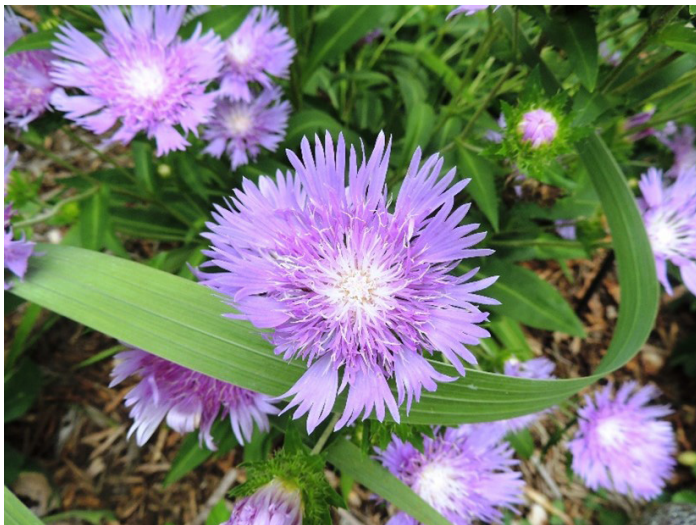




Stokes aster is a hardy native perennial.

Native Plants for Fall Landscapes

We think of fall as a time to wind down in the garden. Summer flowers are bloomed out, and the vegetable garden is picked over from summer harvest. For these plants, the party is just getting started. Here is a list of ornamental native plants that put on a show in the fall.

Witch hazel — American witch hazel is a deciduous shrub native to much of northeast Louisiana. It blooms in the fall with a mass of yellow fragrant flowers and also has yellow-orange fall leaf colors. Native, low maintenance, attractive to wildlife — there are more reasons to plant witch hazel than not.

Stokes aster — This attractive native perennial

blooms through summer into early fall. The lavender colored blooms are very showy, and the plant itself is low maintenance and well behaved in the landscape.

Oak leaf hydrangea — This powerhouse native blooms during the summer, but the show carries into the fall with its dramatic display of red and purple fall leaf colors and dried flower heads. The contrast is a hard one to beat for fall landscapes.

Red spider lily — Not a true native, this well-established flowering bulb is a southern heritage plant and a sign of an approaching fall. The masses of red blooms cover the ground during the peak of hurricane season. No fall garden would be complete without spider lilies in the mix.

Fall blooming asters — Try a prairie garden with fall blooming asters, such as goldenrod, ironweed, eupatoriums, asters, joepywe weed, sunflowers and blue mist flower. Seeds can be ordered and sown in the fall.

*Marcie Mathews
Research Associate, Northeast Research Station*

Dividing Daylilies in the Fall

Who doesn't love daylilies? They are beautiful in bloom, easy to grow, easy to share and perform quite well in our climate. Daylilies do not require much from us in the way of upkeep and maintenance. While not heavy feeders, they can benefit from an application of 10-10-10 fertilizer in the spring as new growth appears. Pests are normally not a major problem. Aphids sometimes appear in the spring but can easily be treated with a horticultural oil or insecticidal soap. Daylily rust is the most common problem you will see, and heavy infestations require a fungicide application or total removal and destruction of all above-ground plant material. But do not let all that deter you!

For the most part, if you have your daylilies planted in a sunny, well-circulated area, they will most likely give you no problems at all for years to come. Every three to five years you may notice your daylily clumps start becoming crowded and flowering less and less. This is a sign that they need to be dug up and divided

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into more plants. Fall months are a great time to do this because the plants are entering dormancy and the stress of transplanting will not send them into shock or distress. During the winter months, transplants will settle in and come spring you will see flushes of new growth and blooms. Remember to divide in early fall, before first frost. Deciduous varieties will have died back and may be hard to find in the landscape. No matter the type — deciduous, evergreen or semievergreen — fall or even early spring is the right time to keep your daylilies in peak performance by dividing. After the last flowering cycle of late summer, monitor your daylilies to see if they need dividing. Check for dense clumps and ones that did not bloom as heavily or had smaller than average blooms. These are the ones in need. Pick a cool fall morning or evening to divide, as this will be an arduous task. You will need gloves, shovel, a garden knife and several 1-gallon nursery pots.



This daylily transplant has two to three fans and healthy roots.

Here are the steps you will need to take:

1. Dig up large clumps and divide into smaller ones, ideally with two to three fans per clump.
2. Monitor closely for snails, slugs, aphids and daylily rust. Remove any pests and destroy any diseased plant material.
3. Remove woody flower stalks and damaged and yellowing leaves.
4. Transplant your divided clumps back into the landscape or pot them up into 1-gallon nursery pots. Potting up allows them to recover before transplanting back into the landscape.
5. When potting up, plant at the same soil level as they were previously growing. Do not plant above the crown. This will result in plant die back.
6. The leaves of larger plants can be cut back by half. This makes transplanting easier and tidier and puts less stress on the transplant as it recovers.

