Q: Why is Sudden Oak Death a concern to me?
A: If you have purchased a host plant from a nursery that had infected plants within the last 12 months, you could have this disease spreading in your landscape and surrounding yard.

Q: What is Sudden Oak Death or "SOD"?
A: SOD is a fungal disease that is related to a group of water-loving molds. The scientific name of this pathogen is *Phytophthora ramorum*. Sudden Oak Death is most damaging to forest and shade trees, spread by actions within the ornamental nursery industry i.e. interstate trade, propagation, irrigation, sale of infected plant material, etc… The disease does not usually kill ornamental plants. Leaf spots and branch dieback are the most common symptoms on ornamental host plants.

Q: How is this disease spread?
A: SOD is primarily spread through the movement and handling of nursery plants that are hosts for this disease. Also, since this is a water-loving mold, the spores of this disease can spread through splashing irrigation water or rain, or on soil-contaminated pots, tools, machinery, and people's clothing and shoes. It can also be spread by spores on diseased areas of the foliage by wind blown rain.

Q: I've heard of the fungus, Phytophthora, before… isn't this a common root-rot disease causing fungus in Georgia?
A: Yes, there are several related species of this fungus that are already present throughout Georgia and are native to our region but are not as devastating to native plants since they are locally adapted to these species.

Q: What makes this disease worse than the ones already native to Georgia?
A: This species of Phytophthora is exotic and has a very broad host range and could potentially affect many native trees and shrubs in Georgia such as Oak, Maple, Beech, Buckeye, Rhododendron, Blueberry, Azalea, Mountain Laurel, etc… Also this Phytophthora species affects leaves, stems, trunks and other aboveground parts of the plant rather than being limited to the roots as other Phytophthora species. Root rot within a landscape is relatively rare except when plants are over watered or they are planted in a very wet location. This disease can occur wherever moisture is present on the foliage.

Q: What are the known Hosts of this disease?
A: *Acer* (maple), *Aesculus* (buckeye, horsechestnut), *Arbutus* (strawberry tree, madrone), *Arctostaphylos* (bearberry, manzanita), *Camellia* (camellia, sasanqua), *Hamamelis* (witch hazel), *Heteromeles* (toyon), *Leucothoe* (leucothoe), *Lithocarpus* (tanoak), *Lonicera* (honeysuckle), *Pieris* (pieris, andromeda), *Pseudotsuga* (Douglas fir), *Quercus* (oak), *Rhamnus* (buckthorn), *Rhododendron* (rhododendron, azalea), *Rosa* (rose), *Sequoia* (coast redwood), *Trientalis, Umbellularia, Vaccinium* (blueberry), *Viburnum* (viburnum, snowball bush, laurustinus), *Abies* (fir), *Castanea* (chestnut), *Corylus* (hazelnut, filbert), *Fagus* (beech), *Kalmia* (mountain laurel), *Pittosporum* (pittosporum), *Syringa* (lilac), *Toxicodendron, Rubus* (blackberry, raspberry), and *Taxus* (yew). (Common names and representative plants from each genus are listed in parentheses after the genus name.)

Q: Where did this disease come from and how did it get to Georgia?

A: SOD was found ONLY on infected nursery stock that originated from Monrovia Nurseries in Los Angeles County, California and was potentially shipped to Georgia and other states in the Southeast. Monrovia nurseries is one of the largest distributors and growers of nursery stock in the United States. Only HOST plants that came from Monrovia Nurseries in California within the last 12 months have been found to be contaminated with this disease.

Q: When did the Georgia Department of Agriculture first learn that infected plants from California were sent to Georgia?
A: We first learned of these suspect plants on March 15, 2004 and we immediately placed stop sale quarantines on all suspect host plants received by nurseries throughout the state of Georgia. Suspect plants in these nurseries are currently being tested and sampled for this disease.

Q: How many plants did Georgia receive from Monrovia in the last 12 months?
A: Forty-four Georgia nurseries in over 80 locations received approximately 28,000 suspect plants since March 2003. The majority of these plants are Camellia species. Some nurseries also received Viburnum species, Rhododendron species, Lilac species, and Arbutus species from Monrovia Nurseries in California.

Q: What is the Department of Agriculture doing about nurseries that test positive?
A: As soon as plants test positive at a nursery, those plants are being incinerated under Department of Agriculture supervision. Any surrounding host plants that may have come in contact with positive plants and within a 10-meter area of those plants will then be monitored and tested for this disease for a minimum of 90 days. Areas where infected plants were held are being decontaminated according to a federal protocol.

