Deer ticks):** The adults are active all winter long, when temperatures are over 32°F. The black, sesame-seed sized ticks with brick red abdomens have been searching for animal hosts since October, and will continue to do so until early May, when they’ll lay eggs. Take precautions during warm periods this fall/winter when working outdoors, particularly near wooded areas.

✓ **What Effect Will a Cold Winter Have on Insect Populations This Season:** Insects overwinter in all life stages, but the majority are in the egg or pupa stage. Cold weather usually has little effect on these stages. Those that overwinter as adults or larvae usually overwinter in protected locations. Snow cover actually can insulate

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Diseases of Landscape Ornamentals

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

End of Growing Season Notes

The growing season has finally come to a close. You'll remember that earlier in the year we had difficulties with winter damage and deicing salt on exposed trees (especially conifers) and shrubs. When thinking of winter injury, direct damage to plant tissues due to cold or freezing temperatures comes to mind. The factors that cause winter injury, however, are much more diverse. In general, damage that occurs in the winter can be categorized as cold temperature injury, winter desiccation, sun scald and frost crack, and frost injury. Last winter, many plants were not properly acclimated for cold weather and were damaged during subsequent periods of very low temperatures. Late winter snow events also took their toll on roadside vegetation - deicing salts, applied to keep roadways clear of ice and snow, caused needle scorch and branch dieback in conifers exposed to salt-laden runoff and spray. As with any environmental stress, plants affected by winter injury and deicing salt are more prone to other diseases and insects.

During the early growing season, some evidence of **Rhabdocline needlecast** was seen on Douglas fir by Christmas tree growers, but less than in previous years. **Volutella blight of pachysandra** (also known as **pachysandra leaf and stem blight**) was prevalent in many pachysandra beds; the disease was easy to spot with its fabulously large, "bull's-eye" leaf spots and elongate cankers on petioles and stems. Boxwoods were affected by the normally opportunistic fungi *Volutella* and *Macrophoma*; shrubs injured by winter desiccation were most commonly affected.

Later in the summer, foliar diseases caused by fungi that had been active in the spring were finally evident. **Shade tree anthracnose**, **juniper tip blight**, **oak leaf blister**, **horse chestnut leaf blotch**, **black spot of elm**, and **Phyllosticta leaf spot** were commonly spotted on a variety of trees. These diseases are, for the most part, cosmetic and do little real damage to trees and shrubs.

What about cankers? 2006 appeared to be the year for cankers. Recent drought periods have affected the root systems of trees and shrubs; this type of stress predisposes plants to canker diseases caused by such fungi as *Cytospora*, *Botryosphaeria*, and *Nectria*. **Armillaria root rot**, another pathogen that takes advantage of trees stressed by drought, was also evident. This disease is readily diagnosed by the growth of black, string-like "rhizomorphs" on the surface of the buttress roots of affected trees, and honey-colored mushrooms that appear at the base of trees in the fall.

Powdery mildew was evident on many landscape trees and shrubs. This extremely common disease is caused by fungi that grow on the surface of leaves. This growth is evident as "powdery" spots or mats on tissue surfaces. Hosts commonly affected by powdery mildew include ash, azalea and rhododendron, flowering dogwood, elm, lilac, oak, and rose. In most landscape trees and shrubs, powdery mildews do little harm to the host, and we can expect to see them back again next year.

Finally, symptoms of **bacterial leaf scorch of oak** appeared early and were very striking, especially on Northern red oak. This disease usually appears in late-summer to early fall, and in New Jersey, affects trees in the red oak group.

Diseases of Turfgrass

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

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 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, or vinclozolin. For best results, apply any of these fungicides now and then repeat in late-January if the snow cover recedes. Do not, however, reapply PCNB after January 15 due to the possibility of phytotoxicity during warm weather next spring.

Turf Expo

This year's Turf Expo will be held at the Trump Taj Mahal Resort on December 5-7, 2006. This is an excellent opportunity to receive the latest turf management information from nationally renowned speakers. For additional information, please contact Michelle Rickard at (215) 757-6582 or njtadirector@yahoo.com, or Marlene Karasik at (732) 932-9400 ext. 339 or mkarasik@aesop.rutgers.edu. □

Although we've seen plenty of recent rain, it is still important to remember that landscape trees were still severely stressed in previous years by drought. Indeed, the root systems of affected trees and shrubs are not out of the woods - it often takes trees 5 or more years to recover from the effects of a severe drought. Not only does drought stress impact the immediate growth and development of plants, it also predisposes them to other diseases (especially cankers and *Armillaria* root rot) and insect pests (such as **borers**). Keep this in mind during the next few years when monitoring landscape trees and shrubs for plant health. □

RCE Publications

Recent Publications

Now available on the Rutgers Cooperative Extension website at: <http://www.rcrc.rutgers.edu/pubs/> or through your county Extension office are the following publications:

Soil Fertility Test Interpretation - Phosphorus, Potassium, Magnesium, and Calcium by Joseph Heckman, Ph.D., Specialist in Soil Fertility (FS719).