Some clumps will divide rather easily. Just pull clumps apart into individual smaller clumps. Some larger varieties form denser clumps. These must be cut apart with a serrated garden knife or even a kitchen bread knife. Your transplants will look raggedy for several weeks as the leaves die back, but this is perfectly normal and nothing to worry about. What you do want to see in the weeks following is some new growth coming out. If the plants were transplanted correctly up to the original soil line, the plants will rebound and start forming a firm root ball. You want to see new feeder roots forming. Once this occurs, usually after two to three months, you can go ahead and plant into the landscape or wait until spring when you are

setting out spring bedding plants. Fertilize at planting.

Fall is also a great time to divide your other multiplying plants, such as irises, agapanthus, daffodils, cannas, elephant ears, liriope, gladiolus and hostas. A good way to remember when the best time is to divide a particular plant is to know when it blooms or performs. Spring and summer blooming plants are best dug up and divided in early fall before frost. Fall blooming plants, such as red spider lilies, are best dug up and divided in March to April when foliage starts yellowing and the plant is entering dormancy.

General daylily maintenance spring until fall:

If you have deciduous daylilies, you may be tempted to mow or cut them back during summer and fall months after the blooming period has ended. This would result in a weak root system and poor bloom cycles the following year. The foliage acts as food for the roots, so it is best to leave it until it naturally dies back in the fall. Semi-evergreen and evergreen varieties can be tidied up by removing yellowing or dead leaves but leaving the foliage intact.



A daylily plant blooms in its first spring following division.

Most daylilies bloom once, putting on a big show in the spring. But the multiblooming varieties have become more and more popular over years, giving gardeners more bang for their buck in the landscape with two to three blooming cycles spring through late summer, even into early fall. Varieties like Stella de Oro make great compact border plants that bloom several times

throughout the summer. Whether you have a repeater or a one-time bloomer, daylily maintenance leading up to dormancy in the fall is very minimal. Remove seed heads and woody flower stalks of daylilies to maintain their appearance and performance. If you keep seed heads pinched back, the plant will put more energy into making more blooms instead of seed production. The woody flower stalks do not affect plant performance if left but are unattractive and best removed for overall visual appeal.

*Marcie Mathews
Research Associate, Northeast Research Station*

LSU AgCenter agents from the Northeast Region and the parishes they serve:

Kerry Heafner:

Morehouse Parish, Ouachita Parish and Union Parish

Donna Lee:

East Carroll Parish, Madison Parish and West Carroll Parish

Marcie Mathews:

Tensas Parish

Carol Pinnell-Alison:

Caldwell Parish, Catahoula Parish, Concordia Parish, Franklin Parish and Richland Parish



The Hammond Trials Website: A Virtual Walk Through the Gardens

App.lsuagcenter.com/hammondtrials

During the past year the Hammond Research Station, like most other places, was closed to the public. However, that did not stop us from planting our trials and maintaining the gardens. In fact, it was a fantastic year for the gardens. We felt very fortunate to be able to continue our work in the trial gardens, yet it was bittersweet. One of the best aspects of public gardening and planting the trials is to have everyone enjoy them and see the fruits of our labor. We decided this restriction would not suffice, and we set forth to build the Hammond Trials website to house all of our trial data. When the website was completed, we realized we had gone well beyond what we had set out to accomplish.

The Hammond Trials website has up-to-date information on all of our trial plants, including ratings, photos and observations. Moreover, we have updated cultural information, growing information and functionality/ ecosystem services to the website. You can search for plant material by flower color, sun conditions, soil conditions, etc. You can also search for specific functionality, such as native or pollinator plants. We have many different categories and “tags” that can be searched to find the perfect plant. Furthermore, we have developed phase one of the “virtual walkthrough” where you can search for current trials by bed, just like you are in the garden. We are currently working on phase two of the virtual walkthrough, where you will be able to click on a virtual map and see up-to-date photos and information for the plants in each bed/garden. We also have a repository of video tours, research updates, Louisiana Super Plants and much more. With new features being added periodically and new plant ratings continually updated, we hope that you continue to use the new website as a fun guide and resource for all your landscape plant needs. The website will never be better than taking a stroll through the gardens, but it is very close. Come visit our website at app.lsuagcenter.com/hammondtrials, and make sure to bookmark the site. We can’t wait to hear what you think.

*Jeb S. Fields
Director of the Hammond Trials*



The Fall 2021 Louisiana Super Plants

The Louisiana Super Plant program is an education campaign of the LSU AgCenter that identifies superior plant material for Louisiana landscapes. Louisiana Super Plants have gone through rigorous trials at multiple AgCenter locations across the state of Louisiana and have been approved by Louisiana's ornamental horticulture industry. Louisiana Super Plants are considered to be "university tested and industry approved." The Louisiana Super Plant team has completed voting and selected the winners of the 2021 Louisiana Super Plants. While it was a very competitive year, we have four amazing plants that we can say with confidence are at home in every Louisiana landscape.

