TPM/IPM Weekly Report for Arborists, Landscape Managers & Nursery Managers
University of Maryland Cooperative Extension

October 9, 2009

Coordinator of the electronic weekly IPM report:
Stanton Gill, Extension Specialist, IPM for Nursery, Greenhouse and Managed Landscapes, Sgill@umd.edu. 301-596-9413 (office) or 410-868-9400 (cell)

Regular Contributors:
Pest and Beneficial Insect Information: Stanton Gill and Paula Shrewsbury (Extension Specialists) and Brian Clark (Extension Educator, Prince George's County)
Disease Information: Karen Rane (Plant Pathologist) and David Clement (Extension Specialist)
Weed of the Week: Chuck Schuster (Extension Educator, Montgomery County)
Cultural Information: Ginny Rosenkranz (Extension Educator, Wicomico/Worcester/Somerset Counties)
Fertility Management: Andrew Ristvey (Regional Specialist, Wye Research & Education Ctr)
Design, layout and editing: Suzanne Klick (Technician, CMREC)

Please call us if you are a commercial horticultural business finding insect, disease, weed or cultural plant problems in the landscape or nursery. Send submissions to Sklick@umd.edu or call Stanton Gill at 301-596-9413.

Insect Larvae Active in October

Bob Mead, Mead Tree and Turf, brought in a sample of larvae that were very active at his operation late last week. He said that hundreds of these larvae were crossing the driveway at his business coming from a turf area and heading toward a mulched area. The black colored larvae are ground beetles in the family Cantharidae, commonly called solider beetles. Soldier beetles are excellent predators that are good searchers for prey. Their prey can be just about any insect since they are generalist feeders. In the fall, the cool nights followed by sunny weather seems to increase their activity. They pupate in the soil during the fall and the adults will be out next spring. Most people recognize the adults but the larvae are less familiar.

Thank you to the Maryland Arborist Association, the Landscape Contractors Association of MD, D.C. and VA, the Maryland Nursery and Landscape Association and FALCAN for your financial support in making these weekly reports possible. Photographs by Suzanne Klick, Stanton Gill or Shannon Wadkins unless otherwise noted.

Woolly Aphids

John Speaker brought in an alder tree this week that is covered with wooly aphids. Woolly aphids (family Eriosomatidae) are found in the fall on many hardwood trees and shrub species including elm, silver maple, ash, alnus, alder, apple, pear, pine, spruce, hawthorn, and juneberry (*Amelanchier*). They are small (2-4 mm in length), pear shaped insects, and are often covered with white waxy strands. Woolly aphids generally have a primary host on which they overwinter, and a secondary host on which they spend much of the summer. They usually overwinter as eggs laid in bark of their primary host. The following spring, eggs hatch into females which give birth without mating. Each female can produce hundreds of offspring, so populations can grow rapidly. After one or two generations on the primary host, winged females are produced, and they fly to secondary hosts where they remain for the rest of the summer. Additional generations of aphids are produced until late summer or early fall when winged females fly to a primary host where they give birth to tiny male and female aphids that mate. Gravid females deposit a single large egg (or eggs) into protected locations in the bark and then die. While woolly aphids generally have two hosts, many species can sustain themselves on their secondary host alone. Woolly aphids feed on leaves, buds, twigs, and bark, but can also feed on the roots. Damage symptoms include twisted and curled leaves, yellowed foliage, poor plant growth, low plant vigor, and branch dieback. Natural enemies help keep these aphids from becoming a problem. In addition to the physical damage to the plant, accumulations of wax and shed skins can be very conspicuous on the leaves, twigs, and bark.

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Wolf Spiders

We are receiving reports of big, scary looking spiders that landscape managers say their customers are finding around their home landscapes over the last couple of weeks. One of the common ones that people are sending in pictures of are wolf spiders, with many in the genus *Schizocosa.* They are large and alarm many people when they see them moving rapidly about the landscape. They are excellent predators and the best thing is to leave them along.

