Issue May/2014

What is UGA Extension?

UGA Extension extends lifelong learning to the people of Georgia through unbiased, research-based education in agriculture, the environment, communities, youth and families.

UGA Extension helps Georgians become healthier, more productive, financially independent and environmentally responsible. Extension agents stay in touch with issues relevant to people in local communities through county Extension offices.

UGA Extension is a county, state and federal funded organization supported by specialists in the College of Agricultural and Environmental Sciences and the College of Family and Consumer Sciences.
Make third plantings of vegetables mentioned for April (snap beans, corn, squash, lima beans).

Control grass and weeds; they compete for moisture and fertilizer.

Locate mulching materials for such crops as tomatoes, peppers, eggplant, Irish potatoes, okra and lima beans. Apply before dry spells occur but after plants are well established (usually by blooming time).

Pole beans cling to the trellis or sticks more readily if attached by the time they start running.

Try a few tomato plants on stakes or trellises this year. Now is the time to start removing suckers and tying the plants up.

Watch out for the "10 most wanted culprits": Mexican bean beetle, Colorado potato beetle, bean leaf beetle, Harlequin cabbage bug, blister beetle, cabbage worm, tomato hornworm, tomato fruit worm (and corn earworm), cucumber beetle and squash bug. Early discovery makes possible early control.

Begin disease control measures as needed. Check with your county extension office for more information.

Water as needed.

Mulch as needed.

Keep a log book of problems and failures that occur so you can avoid or prevent them in the next planting season. Note successful techniques and varieties for consideration next season.
• It is now time to put out your first application of lawn fertilizer
• * It is NOW time to prune your azaleas

OATLAND ISLAND

We plan to have Honey Bee educational classes out at Oatland Island in the near future. Eventually the association will also have it’s monthly meetings there. Please join us. Contact Dave for more information or go to http://www.cebeekeeping.com/
Here we are installing new bees at our new apiary at Oatland Island. Notice how the one man in the center is working the bees without gloves. The other man on the left is observing without any protection. Honey bees are gentle but they can also have their bad days. Wear protective equipment until you are experienced. These 3 people are professionals and know what they are doing.
I honestly don’t understand why people do not have Asparagus in their gardens. This little garden will provide hundreds of dollars of asparagus for about a month. You pay $30 for 3 little spears at a restaurant while my family eats 30 or more spears every couple of days. I now have two 50 foot rows of asparagus at my house. This picture is from the internet. I will be glad to instruct you on setting up your perennial bed of asparagus.

First step is to do a soil test
Spring Timing for Warm-season Turfgrass Fertilization

Clint Waltz, Ph.D.
Turfgrass Specialist
The University of Georgia

This time of year we start seeing marketing and commercials promoting “now” is the time to fertilize lawns. Homeowners need to know the proper timing for the spring nitrogen application to warm-season grasses like bermudagrass and zoysiagrass. Remember that nitrogen (N) is the first number on a fertilizer bag. **Simply, nitrogen should not be applied to warm-season grasses until the soil temperatures at the 4-inch depth are consistently 65° F and rising.** For areas north of Atlanta these environmental conditions may not occur until mid-April. Also, waiting on proper soil temperatures allows the grass to green-up on its own, typically better than forcing the grass to green-up too soon.

Four reasons for withholding nitrogen until late spring include:

1. **Good Agronomics** – when soil temperatures are below 65° F there is little, to no, root activity for warm-season grasses. Why apply nitrogen when the grass cannot use it?

2. **Environmental** – if not taken-up by the plant, nitrogen can leach through the soil or be lost by runoff. Why apply nitrogen when the grass cannot take it up and risk contaminating water bodies?
3. **Pest Management** – nitrogen fertilization during green-up can make the grass more susceptible to diseases, insects, and open voids in the canopy for weeds to establish. Why apply nitrogen at a time when the grass is more sensitive to pests?

