Termites in Mulch?: Termites have underground colonies and feed on wood, and may be found in mulch. In the past, most entomologists agreed that any termites brought into a site via mulch were workers and not reproductives (queens), and therefore there was little risk of a new colony developing. However, new research shows that if the mulch contains enough white worker termites, and they are given access to soil, these termites do have the ability to develop into secondary reproductives and establish a new colony!

In light of this, bagged mulch should be stored on pallets off the ground, so termites cannot gain access to the mulch. Termites need ground to wood contact to easily gain access to the wood food source from their underground colony. Likewise, piles of mulch should not be stored directly on the ground. Keep bags of mulch in the sun as well, since termites should not survive high temperatures that build up during the day. Also beware of adding too much mulch to the landscape (2 to 3 inches is plenty). (Ref: P.E.S.T newsletter, 2 Apr. '01)

Mulch Facts: A handy “rule of thumb” when figuring mulch coverage: One 3 cubic foot bag will cover approximately 18 sq.ft. at a 2 inch depth. Also, a cubic yard of mulch in bulk form will cover approximately 162 sq. feet at a 2-inch depth.

Halloween Lady Beetles, (a/k/a Harmonia): These well known predators can be a nuisance this time of year. The adult lady beetles are typically orange in color, with or without many spots. They tend to congregate in huge numbers on homes with a southern exposure, and then move inside to overwinter. Since they are beneficial insects, sprays are not recommended. A new light trap developed by USDA scientists has been designed for use inside of structures. They are trapped indoors so that they can be released outdoors unharmed. Information is available via H&T Alternative Controls, 877/967-6777.

Herbicide Drift Woes: Broadleaf herbicide drift can do significant damage to desirable ornamental plants. Many think that it takes direct application to ornamentals to cause damage, but spray drift in mist or vapor can also cause damage. If applying herbicides, do so early in the morning when there is little or no wind. Avoid spraying when temperatures are over 80°F to avoid volatilization, and use the lowest functional application pressure to make droplets as large as possible. Additionally, spray as far away from desirable plants as possible. The very best way, of course, to avoid herbicide damage is to...
treat in October, when many broadleaf weeds are most susceptible, when herbicides are typically most effective, and when ornamentals are not as susceptible to damage. (Ref: Z. Reicher, Purdue Univ., Turf Tips 6/98)

✔ Defining IPM: R.I.S.E. (Responsible Industry for a Sound Environment), is a national group representing both pesticide and trade organizations. Several years ago, it released its official definition of IPM. Since many definitions of IPM exist, one clear-cut definition may help reduce non-productive time spent discussing what IPM entails. The goal of IPM is to “manage pests and the environment to balance benefits of control, costs, public health, and environmental quality.” The three components of IPM are:

1. Monitoring the site for the presence of pests;
2. Determining the action threshold/level above which the pest is intolerable;
3. Initiating preventative or curative action to avoid surpassing the threshold.
(Ref: Amer. Nurs. I-15-95)

✔ Plant Stress and Insect Pest Influence: Do environmental stresses increase insect attacks on woody plants, or is the statement too simplistic? Seventy experimental studies were conducted in which insect performance was measured on plants subjected to water stress, pollution, and/or shading. Overall, plant stress had a variable effect on insect growth rate, reproduction, survival, or population density. In general, borers and sucking insects performed better on stressed plants, as opposed to gall-makers and chewing insects, which declined. The performance of chewing insects worsened on slow growing stressed plants as opposed to fast growing stressed plants. The reproductive potential of sucking insects was increased by pollution, but reduced by water stress. (Ref: Koricheva et al, 1998, Ann. Rev. of Entm. 43: 195-216).

✔ Hemlock Woolly Adelgid: Fall is an excellent time to control this major pest, if no controls have been applied to date. The nymph is exposed on the underside of new growth, at the base of individual needles from May through early November, when it covers itself with white, woolly wax. Information from the US Forest Service indicates that hemlocks that have experienced over 50% needle loss from the adelgid will not recover in subsequent years, even with persistent treatments. Therefore, it is important that treatments be made when the needle loss is below 50% if hemlocks are to survive. Fall treatments of insecticidal soap, horticultural oil, or Merit are very effective.

✔ Are Scale Insects Controlled by Merit (imidacloprid)?: Several years ago researchers reached the conclusion that soil-applied Merit gives good control of soft scales, but negligible control of armored scales. Soft scales are large scales, such as magnolia scale, calico scale, and lecanium scale that feed from the vascular xylem of the plant stems where they ingest the Merit. Armored scales, on the other hand, feed from either individual cells or the vascular phloem, neither of which are involved in Merit transport.