Horticultural Oil Applications, Brian Clark

The uses of horticulture oil are many, and with 2 effective modes of action, difficult to overcome when applied at the right time. Horticultural oils not only smother insects, but can also dissolve the waxy coat protecting them from desiccation. At 2 - 6% horticultural oil can be used as a dormant spray to deal with small insects and mites that are moving into sheltered areas of the plants such as crevices in the bark and bud scales. Oils are also great for taking care of insects that overwinter in the egg stage. The last time the heavier concentrations should be used is during bud break in the spring, coinciding with movement of many scale crawlers. This reduces damage to the newly emerging leaves and flowers. Lighter doses at 1 - 3% are effective for summertime uses when going after crawlers and egg masses.

One of the slight downsides to horticultural oil is that it is a contact insecticide, so complete coverage of the plant is necessary. Horticulture oils should be used with care. Applying oil on many of the "blue" evergreens dissolves the wax coating that gives the plant its color. Another concern is sunburn on plants. During periods of high sun, the oil can amplify sunlight, thereby burning leaves. This is more common if the oil has not yet dried before a rain or heavy dew.

Horticultural oils are an important component to an IPM program. Their short life in a landscape and reduced toxicity to non target organisms (when used properly) make it an ideal pesticide for many insects. In addition, adding an insect growth regulator also helps in controlling those pests that you cannot reach.

Beneficial of the Week-Ground Beetles, Brian Clark

Black ground beetles have been very active over the past several weeks, and may enter buildings. These beetles are great predators that feed on a number of ground and near-ground insects like collembola, cutworm and sod webworm caterpillars. Not only are the adults predatory, but their larvae are as well.
Photo by Brian Clark

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Fall Fertilization: To do or not to do, Andrew Ristvey

Fall fertilization of landscape plants is truly a beneficial practice as long as certain guidelines are followed. This has been a contentious issue with experience on both sides challenging fall fertility. Physiologically speaking, even though the tops of plants have gone dormant or have slowed down, fall is an active period for roots. They are still growing and absorbing nutrients for next year's spring flush until soil temperatures inhibit biological activity. All of next year's spring buds will grow from stored nutrients attained this year. So the most effective application of fertilizers for next year's growth is during late summer and fall of this year. However, because of dry and hot weather often experienced in Maryland towards the end of summer, optimal fertility times are towards the fall period.

Certainly, the most important growth factor for plants is water, and that was made evident this past mid-summer, when plant water stress was high. In the landscape, especially where plants do not have the luxury of irrigation, hot summer weather will inhibit plant growth. Fertilization should be minimized or stopped until better climactic conditions promote growth.

It is true that an over-application of nitrogen in fall can *potentially* awaken near dormant buds and expose plants to damage from frost which is just around the corner in our region. One relatively new study in the *Journal of Arboriculture* reviewed past research and looked at the effect of fall nitrogen fertility on cold hardiness of 5 landscape trees including Leyland cypress, crape myrtle and red maple in North Carolina. In most cases the researchers found no significant differences in hardiness of spring bud tissue with different nitrogen treatments for all the species. So there exists some evidence that fall fertilization does not reduce winter hardiness. But I have seen a heavy application of nitrogen in container grown plants increase vegetative growth in fall resulting in frost damage. However, those plants had not become completely dormant.

Most fall-based fertilizers are low in nitrogen and have higher ratios of phosphorus and potassium. Obviously, a serious fertilization program should rely upon a soil fertility test so that adequate amounts of nutrients are applied without risking toxicities or antagonisms (one nutrient over-applied can affect the availability of other nutrients). However, in general, a half rate of a low nitrogen or a 50% WIN combination in October should be considered as long as there is no longer any shoot activity. In container culture, a very low soluble nitrogen application (with excellent irrigation management to prevent nutrient runoff) may be acceptable periodically until temperatures fall below 55 °F, especially if your controlled release fertilizer prills no longer contain nutrients. Remember that fruit tree nutrition is based on leaf samples which should have been taken before the harvest. Fertilize according to those samples.