4. **Economic** – when a nitrogen application is mistimed it can be inefficient and costly. Why spend the money on nitrogen when the grass roots cannot take it up, it can move out of the root zone becoming an environmental hazard, or lead to pest issues that become an additional cost to treat?

To determine if environmental conditions are favorable for spring nitrogen, monitor soil temperatures in your own lawn with a 4- to 6-inch soil thermometer or, visit [www.GeorgiaWeather.net](http://www.GeorgiaWeather.net) to get local environmental conditions.

If your lawn is a combination of bermudagrass and tall fescue, a cool-season species, the two areas in the lawn should be fertilized independently and when the environmental conditions are ideal for each species. Late February or early March is good for tall fescue but not bermudagrass and zoysiagrass.

Following these simple guidelines for warm-season grasses can lead to healthier lawns, reduced environmental impacts, and less cost. For more information contact your local UGA Extension Office at 404-613-7670 or visit [www.caes.uga.edu/extension/fulton](http://www.caes.uga.edu/extension/fulton).
Pictures emailed to me of local animals by Robert Redmond
Can you identify them?
In order
Skink
IO moth
Giant Swallowtail
Luna Moth
Black Swallowtail
Invasive Plant of the Month: Japanese and Glossy Privet (Ligustrum japonicum and L. lucidum)
Origin: Japan and Korea
Georgia Exotic Pest Plant Council Category 2 and 3, respectively.

Japanese and Glossy Privet

Japanese and glossy privet (Ligustrum japonicum and L. lucidum) are very similar, closely-related evergreen shrubs native to Japan and Korea. The shrubs were introduced to the United States in the late-1700s to mid-1800s as ornamental plants. Their ability to tolerate a wide range of conditions with little care has continued their popularity as ornamentals and both are commonly used as a hedge. Their invaded ranges are primarily in the southern parts of the U.S. – from Virginia south to Florida and west to California.

As mentioned, both species look very similar and could be mistaken for each other. Japanese privet can reach 20 feet in height, while glossy privet can reach almost double that. The shrubs have multiple stems and spreading crowns. Leaves are thick and evergreen, about 2 to 4 inches in length. Margins are entire and often with a yellow rim, turned upward in glossy privet and slightly rolled under in the Japanese species. The fragrant and showy flowers, which appear from April to June, are white and occur abundantly in clusters. Fruits begin to appear in July and are pale green. They ripen during the summer, turning a dark blue, and persist throughout the winter.

Privets are very successful weeds and infestations can be dense and extensive. They invade fence rows and right-of-ways, which can give them access to natural areas, such as floodplain forests and woodlands. The shrubs are shade tolerant. Spread is primarily from root sprouts, and a copious amount of fruits allow birds and animals to spread the invasive plants over a wide area. Humans also help by using the species abundantly in landscapes.

Controlling Japanese and Glossy Privet

Japanese and glossy privet are most effectively treated with herbicides; in fact, with its propensity to resprout, mechanical control is limited. Basal sprays, stem injections and follar applications can be effective. Burnings and livestock can be somewhat useful, though other methods are needed that will target the roots. Most importantly, these privets should not be bought and planted.

If you want to replace a privet shrub, there are numerous native plants with many characteristics of the invasives. These include incinberry (Ilex glabra), wax myrtle (Morella cerifera), devilwood (Osmanthus americanus), and red chokeberry (Phorinia pyrifolia). Pictures, information, and other plant considerations can be found at the CoastScapes website (www.coastscapes.org).

More info on Japanese and glossy privet can be found at UGA Bugwood (www.bugwood.org).

Greg Evans, Coastal Resources Specialist of the UGA CoastScapes Conservation Landscaping Program, will continue to provide a series on coastal non-native, invasive plants. The program is a joint UGA Marine Extension Service and Georgia Sea Grant Initiative.
Camellia Leaf Gall
By gene phillips

![Camellia Leaf Gall Image]

**Typical Appearance of Camellia Leaf Gall**

Every spring when the new growth is just beginning to stretch out, something can appear on that new growth that looks very strange. It is called Camellia Leaf Gall. It is very noticeable because of the thick fleshy leaves that are very different from the look of normal camellia new growth. If a gardener is not familiar with this condition, it could be quite alarming.