✔ Tree Wrapping: Tree wrapping, or wrapping the trunk of young trees after transplanting, is not recommended. In the past, wrapping was done on fall transplants in order to reduce sunscald and frost cracks. However, replicated studies have shown that wraps are not a deterrent to these problems. Wrapping can actually create problems by reducing photosynthesis (because young stems contain chlorophyll), and increasing potential pest attack from borers and certain diseases. The best benefit from wrapping is protection from chewing rodents. For this purpose, it should be in place only during the dormant season.

✔ Two Spotted Spider Mites Overwinter as Adults: They are in the dust around the base of plants or on weeds. This means that there are no eggs overwintering on plants, so therefore, a dormant horticultural oil treatment (for overwintering eggs) will not work! Overwintering eggs may be those of other mite species, such as European red mite, spruce mite, or the southern red mite.

✔ Home-Invading Insects: Several insect species overwinter as adults, and seek shelter indoors this time of year. Normally they overwinter outdoors in protected locations, but attics, sheds, and rafters are agreeable. Look out for boxelder bugs, western conifer seed bugs, Asian lady beetles, and black vine weevils, among others. Vacuum up when seen.

✔ Tree Transplanting (Fall vs. Spring): Some trees are best transplanted in the spring, as opposed to the fall. Some tree species fail to adequately regenerate their root systems in the fall. They often have borderline hardness and are best moved in spring so that they’ll have more time to become established before winter. The following is a list of plants that are best not planted now, but delayed until next spring: fir, birch, hornbeam, hickory, flowering dogwood, common persimmon, beech, ginkgo, American holly, walnut, golden raintree, golden chaintree, sweetgum, tulip tree, magnolia, blackgum, ironwood, sourwood, poplar, Prunus species, golden larch, oak, willow, sassafras, cypress, and hemlock. 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. (Ref: Arbor Age, Jan. 2000).
Turf
A month has passed since the last edition and Gray leaf spot remains the big news from the Plant Diagnostic Laboratory. Almost every day since the initial samples came to the laboratory on 9/10 we have had a plug diagnosed with gray leaf spot. Sample submissions of perennial ryegrass fairways, tees, and surrounds were submitted to the laboratory from golf courses as far south as Richmond and northeastern Virginia to Eastern Long Island. Of particular note, most of the most severe damage was found on golf courses along the Atlantic coast. Only a couple of the plugs were from inland locations. We also saw more damage on the shorter cut fairway than on the taller rough, which is opposite our normal expectations for the disease. Finally, we saw a couple samples of home lawns that were simply devastated! At this point, I suspect that most of the damage has been done, so we can just sit back and wait for the snow molds!

Ornamentals
Bacterial leaf scorch (BLS) is still evident in the oaks at this time. It is getting harder to pick out the suspects as the leaves begin to fade and drop, but many infected red oaks still stand out nicely. Several arborists have submitted other trees for BLS diagnosis. To date, we have not had a positive from these samples. Plane trees, sycamore, dogwood, and maple are suspects and reported hosts, but again, we have not had positives from these trees. Quite frankly, there are a lot of maples out there that look terrible. I suspect that the ongoing drought has done most of that damage, but won’t be surprised if one turns up positive for BLS sooner or later. We have collected samples on our own and identified the disease in several weedy mulberry trees.

Visit us on the web at: www.rce.rutgers.edu/plantdiagnosticlab.

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

General
Red thread, rust, dollar spot, and stripe smut are active at this time. Refer to recent issues of this newsletter for additional information about the identification and management of these diseases.

Pink Snow Mold
This disease, caused by the fungus Microdochium nivale (Fusarium nivale), should develop soon on greens and tees. Apply Banner, Chipco 26GT, chlorothalonil, Compass, ConSyst, Curalan, Eagle, Heritage, PCNB, Spectro, thiophanate-methyl, Touche, or Vorlan to prevent snow mold from developing or to arrest current infections. For best results, apply any of these fungicides (or PCNB) in late-October and then repeat in late-January if the snow cover recedes. Do not reapply PCNB after January 15 due to the possibility of phytotoxicity during warm weather next spring. In addition, avoid excessive nitrogen applications prior to dormancy in the fall.

Turf Expo
This year’s Turf Expo will be held at the Trump Taj Mahal Casino/Resort in Atlantic City on December 10-12, 2002. This is an excellent opportunity to receive the latest turf management information from nationally renowned speakers. For additional information, please contact Bea Devine at (732) 821-7134.

Calendar of Events


February 10, 11, 13, 18 and 19, 2003 – Organic Land Care for Professionals Course, Connecticut Agricultural Experiment Station, New Haven, CT. $350. Contact: 203-888-5146 or e-mail bduesing@cs.com.
The South Jersey Nursery Meeting will be held on Wednesday, October 30, 2002 at the Extension Center, 291 Morton Avenue, Millville, NJ. The registration cost is $10 per person and includes lunch. The program will begin with registration at 8:30 AM and conclude at 3:30 PM. The focus areas for this meeting are water, nutrient and pest management. Pesticide recertification credits have been requested.