Q: How do I know if a plant I purchased came from a location that received infected plants?
A: Please periodically visit the Georgia Department of Agriculture website for an updated list of nursery locations that test positive for SOD: http://www.agr.state.ga.us/index.html

Q: What are the symptoms of Sudden Oak Death on nursery plants?
A: Unfortunately, the symptoms of this disease are very non-specific and look like many common diseases found on plants in Georgia. Any potential leaf spot, tip burn, dieback, leaf lesions, or bleeding cankers are considered symptoms of this disease. Also, symptoms vary greatly from plant species to plant species and depend on the severity of this disease on a given plant. On camellia leaves, SOD symptoms appear as a tan to brown, zoned, "water-soaked" or oily-looking lesions that begin at the leaf tip and moves progressively down the leaf towards the petiole. *Phytophthora ramorum* cannot be diagnosed in the field based solely on visual inspections for symptoms. The only way to detect and identify this pathogen is by culturing a suspect plant sample in a laboratory. This culturing process usually takes several days to over a week for the fungus to grow out of the infected plant tissue. The fungal culture then can only be identified by a trained plant pathologist or mycologist.

Q: What do I do with a plant that I feel might be infected with this disease?
A: We strongly recommended that you do not move this plant material, dig it up, and or destroy it until you can send in a sample to your local County Extension agent or office. Only

until positive confirmation of the disease and upon recommendation from your county extension agent should you take any action on your plant(s). We want to know where the potentially-infected plants may be, as well as not wanting any infected plants discarded or abandoned where the fungus could still spread to nearby shrubs or trees.

Q: How long will it take for results of my plant sample to come back?
A: Possibly as long as 3 to 4 weeks. This is a very difficult pathogen to culture from some plants and growth of this pathogen in a laboratory takes a minimum of 5 to 7 days if all conditions are ideal. Presently, Extension laboratory facilities and staff are very limited in the state of Georgia for processing these types of samples. And, commercial nursery samples will take precedence over homeowner samples until the laboratory processes the present backlog of samples.

Q: Why wait to dispose of my plant?
A: Removal or disposal of your plant is a false sense of security. If we never get a chance to confirm that your plant has this disease, you may have other plants and soil in your landscape that also have been contaminated or infected. Removing your plant WILL NOT GET RID OF THE PROBLEM. There is a high possibility that spores will remain in your yard, in the soil, on your tools, and survive on alternate host plants in your yard.

Q: So what do I do in the meantime while I'm waiting on the results of my sample?
A: Try to avoid overheard irrigation and watering because any excessive splashing may cause this disease to spread faster and farther on other plants in your yard.

Q: Once I find out my plant(s) are infected, what will I have to do next?
A: Your county extension agent will recommend a proper disposal method, probably burning, to destroy your infected plant(s). We do not recommend placing this plant material for municipal waste pickup since this plant material is usually shredded for compost or mulch and will end up right back in the landscape. Also, we encourage you to continue to monitor surrounding host plants in your landscape for the next couple of years for any symptoms of this disease and report any suspicious plants to your county extension agent as soon as possible.

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General Information:

The Georgia Department of Agriculture and USDA will continue to monitor plants coming from California in an effort to prevent the spread of Sudden Oak Death into Georgia. Please periodically refer to our website periodically for current information about locations that test positive for Sudden Oak Death on plant materials received from California. If you have recently purchased or planted suspect material that you know originated in California, please hold that plant material until we are absolutely certain what nurseries and locations in Georgia have received infected plants. As we continue to sample and test for the presence of this disease in Georgia, we will inform the public of any concerns and actions that should be taken, if necessary. Although Georgia's quarantine on all host genera is still in effect at this

time, as information is forthcoming from the U.S. Department of Agriculture (USDA) and the California Department of Food and Agriculture changes to the current policies will be taken into consideration.

We ask each homeowner to be cautious when buying plants. We recommend that each homeowner buy only plants that appear to be healthy and avoid plants that have any type of leaf spots or dieback. As consumers, use discretion when purchasing plants of foreign or unknown origin because of the potential for new or exotic plant pests to be introduced into our fragile agroecosystem. Buying locally grown or Georgia Grown plant products is generally not a concern.