Camellia Leaf Gall is caused by the Fungus Exobasidium camelliae. This is a little different but similar to a condition that affects Azaleas with their own type of leaf gall. The color of the Camellia Leaf Gall can be almost white, to varying shades of green, to a pinkish or reddish color. Most varieties and species can be susceptible to this disease, but it is usually more noticeable on Sasanquas.

As the fleshy growth matures, it can spread the disease by releasing spores that will eventually cause this gall to occur again the following spring on more new growth. The best and easiest way to treat this problem is to pick the galls and discard them in the trash. If you do nothing, they will soon fall off and you won’t see this problem again until next year. If you do pick them off, don’t just throw them on the ground. Dispose of them to minimize future infestations. The trick is to pick them early before they release their spores.

The good news about Camellia Leaf Gall is that they do not do any long-term harm to camellias. They just look bad for a short while in the spring. The problem is usually very sparse and only a short time one.
Native Plant of the Month
by Keren Giovengo

This is the sixth in a series on sustainable landscaping with native plants in the lower coastal plain of Georgia.

Drought Tolerant Native Plants

In nature, water is usually the most limiting factor for plant growth. If plants do not receive adequate rainfall or irrigation, the resulting drought stress can reduce growth more than all other environmental stresses combined. What is drought? Drought is the absence of rainfall or irrigation for a period of time sufficient to deplete soil moisture and injure plants. Drought stress results when water loss from the plant exceeds the ability of the plant's roots to absorb water and when the plant's water content is reduced.

In coastal Georgia, plants may frequently encounter drought stress. Rainfall is seasonal and periodic drought occurs regularly. Because the region's soils are typically sandy and have low water holding capacity, some plants may experience drought stress after only a few days without water. During drought, local governments place restrictions on landscape irrigation in order to conserve potable water, and landscape plants may be subjected to drought stress. The use of drought tolerant native plants in a landscape can reduce the likelihood of plant injury due to drought stress. Achieving a natural, healthy balance in your landscape starts by putting the right native plant in the right place. Matching plants to conditions that exist in your landscape helps them thrive, once established, with little or no irrigation or chemicals. You can determine the appropriate drought tolerant plants for your site by using the Coastal Plain Native Plant Search Engine at the UGA MAREX CoastScapes Conservation Landscaping Program’s website www.coastscapes.org.
Drought stress in the landscape can also be reduced or prevented by irrigation, mulching, providing shade, and creating windbreaks. Reducing the overall water requirements of a landscape is best achieved by initially designing the landscape for water conservation, including efficient irrigation systems (e.g., drip hose irrigation), proper watering (e.g., time of watering, frequency, and amount) and the use of drought tolerant native plants where appropriate.

The native plants depicted above include *Helianthus debilis* (dune sunflower or cucumberleaf sunflower), *Muhlenbergii capillaris* (pink muhly grass or hairawn muhly grass), and *Asclepias tuberosa* (butterfly milkweed).
Use care when moving houseplants outside for the spring and summer.

Don’t place them in direct sunlight or their leaves will burn from the harsh change in conditions. *Image credit: Sharon Dowdy*

By Frank M. Watson
UGA Cooperative Extension
Every year, well-intentioned plant owners decide to move their houseplants outside for the spring and summer. As a result, every year, thousands of houseplants die from too much sunlight.

Moving a houseplant from a relatively dark home into very bright sunshine will cause severe leaf burn. The bright sun bleaches out the leaf chlorophyll and causes the leaves to overheat. An hour of intense light can cause leaf damage that will take the plant months to recover and grow new leaves.

**Put 'em in the shade**

The best way to move houseplants outdoors is to bring them outside and place them in the shade of a large tree or bush. In most instances, they can remain under the shade all summer and will perform very well.

