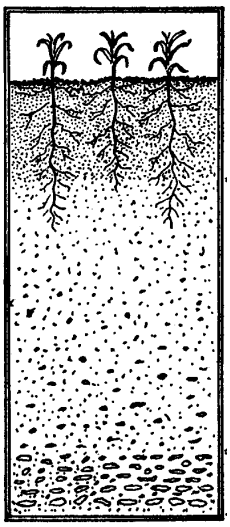
RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

LANDSCAPE, NURSERY & TURF EDITION $1.50 JULY 13, 2000



INSIDE

RCE Soil Testing Laboratory

Dr. Stephanie Murphy, director, Rutgers Cooperative Extension Soil Testing Laboratory at Cook College, New Brunswick advises that a soil analysis done at the Rutgers lab can save gardeners time, money, and help the environment by telling them what nutrients their soil has, what fertilizer to use on their plants, how much and when to apply it.

"Don't buy nutrients that your soil doesn't need. Invest in those nutrients that will bring about the plant growth or garden yield that will be most beneficial to your plantings," said Murphy.

Soil test kits, available for less than $10 at county Extension offices, come with instructions for how to take a soil sample. The report spells out the levels of specific nutrients - macronutrients and micronutrients – that the soil contains. It also includes information on soil texture, pH, and recommendations for lime and fertilizer.

Murphy said it is critical to know the pH – the acidity or alkalinity of soil - because that determines the availability of essential plant nutrients. "Remember that excess nutrients or limestone can be as detrimental to plant growth as deficiencies of these nutrients," she noted.

The soil test report is reader-friendly and describes what levels of nitrogen, phosphorus and potash to look for in the fertilizer recommended. Single nutrient fertilizers and slow-release fertilizers such as water insoluble nitrogen, may also be recommended. Slow-release fertilizers spread out nutrient availability to plants over a longer period of time. Soil tests should be done at least every three years, said Murphy, or gardeners can end up misapplying fertilizer. Separate tests should be done for specific types of plantings such as established lawns, perennial flowers, a new annual flower bed, or a vegetable garden.

Each soil test kit contains an information sheet describing how to sample the soil, a questionnaire on the type of planting existing or planned, and a soil mailing bag. In addition to phosphorus and potassium, a soil report provides levels for nutrients such as zinc, copper, manganese and boron. Additional tests can be conducted on soil such as organic matter content, soluble salt levels, topsoil evaluation, and lead screening. More than 7,000 soil tests were conducted last year by the lab.

"Soil testing is an environmentally responsible practice. The

SEE SOIL LAB ON PAGE 2

Diseases of Turfgrass

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

Anthracnose

This disease, caused by the fungus *Colletotrichum graminicola*, has recently been quite prevalent on annual bluegrass, fine fescue, perennial ryegrass, and Kentucky bluegrass. The fungus typically attacks turf growing under low soil fertility and/or heat or drought stress. Low cutting height can also enhance symptom development. To identify **anthracnose** in the field, look for small black fruiting bodies with protruding black spines. For best results, increase turf vigor with light applications of nitrogen, maintain adequate irrigation, reduce thatch, and raise the cutting height (whenever possible). On a preventive basis, apply Banner, Bayleton, Chlorostar, Cleary 3336, Compass, ConSyst, Daconil, Eagle, Fungo, Heritage, Manicure, Rubigan, Sentinel, Spectro or Thalonil per manufacturer's recommendations. Once the disease develops, however, apply a tank mix of Bayleton 50W (2 oz/1000 ft^2) + Daconil Ultrex (6 to 7 oz/1000 ft^2) or a tank mix of Cleary 3336 50W (4 to 6 oz/1000 ft^2) + Daconil Ultrex (6 to 7 oz/1000 ft^2) for best results.

Pythium Blight

Pythium blight has been quite active on golf and landscape turf during the past few weeks. Since **pythium** thrives in low or poorly drained areas, especially when the night temperatures are above 70^0F, we should see a lot more of this disease as the "hot muggy" weather continues this summer. For best results, improve drainage, water in the early morning hours, avoid over fertilization, and apply Aliette, Banol, Heritage, Koban, Prodigy, Subdue, or Terrazole, according to the manufacturer's recommendations.