Weed of the Week, Chuck Schuster

Field pepperweed, *Lepidium campestre*, is a late fall germinating annual, found throughout the United States in landscape and nursery settings. This weed overwinters in a rosette form, producing flowering stems that grow to two feet in height as warm weather returns. Field pepperweed will produce a taproot, has leaves that can be lobed, toothed or entire, and will be rounded, tapering to a stem that will clasp the upright flowering stems. The stems and leaves will be covered with short hairs. Flowers are produced in groups, are white in color, and found on one

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quarter to one half inch long stalks called pedicels. Fruit will occur in an ovate flat shaped structure also that will have a winged structure to help disperse the seeds.

Control of field pepperweed can be obtained using products that include pre emergent materials isoxaben (Gallery) Snapshot (triflan and isoxaben combined) and post emergent products including Dichlobenil (Casoron).
Photo courtesy of Virginia Tech Weed ID Guide

Plant of the Week, Ginny Rosenkranz

Solomon's seal (*Polygonatum*) thrives in very shady areas and although it prefers moist soils, it grows very well in dry soils. There are both American and European varieties available, but only *Polygonatum odoratum* 'Variegatum' brings both color and fragrance into the spring garden. This herbaceous perennial emerges from the soil in early spring, with long arching branches growing about 2 feet tall. The leaves are green bordered by a creamy white and are arranged in an alternating pattern as they climb up the arching branch. As is typical of a monocot, the leaves have parallel venation. The white bell-shaped flowers are tipped with green at the base of the bell and are found hanging in pairs attached to the underside of the stem. Blue black berries are formed in the late summer and can persist until late fall. The foliage turns a soft yellow in autumn and the color lasts for almost a month before turning brown. There are no serious insect or disease pests noted. **Photo by Ginny Rosenkranz**

Degree Day Information (as of October 8):

Baltimore, MD (BWI)	3471	Dulles Airport	3703
Frostburg, MD	2159	Martinsburg, WV	3209
National Arboretum	4287	Reagan National	3929
Salisbury	3651		

Energy Conference

We can all use more **energy s**o put on your schedule to reserve December 10, 2009 to attend the Chesapeake Green Alternative Energy Conference for the Green industry. If you are a landscape company, arborist company, nursery, greenhouse or garden center operation you will be interested in attending this conference on way to save money for your business with new energy saving techniques and new technology. The conference will be held at Brookside Gardens in Wheaton, MD. It is sponsored by the University of Maryland Extension, Maryland Nursery and Landscape Association, the Maryland Greenhouse Growers Association and Maryland Arborist Association.

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UPCOMING PROGRAMS:

December 10, 2009
Chesapeake Green Energy Conference
Location: Brookside Gardens, Wheaton, MD
Contact: Suzanne Klick, 301-596-9413

December 18, 2009
Pest Management Recertification Conference
Location: Montgomery College, Germantown, MD
Contact: Suzanne Klick, 301-596-9413

January 4 – 8, 2010
Landscape IPM Short Course
Location: College Park, MD
Contact: Avis Koeiman, 301-405-3919

January 6 – 8, 2010
MANTS
Location: Baltimore Convention Center, Baltimore, MD
Contact: 800-431-0066

January 20 – 21, 2010
Maryland Arborist Association
Location: Turf Valley, Ellicott City, MD
Contact: MAA, 888-638-7337

January 2010 (Date to be determined)
FALCAN Conference
Location: TBD – in the area of Frederick, MD
Contact: Dan Felice

February 3 and 4, 2010
2010 Chesapeake Green Horticulture Symposium
Location: Maritime Institute, Linthicum, MD
Contact: MNLA, 410-823-8684

February 10, 2010
Eastern Shore Pest Recertification Conference
Location: The Fountains, Salisbury, MD
Contact: Ginny Rosenkranz, 410-749-6141

February 16 – 19, 2010
Cut Flower Short Course
Location: BARC Facility, Beltsville, MD
Contact: Suzanne Klick, 301-596-9413

February 25, 2010
LCA Winter Workshop
Location: National 4H Conference, Chevy Chase, MD
Contact: LCA, 301-948-0810

March 4, 2010
Greenhouse Conference
Location: Chesapeake Community College, Easton, MD
Contact: Shannon Dill, 410-822-1244

Stanton Gill
410-868-9400
Sgill@umd.edu

Chuck Schuster

Paula Shrewsbury

Ginny Rosenkranz

Karen Rane
301-405-1611
rane@umd.edu

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