Sun-loving plants, like cactus and fast-growing trees, such as weeping figs, can be gradually moved into brighter light. Remember, the most intense summer light levels occur between the hours of 10 a.m. to 3 p.m. Limit houseplants’ mid-day light exposure to insure they become better adapted to the outdoors.

**Porches and patios**

University of Georgia Extension horticulturist Bodie Pennisi suggests placing houseplants on porches and patios during the summer months. These areas usually provide bright light, but be sure not to place plants in direct sunlight.

“Keep in mind, each time a plant is moved around, it will experience an acclimatization period, and such changes may become evident,” said Pennisi, a researcher on the UGA campus in Griffin.

As plants adjust to a new location, their leaves may turn yellow or light green and partially fold. Once they adjust to their new home, the leaves will return to a normal dark to medium green color and return to a normal state.

Once the houseplants have had time to adjust to the bright light, start a fertilization program. This is best done using water-soluble fertilizers such as Miracle Grow or Peters. The directions for mixing and the frequency of application can be found on the product label. Using more fertilizer than the recommended rates can damage plants.

**May need more water**
Water plants as often as needed. Most container type plants do best if the soil is allowed to become fairly dry before watering. When water is needed, add it until water runs out the drain hole in the bottom of the container.

On hot, dry, summers some container plants may need to be watered every couple of days. Don't allow plants to become water-stressed before applying water.

Keep in mind, however, that each time the plant is moved around, it will experience an acclimatization period, and such changes may become evident.

Learn as much as possible about the extent of acclimatization of the chosen plants. The retailer should be able to provide this information. When shopping for plants at a garden center, ask if the plants have been acclimatized.

Remember that the most important factors of indoor plant growth are adequate light, fertilizer and water at reduced rates.

**Pick the best plants for indoors**

Special care given to houseplants during the summer months will rejuvenate them, so they will look good when brought back inside for the winter.
Plan before you plant for a successful summer vegetable garden

Developing a garden plan will help gardeners decide where to plant crops based on their size and growth pattern. Some gardeners save space by growing green beans on a trellis as is shown in this Spalding County garden. Image credit: Sharon Dowdy.

By Frank M. Watson
UGA Cooperative Extension

This time of the year gardeners get excited about their soon-to-be-planted spring vegetable gardens. They envision lush rows of perfect pods of peas, scrumptiously delicious sweet corn and big, beautiful tomatoes. University of Georgia Extension urges gardeners to wait and put some thought and vision into their garden first.

Gardeners should create a garden plan before they order the first packet of seeds or turn the first spade of soil. First, determine how much land you have available, how much time you can spend caring for the garden and the kinds and amounts of vegetables you want to grow.

Where?

Next, select for the location of your garden. It's best to put the garden near your home for quick, convenient access. Select a site with a suitable source of water for irrigating on
hot, dry summer days. When deciding on a garden site, also remember most vegetables need a lot of sunlight and perform best in well-drained, fertile soil.

Draw a map of the garden showing the overall dimensions and the number, width, and length of the rows. Next, decide which vegetables (and specific varieties) you want to grow. Note them in your garden plan. (This will help plan next year’s garden, too, as UGA experts recommend rotating crop locations to reduce pest pressure.)

Perennial crops, such as asparagus and strawberries, should be planted to one side so they won't interfere with other garden activities. Plant tall crops, like sweet corn, on the north or west side of the garden so they don’t shade lower-growing vegetable plants.

**Gather your tools**

No matter how well you plan, it's hard to maintain a garden without the right tools. Plan ahead to have the right equipment on hand. A hoe, rake, spading fork, round-nosed shovel and watering can may be all that's needed to plant and maintain a small garden. For larger gardens, a rotary tiller or garden tractor might be needed.

During the gardening season, keep detailed records. These records will help you evaluate each variety you grow. Record planting dates and fertilizer applications. Also document rainfall.

It's easy to make changes on paper, but almost impossible to change your garden after it is planted. Carefully plan your garden and follow your plan to help make 2014’s vegetable garden the best ever.

