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**Pansy Black Rot Alert**

**Jean Woodward**

*Extension Plant Pathologist*

*Dept. of Plant Pathology, UGA*

Almost every pansy sample submitted to the plant disease clinic in Athens has been infected with black root rot caused by the fungus, *Thielaviopsis basicola*. Black root rot infected roots look shriveled and dark brown to black. Often only the root tips may show symptoms of infection, so look at the roots by holding them against the palm of your hand or a light-colored paper. As the disease progresses, the entire root or large portions of root will become black. Pansy roots are normally bright white, so the black and discolored roots are easy to spot. Infected plants are often chlorotic, stunted, and weak.

The best control for this disease is to not buy infected plants, but this may be difficult to assess, especially on slightly infected plants. As a precaution, check soil pH at the landscape site and adjust so that it is 6.5 or below as black root rot disease is favored by alkaline soil pH (generally pH 7.0 and higher). Also at transplanting, drench the plants with a thiophanate methyl containing fungicide, such as Cleary's 3336, OHP 6672, Fungo, SysTec 1998, etc. Use the highest labeled rate for the product, which is generally 16 to 20 oz/100 gal depending upon the whether it is a wettable powder or flowable

formulation. This should protect newly transplanted plants and allow for new root development and establishment.

For greenhouse producers with black root rot, discard infected plants to reduce disease spread and development. Drench remaining plants with a thiophanate methyl fungicide as above. Also, follow strict sanitation practices as the darkly-colored chlamydo spores can survive on greenhouse benches for months and within infected soil and plant debris for years. They then can be water splashed into new crops or the roots of new crops can grow in contact with them and become infected. Disinfect benches, floors, containers, and plug trays with ZeroTol or a 10% bleach solution to kill remaining spores.

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## **Volcano Mulching: an Erupting Problem in the Landscape**

**Ellen Bauske**

*Program Coordinator*

*Center for Urban Ag*

Many professional landscapers are placing a deep layer of mulch (12 inches or more) in a 2-3 foot diameter pile around newly-planted trees and shrubs. It looks like a volcano at the base of the tree. Though a mulch volcano may be better than no mulch, it is not good.

Volcanoes can cause severe drought stress during the establishment period for two reasons, according to Chris Starbuck, of the University of Missouri.

It encourages the wrong type of root growth. The conditions in the top of the mulch volcano are temporarily favorable for root growth and deep roots are suffocated by the mulch-induced water-logging of the soil. The roots grow up, rather than down. Unfortunately, mulch has less water holding capacity than soil. When the mulch volcano dries, plants may experience severe stress.

In addition, the volcano can act as an umbrella, shedding water to the surrounding area. The surface of mulch volcanoes can become hydrophobic due to fungal activity. Water runs off the volcano, rather than moving into it. This is more common in high carbon mulches like ground wood, wood chips or sawdust, but it can also occur in bark mulches. Newly planted trees are totally dependent of the water in the root ball. If the root ball soil is kept dry by a mulch volcano, the tree will suffer severe drought stress during establishment.

Water aside, Starbuck notes other problems associate with mulch volcanoes. These include promotion of fungal canker diseases associated with constant moisture around the lower trunk; stress from poor gas exchange by the cells in the bark that results in bark decay; and damage from termites and rodents that may live in the volcano.

Note: No clear benefits have been identified in support of mulch volcanoes! Avoid mulch volcanoes when mulching.

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## Florida Betony

Mark Czarnota

Weed Scientist

Department of Horticulture, UGA

Florida betony or rattlesnake weed (*Stachys floridana*) is a problem weed in both turf and ornamentals. Florida betony or rattlesnake weed is a “winter” perennial, and like most plants in the mint family, betony has a square stem with aromatic opposite leaves. Flowers of betony are usually pink and have the classic mint like structure. Unlike its relatives, it has the unique characteristic of producing tubers that look like the rattles (buttons) of a rattlesnake, hence the name. Tubers of Florida betony can reach lengths of over 1 meter in soils with high sand contents. Many people relish these tubers for their crisp, succulent flavor - who knows, maybe one day we will be figuring out how to grow Florida betony instead of killing it! Florida betony is dormant during the hot, humid summers of the South. In most of Georgia, betony growth begins in early to mid fall, slows in the extreme cold of winter, and continues until late spring.