Sudden Oak Death syndrome is a primarily a forest pest that is spread through the movement of nursery stock. There is simply too much about this disease that we do not know. We do not know all of the plants this disease will attack. There are few trials or research that has been published on potential host plants which are native to the East coast. In addition, many of the known hosts grow only on the West coast. Essentially, the host list for East coast plants is unknown. Nurseries provide a perfect "micro-climate" habitat for the survival of this pathogen. Probably, the result of over head sprinkler irrigation and/or extended periods of leaf wetness that was atypical for southern California's climate encouraged the development and spread of this pathogen within and between nurseries in areas previously thought not to be conducive to the survival of this disease. The spore-like structures (sporangia and oospores) of *P. ramorum* are easily spread by contaminated tools, wind, water, and splashing rain. Sudden Oak Death has been found in California (12 counties), Oregon (only one county), Germany, The Netherlands, Great Britain, and several other European countries. Depending on the climatic conditions and susceptible hosts in these areas, the disease ranges from devastating to minor on the respective forest ecosystems. No one knows what impact this disease could have in Georgia's humid subtropical environment.

There is no known cure for Sudden Oak Death once a mature tree is infected. For all practicality, it is not logistical or cost effective to apply preventative fungicides to mature stands of trees in a forest setting. The only known way to "control" Sudden Oak Death is by prevention and exclusion – by keeping potentially infected plants out of Georgia.

We know it will kill oak trees, but other host plants may carry the disease and are affected, but may not be killed. Many of Georgia's (and throughout the East coast) native under-story forest plants are in related host families primarily affected by Sudden Oak Death. These include azaleas, rhododendrons, mountain laurel, blueberries, camellias, maples, beeches and buckeyes. Unfortunately, these are very common plants in Georgia's nursery trade, as well as our forest ecosystems. Oak trees are essentially the last major nut bearing tree species on the East coast following the extinction of the American Chestnut some 40 years ago. If Sudden Oak Death has a similar impact on Oaks as the Chestnut blight had on American Chestnuts, this could potentially devastate our forest ecosystems and directly impact a major food source for wildlife. No one knows what potential impact this disease could have on East coast ecosystems, forestry, or agriculture. The cost of surveying and containing this disease alone could cost Georgia millions of dollars.

The presence of this pathogen in Georgia would have a devastating impact on our Green Industry interstate trade and international export markets for plant products. Many states and nations around the world would impose very tough trade restrictions on Georgia Grown plant products. The cost to inspect and "certify" these products for export would be tremendous. For historical reference, a similar species of *Phytophthora* caused the late-blight disease on potatoes that resulted in the Irish Potato famine in 1840. During this famine, two million Irish died and another two million immigrated to America. Fortunately, SOD does not appear to affect any major food crops in the United States.

The Georgia Department of Agriculture is working cooperatively with the Georgia Sudden Oak Death Task Force which is comprised of Georgia representatives from the following organizations: Georgia Department of Agriculture, University of Georgia College of Agriculture and Environmental Sciences Cooperative Extension Service, University of Georgia Warnell School of Forest Resources, Georgia Forestry Commission, U.S. Forestry Service, and United States Department of Agriculture/Animal Plant, Health, and Inspection Service/Plant Protection and Quarantine Unit. This task force has been in existence since December 2001. It was originally formed to survey Georgia for the presence (or lack) of Sudden Oak Death. This survey is called the "Sudden Oak Death-National Detection Survey for Forests" and was a voluntary pilot program to gather information on the distribution of this disease on the East coast. The pilot states that started the survey were VA, NC, SC, TN, GA, WV, and PA. This survey complements the Pilot National Survey for Nurseries coordinated by USDA-APHIS. Of course, since its existence, there have not been any official findings of this disease throughout the Eastern region or in Georgia.

References:

Georgia Department of Agriculture website: Click on "Latest Information for Sudden Oak Death"
http://www.agr.state.ga.us/index.html

Invasive.org website for Georgia with information on Sudden Oak Death:
http://www.invasive.org/sod.cfm

California Oak Mortality Task Force:
http://www.suddenoakdeath.org/

Plant Management Network: Type "sudden oak death" in the search engine to see their most current publications in Plant Health Progress
http://www.plantmanagementnetwork.org/

USDA/APHIS-PPQ website on Sudden Oak Death:
http://www.aphis.usda.gov/ppq/ispm/sod/