For more information on planting a vegetable garden in Georgia, see the UGA Extension publication website at [www.caes.uga.edu/publications](http://www.caes.uga.edu/publications).
Hulking above their neighbors in the Chattahoochee National Forest, Georgia’s century-old hemlocks are giants. But the relatively scarce trees are quickly being felled by the tiniest of insects — the invasive hemlock woolly adelgid.
Tiny pests, big problems

The adelgid is a tiny, fluffy aphid relative that feeds by piercing the bark of hemlock trees and draining the contents of plant cells, which contain nutrients created by the tree during photosynthesis. Millions can live on one tree, and by the time they finish feeding, the tree no longer has the strength to transport water and nutrients from its roots to its branches. The pest first arrived in Georgia 10 years ago after moving south through the forests that surround the Appalachian Mountains.

To date, the adelgid has killed millions of hemlocks on the mountainsides and stream valleys of the Appalachians, from New England south to the Smokies and the north Georgia mountains. Once infested, a centuries-old tree can die within 3 or 4 years said Will Hudson, a forest entomologist with UGA Extension.

University of Georgia researchers are racing against time looking for long-term biocontrols for the nutrient-gobbling pest. They hope by preserving specimen stands of hemlocks with insecticides now, there will be enough trees left to aid in regenerating Georgia’s hemlocks once the bio-control agents are ready.

“We can’t just let a bug loose in the forest and hope it works. The requirements for testing and screening of a new biocontrol agent are — and rightfully so — really, really stringent, and it takes time. The hemlocks don’t have that time,” said Hudson.

Enter the Legacy Tree Project — a public-private partnership between UGA researchers, Valent USA, private tree care companies and several municipalities. The project’s goal is to preserve stands of hemlocks so they can regenerate once the woolly adelgid is under control.

While hemlocks make up a small percentage of the forest canopy in Georgia, they are vitally important to the forest ecosystem — especially around streams. The giant trees shade streams and stream banks and provide the cool waters that Georgia’s trout populations need to survive while sustaining the tourist economy that surrounds the trout.

In addition to the aesthetic impact of the loss of the largest trees in mountain forests, dead trees pose a threat of falling, making camping, hiking and even driving, risky.

Two solutions, one goal

The woolly adelgids can be controlled two ways. One way is through the development or discovery of biocontrol agents — predatory insects that eat adelgids, but leave the rest of the ecosystem intact. This is a painstaking process of trial and error, but will offer low-cost, long-term control.
The other method is to treat every hemlock in the forest to prevent or cure adelgid infestation. This would be prohibitively expensive, time-consuming, logistically implausible and possibly ecologically damaging.

Entomologists at UGA and the U.S. Forest Service, including recently retired UGA forest entomologist Mark Dalusky, have identified and released two predatory beetles. They hope these insects will be effectively control the adelgid without harming the forest, but neither beetle has reached the numbers needed to control the pest.

Saving trees now, so that they can be preserved later

UGA entomologists, north Georgia arborist and hemlock enthusiast Jann George and Legacy Tree Project founder Joe Chamberlin have teamed up for the effort.

Chamberlin’s company, Valent, helped launch the Legacy Tree Project in 2010 in a handful of Midwestern towns with the goal of saving ash trees from emerald ash borers. Thousands of trees were saved, and a framework for battling other invasive tree pests was developed.

Valent donates insecticide where landmark hemlocks are dying like the Chattahoochee National Forest.

The insecticide, a dry powder mixed with water, is injected into the ground around the hemlock’s root ball and the tree slowly absorbs the material, which kills the adelgids and prevents new infestations.

“Nearly 100 percent of the chemical is absorbed by the tree, which means there is very little chance any will move into nearby streams or groundwater,” George said. “There is hope for biological controls coming down the line. But the only way to get your hemlock tree back to health, at this point, is to use chemicals.”