In turfgrass, products containing atrazine, 2,4- D, dicamba, or mecoprop provide good selective control. In ornamentals, dichlobenil (sold under the trade name Casoron®) provides excellent control of Florida betony in some established woody ornamentals. Products containing the active ingredient glyphosate (i.e. Roundup®), can be used to control this plant if applied as spray applied directly to betony without contacting desirable plants. One may consider using glyphosate if establishing a new ornamental planting into an area containing betony. A 5% spray solution of glyphosate should be applied 1 week prior to cultivating the area. This will help reduce much of the betony population, but repeat applications to eliminate survivors will be necessary. Maintaining a good 4 to 6 inch layer of pine bark or pine straw may eventually smother the betony.

Other herbicides have shown some control of Florida betony on turfgrass. In 2004 and 2005, University of Georgia conducted experiments at several locations with a heavy Florida betony infestation. Results indicated that the following herbicides provided greater than 70% control 2 months after application: Monument (trifloxysulfuron), Manor (metsulfuron), Revolver, (foramsulfuron), and Speedzone (carfentrazone, 2,4-D Ester, mecoprop, and dicamba). All of these herbicides are only labeled in turfgrass. In flowerbeds, frustrated gardeners will still have to rely on hand pulling, mulch, Casoron, and glyphosate to keep this weedy menace at bay. ***Anyone for some fresh betony tubers in their salad?***



Florida betony leaves, flowers and tubers.

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## Invasive Plants Defined

Gary Wade

Dept. of Horticulture, UGA

Co-chair – GGIA Invasive Plant Task Force

Invasive exotic pest plants are not native to a given ecosystem and cause or are likely to cause economic or environmental harm. The Georgia Green Industry Association's Invasive Plant Task Force has identified invasive plants which are commercially available. Lists from the U.S. Forest Service, the Georgia Exotic Pest Plant Council, the State Botanical Garden of Georgia, and DeKalb County Parks and Recreation Department served as the basis for the list compiled by the Task Force. The Task Force chose to use three categories defined below. All of these plants are available commercially.

**Category I** plants are those having *Serious Impact on Native Environments*, displacing native plant species over a wide area.

Autumn Olive, *Elaeagnus umbellata*  
Chinese Privet, *Ligustrum sinense*  
Chinese Tallowtree, *Sapium sebiferum*  
Japanese Climbing Fern, *Lygodium japonicum*  
Japanese Honeysuckle, *Lonicera japonica*  
Mimosa, *Albizia julibrissin*  
Multiflora Rose, *Rosa multiflora*

**Category II** plants are those having *Moderate Impact on Native Environments*; those where populations are localized, yet they are altering local plant communities.

Amur Honeysuckle, *Lonicera maackii*  
Bigleaf Periwinkle, *Vinca major*  
Cherokee Rose, *Rosa laevigata*  
Chinese Silvergrass, *Miscanthus sinensis*  
Chinese Wisteria, *Wisteria sinensis & floribunda*  
Common Bermudagrass, *Cynodon dactylon*  
Common Periwinkle, *Vinca minor*  
English Ivy, *Hedera helix*  
Giant Reed, *Arundo donax*  
Glossy Privet, *Ligustrum lucidum*  
Golden Bamboo, *Phyllostachys aurea*  
Japanese Privet, *Ligustrum japonicum*  
Japanese Spirea, *Spiraea japonica*  
Nandina, *Nandina domestica*  
Oxeye Daisy, *Chrysanthemum leucanthemum*  
Princess-tree, *Paulownia tomentosa*  
Silverthorn, *Elaeagnus pungens*  
Tall Fescue, *Festuca arundinacea*  
Tall Vervain, *Verbena bonariensis*  
Wintercreeper Euonymus, *Euonymus fortunei*

**Category III** plants are those have a *Minimal Impact on Native Environments*. They have potential for being invasive, but not invading native plant communities at this time. This is a 'watch list'.