Pest Control Recommendations for Lawn and Turf Areas, 2006, by Bruce Clarke, Ph.D., Specialist in Turfgrass Pathology, Stephen Hart, Ph.D., Specialist in Weed Science and Albrecht Koppenhöfer, Ph.D., Specialist in Turfgrass Entomology (E037).

Spanish/English Newsletter for Green Industry

Pastos & Paisajes is a quarterly bilingual (Spanish/English) newsletter serving the green industry. The newsletter covers topics related to general soils and plants, landscape maintenance, lawn care, integrated pest management (IPM), and pesticide use and safety. The newsletter is a balance of articles with seasonal interest and those with year-round appeal. Articles will prove useful to both English-speaking and Spanish-speaking members of the green industry.

An English-Spanish glossary of terms and phrases is included for those interested in improving their language skills in a second language. Also, the newsletter is formatted with English and Spanish versions of the same article appearing side by side. This gives the reader the opportunity of picking up words and phrases in a second language.

The newsletter is currently available by mail or e-mail subscription. Costs are \$10.00 for an annual mail subscription and \$5.00 for an e-mail subscription. Back issues can be downloaded for free from the Rutgers Cooperative Extension website at:

<http://www.rcrc.rutgers.edu/pubs/newsletters.asp>.

Make payment payable to *Morris County Extension* and mail to: Pedro Perdomo P.O. Box 900 Morristown, NJ 07963-0900, with the following information: subscriber name, address, city, state, zip code, county, phone number, and e-mail address (for e-mail subscribers).

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insects and increase survival. The major cause of decreasing insect numbers is widely fluctuating temperature extremes throughout the winter. When temperatures warm, insects begin development, only to stop when temperatures again drop. Therefore, springs with false "starts" are more likely to negatively effect insect populations than a steady cold winter. □

Editor's Note: This is the last issue of the Landscape, Nursery & Turf edition of the Plant & Pest Advisory for the 2006 season. Thank you for subscribing.

Weather Summary for the Week Ending 8 am Monday 10/30/ 6

WEATHER STATIONS	R A I N F A L L			TEMPERATURE				GDD BASE50		MON %FC
	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	
CANOE BROOK	2.64	37.85	4.36	66	27	46.	-2	3364	641	100
CHARLOTTEBURG	2.78	39.86	5.63	62	27	45.	-1	2838	714	99
FLEMINGTON	2.26	41.18	9.30	63	26	44.	-4	3194	402	99
NEWTON *	1.87	44.03	12.96	61	27	43.	-3	2590	214	99
FREEHOLD	missing									
LONG BRANCH	1.15	34.72	3.23	70	31	47.	-4	3301	318	99
NEW BRUNSWICK	1.70	35.89	4.48	71	28	46.	-5	3467	296	100
TOMS RIVER	1.48	30.42	-2.02	69	29	47.	-4	3412	434	99
TRENTON	1.87	33.73	4.20	68	30	47.	-5	3555	242	99
CAPE MAY COURT HOUSE	1.15	23.99	-3.93	69	32	48.	-6	3533	392	98
DOWNSTOWN	1.65	30.97	1.87	69	29	46.	-6	3324	-28	99
GLASSBORO	1.45	34.62	3.86	68	34	47.	-5	3767	476	99
HAMMONTON	1.65	32.76	2.17	71	30	47.	-4	3713	422	98
POMONA	1.72	33.79	6.15	70	30	48.	-3	3592	540	98
SEABROOK	missing									
SOUTH HARRISON	1.48	37.92	7.87	68	32	47	NA	3540	NA	NA
WES KLINE — GDD BASE 40 PINEY HOLLOW										
LAST WEEK	106 (Ending 10/23/06)									
THIS WEEK	41 (Ending 10/30/06)									
* SOME CUMULATIVE VALUES ESTIMATED DUE TO EARLIER MISSING DATA										

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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.

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