This is the first time that the Legacy Tree Project has worked on public land. George has worked with Young Harris, Clarkesville, Dillard and Sky Valley and saved between 10 and 15,000 hemlocks on private land.

"The problem of global trade and invasive species are here to stay,” Chamberlain said. “We only have so many well adapted native species of trees that we can rely on, and we need to maintain them. What we’re trying to do is build awareness about invasives and stimulate action to help protect native tree populations.”

For more information about the hemlock infestation in north Georgia and UGA’s research into stopping the pest, visit www.forestpests.org/.

(Merritt Melancon is a news editor with the University of Georgia College of Agricultural and Environmental Sciences.)
Fatal Attraction: Evolution of Carnivorous Plants in the Southeast

Jessica Stephens, currently working towards a PhD in Plant Biology at the University of Georgia, will be speaking on the evolution of carnivory in the pitcher plant genus, Sarracenia. Bring your lunch and enjoy!

Date: Friday, May 9
Time: 11:30 - 12:30
Location: UGA Marine Extension Service, Brunswick (address and directions can be found at: http://marex.uga.edu/visit)
The Warnell Continuing Education Program
Daniel B. Warnell School of Forestry and Natural Resources

Purpose
There are so many silvicultural treatments available today for foresters, managers, and landowners who want to practice intensive forest management that a January 2014 Society of American Foresters meeting entitled “Growing 12 tons/acre/yr” was held in Florida. Of course that level of production comes at a price. Budgets, markets, site quality and personal objectives are important determinants of the best mix of treatments for a particular property. This course will evaluate the trade-offs between the costs, economic and otherwise, and the benefits for different mixes of silvicultural treatments with emphasis on quantifying the gains for objective decision making.

How One Will Benefit
Upon completion of this course, a forest landowner or land manager will be able to make effective silvicultural and economical decisions for managing loblolly, longleaf, and slash stands.

Who Should Attend?
Foresters, land managers, forest landowners, and others interested in effectively managing their pine stands with an emphasis on growth, yields, and maximizing economic benefits.

Instructor
Dr. Barry D. Shiver – CEO Smarter Forestry
former Professor and Plantation Management Research Coop Director
UGA-WSF&NR

Directions
For directions we suggest using googlemaps.com. You may also contact David Dickens 912-690-1678 or e-mail him at ddickens@uga.edu.

Special Needs
For special services or dietary considerations contact David Dickens at 912-690-1678 or e-mail him at ddickens@uga.edu prior to 21 May 2014.

Hotels in the Area Include:
Baymont Hotel (912-489-7368), Holiday Inn (912-489-4545)
Hampton Inn (912-681-7700), LaQuita Inn (912-871-2525)
Quality Inn (912-489-3995)
The Warnell Continuing Education Program
Daniel B. Warnell School of Forestry and Natural Resources

Registration Fee
The fee for this course is $210, which includes lunch, refreshment breaks, and instructional materials. There is a $25 discount for fees paid and postmarked by 21 May 2014.

Continuing Education Credits
- 13.5 Continuing Forestry Education (CFE) hours - Category I
- 13.5 Continuing Logger Education hours - Environment
- _Pesticide Applicator credits for GA — applied for