Burning Bush *Euonymus alata*  
Callery Pear species and cultivars, *Pyrus calleryana*  
Chinese (Lacebark) Elm, *Ulmus parvifolia*  
Chinese Holly (fruiting forms), *Ilex cornuta*  
Common Privet, *Ligustrum vulgare*  
Five-leaf Akebia, *Akebia quinata*  
Fragrant Winter Honeysuckle, *Lonicera fragrantissima*  
Japanese Bloodgrass, *Imperata cylindrica*  
Japanese Pagoda Tree, *Koelreuteria spp.*  
Lantana, *Lantana camara*  
Leatherleaf Mahonia, *Mahonia bealei*  
Liriope, *Liriope spp.*  
Morrow's Honeysuckle, *Lonicera morrowii*  
Other Spreading Bamboos, *Phyllostachys spp*  
Porcelain Vine, *Ampelopsis brevipedunculata*  
Purple Loosestrife, *Lythrum salicaria*  
Queen Anne's Lace, *Daucus carota*  
Russian Olive, *Elaeagnus angustifolia*  
Sawtooth Oak, *Quercus acutissima*  
Sweet Autumn Clematis, *Clematis maximowicziana*  
Tartarian Honeysuckle, *Lonicera tartarica*  
Winged Euonymus, *Euonymus alata*

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## Certifications Abound

### Todd Hurt

*Training Coordinator,  
Center for Urban Agriculture*

Certifications are a wonderful way of improving your personal marketability and they document your ability to deliver professional excellence. There are many certification programs for Green Industry Professionals. Which ones are right for you? I thought it might be helpful to share the information I have been able to find for professionals in Georgia.

**Georgia Certified Landscape Professional** – This program is designed for managers and technicians in both the landscape installation and maintenance businesses. It is a self study course with both written and hands-on examinations. The program is administered through the UGA Center for Urban. 15 hours of CEUs are required every three years to maintain certification. Visit <http://gclp.info> or 770-233-6107 for more information.

**Georgia Certified Plant Professional** – This program is designed for professionals employed in the retail garden center industry. The program is administered through the Georgia Green Industry Association. Visit <Http://ggia.org> or call 706-632-0100 for more information.

**Georgia Pesticide Applicator License** – A “Private” Pesticide applicator license is required if you apply **restricted pesticides** to your property or your employer’s property. This is the license commonly needed for Nurseries, Farms, Forestry, and Sod Production. A “Commercial” pesticide applicator license is required if you apply **any pesticide** to a property for a fee. Both licenses require CEUs. For more information visit <http://agr.georgia.gov> and search for pesticide applicators or call 404-656-4958.

**Soil Erosion and Sedimentation Certification** - If you are involved with moving soil with a trencher, a front-end loader, an excavator or a shovel in Georgia, then you need to consider erosion and sediment control certification. Details and classes may be found at <Http://gaurbanag.org> or <http://gaswcc.georgia.gov/> .

**Certified Irrigation Contractor** – There are six areas of national certification available from the Irrigation Association. CEUs are required annually to remain certified. For more information visit <http://www.irrigation.org> or call 703-536-7080.

**ISA Certified Arborist** – This certification is for persons involved in professional tree care. There are five levels of certification offered by the International Society of Arborist (ISA). CEUs are required every three years to remain certified. For more information visit <http://www.isa-arbor.com> or call 217-355-9411.

**PLANET Certified Landscape Professional** - The PLANET Landscape Professional Certification is primarily for the business owner. For more information call (800) 395-2522 or visit <http://www.landcarenetwork.org/cms/certification/categories.html>

**Certified Sports Field Manager** – This national certificate program is administered by the Sports Turf Managers Association. For more information please visit <http://www.sportsturfmanager.org> or call 800-323-3875.

**Certified Golf Course Superintendent** – This certification will improve the knowledge, skills and abilities of the professional superintendent that contribute toward improved playing conditions and enjoyment of the game of golf. For more information call 800-472-7878 or visit <http://www.gcsaa.org/mc/certification>.