Turf Field Days

The Landscape Turf Research Field Day will be held on August 2, 2000 at the Turf Research Farm (Ryders Lane) in North Brunswick, N.J. Registration will begin at 8:00 AM. Guided field tours will commence at 9:00 AM and will conclude at 3:30 PM, "rain or shine". The registration cost is $20 ($30 with lunch). The Golf Turf Research Field Day will also be held at the Turf Research Farm (Ryders Lane) in North Brunswick, NJ. This event will occur on August 3, 2000 at 12:30 PM (registration) and field tours will run from 1:00 to 5:00 PM. Registration is $25. Recertification credits will be available at the conclusion of each program. Call Marlene at (732) 932-9400, ext. 339 for additional information. ❑

Ornamentals Pest Notes

Deborah Smith-Fiola, Ocean County Agricultural Agent, and Steven Rettke, Program Associate in IPM

✔ **TWO-BANDED JAPANESE WEEVIL (1644-2271 GDD):** Adults are about 3/16 inch long and are brown to gray with two darker bands across the wing covers. This flightless weevil prefers shrubs such as privet, azalea, rhododendron, mountain laurel, euonymus, and many others. Adults chew notches in leaf margins similar to the black vine weevil except the TJW will eat leaves right down to the mid rib when the population is high enough. Another difference is that they feed during the day (the black vine weevil feeds at night). Look for leaf notching damage on lower leaves beginning in early summer. Larvae feed on roots of the same plants. Fully-grown larvae are about 1/4 inch long. They are C-shaped, legless, and white with brown heads. Control with acephate (Orthene) when the adults are actively feeding. Hand picking or trapping is also a way to reduce the population. Lay a sheet under the affected shrub and shake the shrub. The weevil will instinctively drop to the ground to hide. Crush or otherwise destroy them before they can return to the shrub. Soil drenches for larvae are effective for potted plants, but not for landscape plants.

✔ **JAPANESE BEETLE (1029-2154 GDD):** Adult Japanese beetles have emerged from the soil. They will mate, then feed and lay eggs for the next 6 weeks. The adults are ½ inch long, with brown wing covers and metallic green body. Look for adults on preferred hosts from late June through early August. Preferred hosts include gray birch, linden, willow, sycamore, Japanese and Norway maples, fruits, roses and many others. Traps are usually counterproductive unless employed over a community-wide area. Weekly

See Pest Notes on page 3

Soil Lab from page 1

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 supplying sufficient nutrients to your plants and not polluting our environment," Murphy added.

To purchase a soil testing kit, call your county Rutgers Cooperative Extension (RCE) office listed under county government in the telephone book blue pages. For more information on soil testing, call the soil testing lab at 732-932-9295 or visit the RCE web site at: http://www.rce.rutgers.edu/soiltestinglab/index.html. ❑

Pest Notes from page 2

sprays in July will provide only partial adult control. On cool/rainy days or early in the morning, adults are sluggish and can be hand-picked or knocked onto a drop cloth. Mature larvae are nearly 1 inch long and white, with brown heads. Treatment is suggested if grubs number more than 8 to 15 per square foot in tall fescue, and 6 to 8 per square foot in bluegrass.

✔ **PINE SPITTLEBUG:** The native spittlebug attacks nearly all of our common pines, as well as Norway, white, and red spruces, balsam fir, larch, eastern hemlock, and Douglas fir. Nymphs are covered with frothy honeydew called spittle. They are mostly black in color with a white abdomen and can be found under spittle on twigs in May and June. Inspect for adults feeding in the same locations in July and August without the spittle covering. Adults are about 1/4 inch long and are mostly tan in color with whitish bands on the wings. Both adults and nymphs suck sap from the phloem vessels of twigs. Damage is usually not serious with light infestations and chemical controls are not warranted. On small pines, spittlebug populations may be manually removed. Adults are more active than the nymphs and may require an insect net to effectively keep them from twigs. If necessary, spray spittle masses with a residual insecticide in May.