Full Attendance is Mandatory to Receive Credit

Wednesday, 11 June 2014

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30am</td>
<td>Registration</td>
</tr>
<tr>
<td>8:50</td>
<td>Welcome—Dr. David Dickens—Forest Productivity Prof.</td>
</tr>
<tr>
<td>9:00—10:20</td>
<td>Overview and Some Needed General Concepts</td>
</tr>
<tr>
<td></td>
<td>► Quantitative silviculture and the ability to make objective decisions</td>
</tr>
<tr>
<td></td>
<td>► Trees are just plants, improving their growth up to their biological potential is a matter of removing factors limiting to growth (water, nutrients, light, rooting volume)</td>
</tr>
<tr>
<td></td>
<td>► Potential may be influenced by climate (respiration) and disease/insect presence</td>
</tr>
<tr>
<td></td>
<td>► Factors limiting growth depend on site</td>
</tr>
<tr>
<td></td>
<td>General site types (sand hills, wet flats, compact clays, P deficient, loams, old fields)</td>
</tr>
<tr>
<td></td>
<td>► Types of treatment response</td>
</tr>
<tr>
<td></td>
<td>► What drives decisions? Site quality, treatment cost and response type, markets, length of investment</td>
</tr>
<tr>
<td></td>
<td>► Site Quality and site index (define site index, distribution of base site index, changing site index through treatments)</td>
</tr>
<tr>
<td>10:20—10:35</td>
<td>Break</td>
</tr>
<tr>
<td>10:35—noon</td>
<td>Regeneration Decisions</td>
</tr>
<tr>
<td></td>
<td>► Species Choice—properties of loblolly, slash, and longleaf and what might push a decision toward each species</td>
</tr>
<tr>
<td></td>
<td>► Genetics Choice—Open pollinated, control pollinated, varieties, flex stands, disease resistance, form and tree quality, growth</td>
</tr>
<tr>
<td>Noon</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00—2:30pm</td>
<td>Planting Density — impact of markets, concept of limiting density, effect of density on height, dbh, some results of intensive culture/density study of PMRC including species comparisons</td>
</tr>
<tr>
<td>2:30—2:45</td>
<td>Break</td>
</tr>
</tbody>
</table>
### The Warnell Continuing Education Program
Daniel B. Warnell School of Forestry and Natural Resources

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wednesday</strong></td>
<td></td>
<td><strong>Site Preparation</strong> – objective(s) of site preparation; chemical, mechanical, combination chem/mech</td>
</tr>
<tr>
<td></td>
<td>11 June</td>
<td>Herbaceous Weed Control – costs/benefits; tank mix and/or post-plant over the top; one year vs two</td>
</tr>
<tr>
<td></td>
<td>2:45—5:00pm</td>
<td>Years; length &amp; magnitude of growth response; survival</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial Analysis of Forestry Investments – concepts of BLV, NPV, ROY; don’t have to grow more wood in a rotation to increase financial returns; could just lower rotation age to produce same wood</td>
</tr>
<tr>
<td></td>
<td>5:00</td>
<td>Adjourn</td>
</tr>
<tr>
<td><strong>Thursday</strong></td>
<td></td>
<td><strong>Established Stand Silvicultural Treatments</strong></td>
</tr>
<tr>
<td></td>
<td>12 June</td>
<td>Woody Release age 1 to late teens; research results for woody release; type, length and magnitude of response; why plants respond; which portion of dbh distribution benefits most; easy to control and hard to control upland species; waxy leaf species issues</td>
</tr>
<tr>
<td></td>
<td>8:15 a.m.</td>
<td>Concept of marginal rate of return and typical rates of return for woody release; trends in woody release costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Additional benefits of woody release beyond growth (fine danger, harvesting costs, inventory costs, expediting costs rather than capitalizing, quicker turnaround after clearcut)</td>
</tr>
<tr>
<td></td>
<td>10:00</td>
<td>Break</td>
</tr>
<tr>
<td></td>
<td>10:15</td>
<td><strong>Fertilization</strong> – P deficient sites; sampling for nutrient levels and levels to look for; ratios needed;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Concept of leaf area; efficient ways to fertilize; type, length, and magnitude of response; N alone vs N+P fertilization;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Piedmont vs coastal plain nutrient levels; which portion of dbh distribution benefits most; marginal rates of return for fertilization and impact of fertilizer costs; Trends in fertilizer costs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Release and fertilization combined</td>
</tr>
<tr>
<td></td>
<td>12:00-1:00pm</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>1:00</td>
<td><strong>Thinning</strong> – Is thinning an intensive silvicultural treatment?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Yes, for most markets it is a way of capturing the growth of intensive treatments. Timing of thins, frequency of thins, intensity of thins. Importance of markets. Which trees to thin.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Importance of keeping inventory information up to date and what detail is important. Concept of TQI. Difference in returns for different thinning strategies. Thinning slash vs loblolly pine.</td>
</tr>
<tr>
<td></td>
<td>2:30—2:45</td>
<td>Break</td>
</tr>
<tr>
<td></td>
<td>2:45 — 5:00</td>
<td><strong>Pine straw raking</strong> – opportunities, realistic sites, nutrients, effect on thinning schedules</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wood Quality as impacted by silvicultural treatments MAI that can be attained for slash and loblolly pines for different levels of management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using openbility information and inventory information to maximize stumpage prices received for sales</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Summary and questions</td>
</tr>
<tr>
<td></td>
<td>5:00</td>
<td>Adjourn</td>
</tr>
</tbody>
</table>
The Warnell Continuing Education Program  
Daniel B. Warnell School of Forestry and Natural Resources