**Certified Turfgrass Professional** – This is a self study certificate course designed for any professional working with turfgrass management or production. It is administered by the UGA Center for Continuing Education and PLANET. For more information please visit <http://www.georgiacenter.uga.edu>

**Sports Turfgrass Management** – This is a new self study certificate course offered by the UGA Center for Continuing Education developed by Drs. Karnok, Landry, McCarty and Murphy. For more information please visit <http://www.georgiacenter.uga.edu/is/stm>

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## Fall Management of Large Patch in Turfgrass

Alfredo Martinez and Lee Burpee

Plant Pathology Department, UGA

In spring of 2006, numerous zoysiagrass samples were submitted to the University of Georgia Plant Disease Clinic and were diagnosed with infections of *Rhizoctonia solani*, a soilborne fungus. *R. solani* is the causal agent of large patch disease of zoysia. *R. solani* can also affect centipedegrass, St. Augustinegrass and occasionally bermudagrass.

In Georgia, Large patch disease of turfgrass is most common in the fall and in the spring as grass is entering or leaving dormancy. Symptoms of the disease include irregular patches that can range in size from 2 feet to up to 10 feet in diameter. Inside the patch, brown sunken areas are easily observed. On the periphery of the patch, a bright yellow to orange halo is frequently associated with recently affected leaves and crowns. The fungus attacks the leaf sheaths near the thatch layer of the turfgrass.

Large patch development is favored by thick thatch, excess soil moisture and poor drainage. Excessive shade contributes to turfgrass stress and increased moisture on turfgrass canopy and soil. Early spring and late fall fertilization increases the severity of large patch epidemics.

If large patch was diagnosed early in the year, fall is the time to implement control measures. Research has shown that azoxystrobin (Heritage), flutaloniol (Prostar), triadimefon (Bayleton), pyraclostrobin (Insignia), propiconazole (Banner Maxx) and myclobutanil (Eagle) at curatives rates applied late September or early October and repeating the application 28 days later are effective for control of large patch during fall. Repeat applications may not be required in the spring.

There are several cultural practices that you can also implement for large patch control. Maintain adequate nitrogen levels indicated for the turfgrass species (zoysia in particular) in your area. Water timely and deeply (after midnight/before 10 AM). Avoid frequent light irrigation to reduce humidity. Allow time during the day for plant canopy to dry. Increase air circulation. Shrub and tree barriers contribute to shade and lack of air circulation. Reduce thatch (no more than 1 inch thick). Avoid applying N fertilizer before May in Georgia. Early nitrogen applications (March-April) can encourage large patch.

Always use the current Georgia Pest Management Handbook as a reference. Check fungicide labels for specific instructions, restrictions, special rates, recommendations and proper follow up as well and proper handling.

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## Dead Spots in Leyland Cypress

**Willie Chance**

*UGA Extension Agent, Houston County*

Leyland cypress is a popular, fast growing hedge or border tree reaching heights of 50 to 100 feet and widths of 20 to 30 feet.

Certain diseases are becoming more common on Leyland cypress. Bot canker kills individual branches in the tree. The foliage may turn grey-green before it dies. The dead branch will have darker bark and will have a sunken canker where the dead part of the branch begins.

Limbs infected with *Seiridium* canker turn yellowish and then brown to grey when they die. The cankers on the main stem are sunken, reddish and ooze sap profusely. There can be many cankers on a limb.

There is no spray to control these diseases. These diseases enter wounds and are worse during stressful weather. The main control is to keep the plant in good health so it can resist these diseases.

Dry weather is a big factor in the spread of these diseases. Leyland cypress should be watered during drought. If plants get dry they are more likely to get sick.

Do not water more often than twice a week during drought - once a week is better. Wet soils to a depth of twelve to eighteen inches when watering. Soils must dry out between watering or roots may die. Apply three-quarter to one inch of water once a week if you use sprinklers. Soaker hoses are better because they keep the foliage dry which may reduce disease problems. Run soaker hoses once a week just long enough to wet the soil twelve to eighteen inches deep.

Plant Leyland cypress in well drained soils in sunny locations. Mulch them after planting but mulches should be no deeper than two to four inches. Do not use landscape fabric unless the soil is very well drained.

Do not plant Leyland cypress in wet soils or poorly drained areas. They may respond to wet feet by getting sick or dying. Check soil drainage before you plant or if the tree has problems. Dig a hole about a foot deep and wide. Fill it with water. If it takes longer than eight hours for the water to drain out, the soil is probably poorly drained.