✔ **PLANT GALLS:** Plant galls often attract considerable attention because of their unusual shapes and colors. Galls are considered to be abnormal growths developing in plant tissue due to the introduction of a foreign substance. A gall is made up of plant cells which have been stimulated to undergo rapid division and growth by the presence of the foreign substance. Many gall producers are caused by tiny wasps, midges and mites. Other gall inducers can be from aphids, psyllids, flies, and adelgids. Some galls are produced by fungi, nematodes, bacteria, viruses and by mechanical injury. Many galls will form on susceptible plants when an insect deposits eggs in rapidly growing plant parts. Chemical fluids may be deposited simultaneously, which stimulates tissue to grow over the eggs. Upon hatching, the protected larvae feed internally on the gall tissue until they complete their life cycles. The fantastic cellular growth of these galls has been of interest to scientists conducting cancer research. Many leaf gall types only cause cosmetic damage to ornamental plants and therefore control measures are not recommended.

✔ **WHITEFLIES:** The three species commonly found within the landscape are the azalea, mulberry and maple whiteflies. The azalea and maple whiteflies feed only on the hosts which bear their names, while the mulberry species feed upon holly, mountain laurel, magnolia, maple and mulberry. Adults are white, 1/16 to 1/8 inch in length, and resemble tiny moths. When the plant is disturbed, large numbers of adults will fly up in a 'white cloud', before settling back down on the plant to feed. Nymph and pupae stages are flat and resemble scale insects. All stages feed on the underside of leaves. Heavy infestations may cause leaves to wilt, turn yellow and drop prematurely. Lower leaves first become covered with honeydew, followed by sooty mold. Numerous ants present on the foliage may also indicate a population of whiteflies (they feed on the honeydew). Control is often not needed, as damage is often insignificant. Rake up and destroy fallen leaves. If necessary, spray the undersides of infested leaves with insecticidal soap or horticultural oil if sooty mold and damage is significant. Parasitoids and predators can often maintain these pests at reasonable levels.

✔ **TULIPTREE APHID:** This native insect feeds on tulip poplar, and occasionally on magnolia. There are several generations per season and active aphids may be present much of the growing season. They overwinter as oval, black eggs on twigs. Look at the underside of leaves for the yellowish aphids, which are host specific. High populations can produce copious amounts of honeydew and sooty mold, creating a major nuisance. Leaves may turn yellow, be reduced in size, and drop prematurely. If honeydew accumulations become a problem during the summer, use horticultural soaps or oils to conserve beneficials (parasitoids and predators alone may not be effective for total population control). Residual insecticides are justified when rapid controls are necessary. If the black eggs are present on twigs in the winter, a dormant oil spray is appropriate.

✔ **EUONYMUS SCALE (2nd Generation Crawlers, 1700 GDD):** This imported scale from Asia has been a serious pest across North America since the 1880's. About 30 species of Euonymus are susceptible to attack by the scale, but it can also damage pachysandra and bittersweet. The 2nd generation crawlers can become active as early as late July, however, they are often active through August. This less synchronized hatching of the 2nd generation crawlers makes control timing more difficult (the 1st generation crawlers emerge in June during a more dependable time period). The crawlers are yellowish-orange in color and are nearly microscopic in size. They can be found moving on both the leaves and bark. With very high populations, the crawlers can give the plant a dusty orange appearance. Use your hand lens to see these critters in action.

Controls: The beneficial *Chilocorous* lady beetle (all black with two red spots on its back) is frequently found feeding on the crawlers of this armored scale pest. (Consider not spraying if seen, but continue to monitor). Control crawlers with 1% horticultural oil (follow all label precautions, be careful of high heat

See Scale Control on page 4

SCALE CONTROL FROM PAGE 3

and humidity). Good control has also been achieved with a mix of 1% oil plus Orthene. Also labeled are cyfluthrin (Tempo 2), dimethoate (Cygon), malathion, or diazinon.