Register online at  
http://conted.warnell.uga.edu

Registration by Regular Mail

Name - please print ____________________________________________
Preferred name for badge: ______________________________________

☐ Business mailing address or ☐ Home address (please check one)

City __________________________ State __________ Zip __________
County, if Georgia __________________

Home phone __________________ Work phone __________ Fax __________

Email address ____________________ ☐ Please send me e-mails about other Warnell Continuing Education programs:

Position __________________________ Organization/employer __________________________

By registering for this event, I agree to comply with all event and lodging cancellation policies.

Intensive Forest Management: Quantifying Treatment Responses and Making Decisions based on Value Added  
11-12 June 2014

Early registration through 21 May 2014: .......................... $185.00
Regular registration: .................................................. $210.00

Enclosed is a check # ______ (payable to Warnell School of Forestry and Natural Resources). Fee must be received to process payment.

Cancellations: Notify Ingvar Elle at 706-583-0566 (elle@warnell.uga.edu) by 5:00 p.m. 27 May 2014 to receive a refund.
Mail payment to: Attn:

Ingvar Elle  
Warnell School of Forestry & Natural Resources  
University of Georgia  
180 East Green Street  
Athens, Georgia 30602
Save The Date
Summerfest Is Back!

Georgia Department of Agriculture
Gary W. Black - Commissioner

FAMILY FUN DAY AT
GEORGIA GROWN
SUMMERFEST SHOWCASE

SATURDAY, JUNE 14th 10AM – 3PM

Visit the Savannah State Farmers Market for FREE Family Fun
701 US HIGHWAY 80 WEST SAVANNAH, GEORGIA
For More Information Call (912) 966-7800
Monday thru Friday 7:00am – 5:00pm

✔ Locally grown fresh produce and plant sales

✔ Fruit and vegetable tastings from local producers

✔ University of Georgia cooking demos

✔ An antique car and tractor show

✔ Children’s rides and face painting

✔ The Garden City Police and Fire Departments and more!
georgiagrown.com / agr.georgia.gov
Webpage Links

American Bamboo Society Home Page
http://www.americanbamboo.org

Coastal Gardens Botanical Gardens Home Page
http://www.coastalgeorgiabg.org/index.html

Chatham County Cooperative Extension Homepage
http://www.ugaextension.com/chatham

Coastal Empire Bee Keepers Association
http://www.cebeekeeping.com/Home.html

Coastal Master Gardeners Home Page
http://cmga.caes.uga.edu

Cooperative Extension Home Page
http://www.caes.uga.edu/extension/

Cooperative Extension Publications
http://www.caes.uga.edu/publications/

Forsyth Farmers' Market
teri@forsythfarmersmarket.ccsend.com

Georgia Turf
http://www.georgiaturf.com

Southeastern Palm Society
http://www.sepalms.org

The Southeastern Camellia Society
http://www.southeasterncamellias.com
Georgia Forestry Commission
http://www.gfc.state.ga.us/

To subscribe – email dlinvill@uga.edu and type subscribe in the subject area. Please tell your friends and neighbors about this free monthly update.