Do not plant Leyland cypress closer than eight feet apart. As the plants get big enough for the limbs to touch, remove every other tree. As the limbs rub together they cause wounds that can be infected by disease.

If you already have these diseases, first cut out the dead limbs. Be very careful to cut way back into good live tissue. Cutting diseased limbs and then good limbs may spread the disease. If you like, while pruning you can periodically clean your shears with rubbing alcohol. Of course we would generally not cut the main stem on a Leyland cypress. If you have cankers on the main stem, remove the tree or treat the disease as per these directions and see if the tree recovers.

Next, find out what needs to change about the way we are growing the plant. The main problem is probably improper watering. Solving tree problems often comes down to watering and root care since there is generally little else we can do for trees.

Since these diseases are getting to be very common, consider this when you plant. Avoid plants like Leyland cypress and Japanese cedar (*Cryptomeria*) if you cannot give them the care and conditions discussed today.

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## Events:

**2006 Georgia/Florida Green Industry Updates, October 17, 18 and 19.** Staying up-to-date on new production or cultural practices, new plants, new products, as well as new pests and pesticides is important in today's competitive Green Industry. The 2006 Georgia/ Florida Green Industry Updates provide the latest information on a wide variety of current topics.

These programs represent a collaborative effort of faculty from two flagship institutions and green industry leaders. The first two programs in the series, October 17 in Kingsland, Georgia and October 18 in Quincy, Florida, are primarily for turfgrass and landscape professionals, while the program on October 19 in Quincy, Florida is for nursery personnel. The Kingsland program offers 6 hours of pesticide re-certification credits to Georgia participants, while the two Quincy programs each offer 4 hours of pesticide re-certification credits in category 24 - Ornamentals and Turf. This year, the Kingsland, GA program will also offer pesticide re-certification credits for attendees from South Carolina as well as arborist credits for member of the International Society of Arboriculture. The agendas and on-line registration are now available on the Tifton Conference Office web site at: <http://www.caes.uga.edu/campus/tifton/conferences/events.html>

**Georgia Sod Producers Field Day - November 1.** Tifton, GA. Visit [www.GeorgiaTurf.com](http://www.GeorgiaTurf.com) for information and registration.

**Paulding County Turf Update Monday, November 6, 2006 9am-12pm.** Paulding County Chamber of Commerce, Lower Meeting Room Contact Information: Mary Carol Sheffield, Paulding County Extension, 770-443-7616, [msheff@uga.edu](mailto:msheff@uga.edu), [www.county.ces.uga.edu/paulding](http://www.county.ces.uga.edu/paulding)

**Business Skills Workshop for Beginning Landscape and Lawn Care Professionals, November 15 - 16, 2006.** This program, to be held on the UGA Griffin Campus, is for owners of newly established landscape or lawn care businesses or persons who are planning to start a landscape or lawn care business but are not sure where to begin. Topics include The Nuts and Bolts of Starting a Landscape or Lawn Care Business, Developing a Business Plan, Avoiding Legal Headaches, Laws and Regulations Affecting the Landscape Industry, Cost Estimating and Job Bidding, Trade Associations and What they Offer, and Resources for Landscape Professionals. Program and registration information will be available on-line in October. To be added to an email list or mail list to receive additional information on this program, contact the Continuing Education Office, Griffin campus, at 770/229-3477 or email Kay Crawley at [kcrawley@uga.edu](mailto:kcrawley@uga.edu)

**Computer Cost Estimating and Job Bidding Programs for Landscape Professionals -November 30 - Dec. 1, 2006.** University of Georgia Griffin Campus. These hands-on workshops will be held in a computer lab on the Griffin campus. Day 1 will focus on Landscape Installation Cost Estimating and Day 2 on Landscape Maintenance Cost Estimating. Participants may choose to attend either day or both days. Cost-estimating and job bidding software developed by faculty at The University of Georgia will be demonstrated and used in competitive bidding exercises. Additional program information and registration information can be found on the following web site: <http://www.hort.uga.edu/extension/programs/cceWorkshop.html>

**Turfgrass Institute and Trade Show - December 5 & 6.** Duluth, GA. Visit [www.turfgrass.org](http://www.turfgrass.org) for information as it becomes available.

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