Pre-registration is required by October 25, 2002. Contact Rutgers Cooperative Extension of Cumberland County at 856-451-2800 to request the program and registration form.

The new Rutgers nursery specialist, Dr. Gladis Zinati will present the basics of nutrient management. Dr. Zinati started as our Nursery Extension Specialist on September 1, 2002 and was most recently a post-doctoral student at the University of Florida. She will also provide insight into the direction her program will be heading and needs grower input as she begins her work in New Jersey. She will be looking to you, the growers, to review the direction and focus of her program.

Jim Johnson, Cumberland County Agricultural Agent, will review work being conducted on the Upper Cohansey River watershed. The project, in conjunction with the Cumberland Soil Conservation District, is looking at water quality in the Cohansey River and the impact agriculture is having on the river.

The third area of information will be nursery pest management. Our pest management team will present information on weeds, insects and diseases. Dr. George Hamilton will review Worker Protection Standards, results of the farm visited by DEP and how to prepare for future visits.

Dr. Steve Hart will review weed control information with details of when to apply and what to use for overall programs as well as specific weeds.

Dr. Jim Lashomb will review the results of oriental beetle work completed this year along with showing how the nursery research program is developing at Rutgers Fruit and Nursery Research and Extension Center in Cream Ridge.

Dr. Ann Gould will present information on oak leaf scorch. Oak leaf scorch is a bacterial disease that has an insect vector to spread the disease. It is becoming increasingly endemic in New Jersey. This information is important to the nursery industry, especially for those that grow oak trees.
Rutgers Laboratory Services

Soil Testing Lab
To apply optimum levels of nutrients or lime to your soil, it is necessary to know the existing pH and the availability of essential plant nutrients in the soil. Remember: Excess nutrients or limestone can be as detrimental to plant growth as deficiencies of these nutrients.

The appropriate application of nutrients and/or lime is not only agronomically desirable but is also economically prudent. Don’t buy nutrients that your soil doesn’t need; invest in those nutrients that will bring about a growth/yield response.

Soil testing is an environmentally responsible practice. The improper application of fertilizer or other nutrient sources can lead to nitrate or phosphorus contamination of our water resources. By applying the most appropriate kind and amount of fertilizer at the proper time, you can ensure that you are “feeding” your plant-life and not polluting our environment.

Soil testing kits may be purchased from your local Rutgers Cooperative Extension county office. The purchase price of a soil testing kit includes the cost of the standard fertility test. Each kit includes an information sheet, a questionnaire, and a mailing bag or envelope. The information sheet provided with the soil testing kit describes proper sampling procedure. Please read and follow the directions carefully. For further information, refer to Rutgers Cooperative Extension publication FS797, Soil Testing for Home Lawns and Gardens available at http://www.rce.rutgers.edu/pubs/pdfs/fs797.pdf.

Further information on the lab and its services are on the web at: http://www.rce.rutgers.edu/soiltestinglab. Below are some of the tests available:

**Landscape**
Level 1 Fertility Test: Nutrients, pH, recommendations $10
Level 2 Problem Solver (soil/plant suitability test): Nutrients, pH, soluble salt level, organic matter content, soil textural class, recommendations $25
Level 3 Topsoil Evaluation: Nutrients, pH, soluble salt level, organic matter content, percentages of sand/silt/clay, soil textural class, gravel content, recommendations $45

**Greenhouse**
Saturated (Organic) Media Extract Analysis: Nutrients, pH, electrical conductivity, inorganic nitrogen $20

**Sport Turf**
Level 1 Fertility Test: Nutrients, pH, estimated CEC & cation saturation, recommendations $10
Level 2 Complete Test: Nutrients, pH, estimated CEC & cation saturation, soluble salt level, organic matter* content, soil textural class, recommendations $25
Level 3 Sand Root Zone Test: Nutrients, pH, estimated CEC & cation saturation, recommendations, soluble salt level, organic matter* content, percentage fines $30

*Organic matter content would be determined by Loss-on-ignition for golf course greens, as described by USGA guidelines.

Plant Diagnostic Lab
The Plant Diagnostic Lab 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

**Most samples (except fine turf)**
$30 in-state
$75 out-of-state

**Fine and sports turf**
In-state:
$65 per sample
$100 disease and nematode assay

Out-of-state:
$95 per sample
$150 disease and nematode assay

For further information, visit us on the web at: http://www.rce.rutgers.edu/plantdiagnosticlab