✔ DOGWOOD SAWFLY (1800 GDD): The larvae of this non-stinging wasp may sometimes cause severe defoliation to many varieties of *Cornus* species. Early instars will skeletonize leaves initially, followed by the larger larvae consuming the entire leaf area except for the midveins. They feed in groups along the margins of leaves. The larvae and their shed skins may resemble bird droppings. They also superficially resemble caterpillars, but since they have more than 5 prolegs they are correctly classified as sawflies.

The larvae have the curious ability to change appearance greatly as they develop throughout instars. First instar dogwood sawfly larvae resemble small greenish yellow mucoid tadpoles. Second and third instar larvae have a smooth amber colored body with black rectangular markings along the top and sides. Maturing larvae have a white powdery coating over the surface of their body. The final instar larvae eventually stop feeding in groups and disperse throughout the tree to feed individually.

Controls: Dogwood sawfly can be easily pruned-out or handpicked when they are young and still feeding within groups. Soaps and oils may provide effective controls if early instars are targeted. Systemics (Orthene) and most common contact insecticides will also destroy the population. Parasitoids or predators are generally not reliable for suppression. *Source: BUG BULLETIN newsletter 7/28/97.* ❑

If Plants Could Talk

A Gardening Television Series
July 15, 2000
12:30 PM
NJN Public Television Stations

If Plants Could Talk is a gardening television series developed by Rutgers Cooperative Extension and aired on NJN Public Television. The next episode will be aired on July 15, 2000 at 12:30 PM. The topics for the next show are Great Flowering Trees and Shrubs for Your Landscape, How to Avoid Ticks in Order to Prevent Lyme Disease, and Farm and Tailgate Markets.

If Plants Could Talk features gardening tips from local university experts, successful farmers, master gardeners, and many other plant experts. Topics include new and interesting plant varieties, safe and effective pest control, step-by-step cultural tips for landscape and garden, and visits to local farms, arboretums, and backyard gardens.

For more information on the series including airing dates, topics covered in the series and NJN TV stations, visit the If Plants Could Talk web site at: http://ifplantscouldtalk.rutgers.edu/hostprod.html.

Rutgers Cooperative Extension - NJAES
U.S. DEPARTMENT OF AGRICULTURE
Rutgers -The State University of New Jersey

Plant & Pest Advisory
18 College Farm Road
Cook College
New Brunswick, N.J. 08901-8551

PLANT & PEST ADVISORY LANDSCAPE NURSERY & TURF EDITION CONTRIBUTORS

RCE Specialists and Staff
Bruce B. Clarke, Ph.D., Turf Pathology
Ann B. Gould, Ph.D., Ornamentals Plant Pathology
Steven Hart, Ph.D., Weed Science
Joseph R. Heckman, Ph.D., Soil Fertility
James A. Murphy, Ph.D., Turf Management
George J. Wulster, Ph.D., Floriculture
Richard J. Buckley, Coordinator, Plant Diagnostic Laboratory
RCE County Agricultural Agents and Program Associates
Atlantic, Charlene H. Costaris (609-625-0056)
Bergen, Joel Flagler (201-599-6162)
Burlington, Raymond J. Samulis (609-265-5050)
Camden, James Willmott (856-566-2900)
Cumberland, James R. Johnson (856-451-2800)
Essex, Jonathan H. Forsell (973-678-7988)
Gloucester, Jerome L. Frecon (856-881-4191)
Hunterdon, Winfred P. Cowgill, Jr. (908-788-1338)
Middlesex, William T. Hlubik (732-745-3443)
Monmouth, Richard G. Obal (732-431-7261)
Morris, Pedro Perdomo (973-285-8307)
Ocean, Deborah Smith-Fiola (732-349-1246)
Steven Rettke, Program Associate IPM
Somerset, Nick Polanin (908-526-6293)
Union, Madeline Flahive-DiNardo, Prog. Assoc. (908-654-9854)
Warren, William H. Tietjen (908-475-6505)
Newsletter Production
Jack Rabin, Assistant Director, NJAES
Cindy Rovins, Editor and Designer
Mary Ann Hughes, Assistant Editor