The first fall 2021 entry into the Louisiana Super Plants program is a longtime landscape favorite and native grass — *Muhlenbergia capillaris* — commonly known as Muhly grass. We wanted to build upon the native plant trend, and we just love native grasses. This is a workhorse in the landscape, thriving in many conditions and resisting almost anything it encounters. One of the few ornamental grasses grown for its flowers, Muhly grass blooms with lacy pink flowers in the fall when most other grasses are turning down for the year. Muhly grass does well in sun or part shade, handles wet and dry soils, and is just plain adaptable. Hardy throughout the state, muhly grass can grow 3 to 4 feet tall and spread 3 to 4 feet wide and can be enjoyed as a single specimen or planted in bunches. Muhly grass is very low maintenance, has year-round landscape appeal, and is one of the most drought-tolerant grass species available.

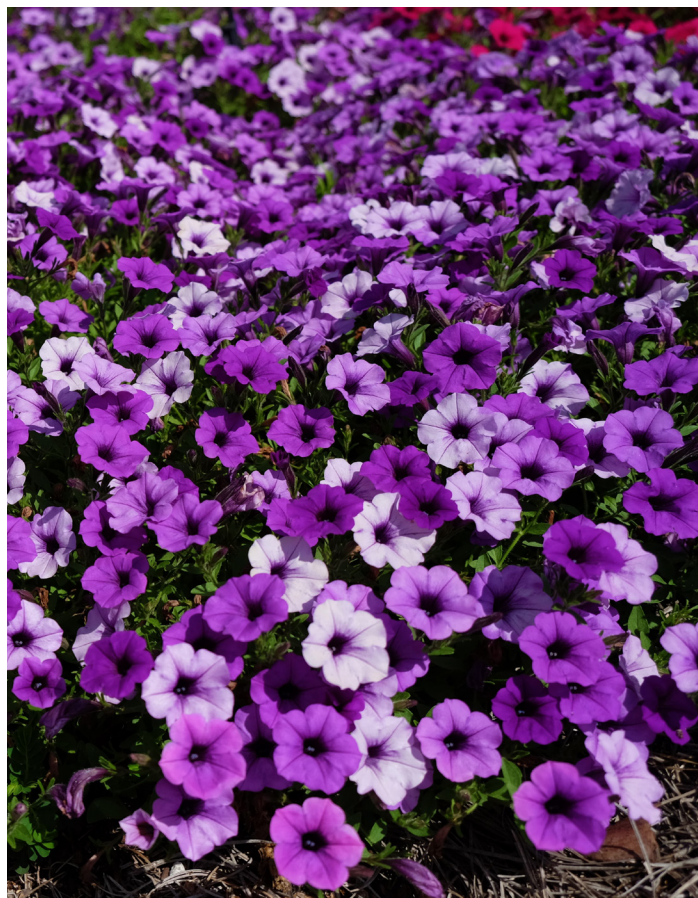
We absolutely love our cool-season color, and petunias are some of the best we can plant in Louisiana. That's why we are naming Supertunia Mini Vista indigo our final 2021 Louisiana Super Plant. Supertunia Vista Bubblegum is still one of our favorite cool-season Louisiana Super Plants, and one of the best landscape petunias for Louisiana Landscapes; however, the Supertunia Mini Vistas bring some added excitement. The mini part of the name indicates smaller flowers, which add a unique look and feel to the landscape. While we really like all the Supertunia Mini Vista varieties, indigo brings a distinctive color, with individual flowers ranging from soft white to lavender to deep indigo. The extreme flower density and vigor ensure that these will be well received in any garden. Grown in full sun, these make an excellent addition for the cool season, providing color, texture and appeal from November through May. These also look great in containers!

For more information on the Louisiana Super Plants program, contact Jeb Fields at the LSU AgCenter Hammond Research Station or check them out on our new website: app.lsuagcenter.com/hammondtrials.

Jeb S. Fields
Assistant Professor and Extension Specialist
Hammond Research Station



Muhly Grass



Supertunia Mini Indigo



Checklist for September, October and November

1. In the lawn, areas of brown grass may be the disease brown patch, which is prevalent in the cool months. The most important cultural practices to control the disease are nutrient and water management. Stop nitrogen application and decrease irrigation. If you are still mowing, remove clippings to prevent disease spread. Chemical control includes applying fungicides containing maneb, myclobutanil, PCNB, propiconazole, thiophanatemethy or triadimefon every 10 days as the fungus persists.

2. Plant cool-season bedding plants to enjoy their color in fall, winter and spring. Plant seeds or transplants of calendula, forget-me-not, pansy,



Snapdragons

poppy, snapdragon, sweet alyssum, sweet peas, cornflower, dianthus, columbine, daffodil, foxglove, hollyhock, larkspur, lobelia, narcissus and sweet William.

Trees and shrubs: Prune hydrangeas and gardenias after they have completed their bloom. Remove suckers from crape myrtles. June begins hurricane season. Check shade trees carefully for

dead or unhealthy limbs and remove them ahead of the storms. Take down any large trees that look unhealthy or if they have any rotten or decayed areas.

3. Water plants when rain is scarce this month as October is traditionally the driest month of the year in Louisiana.
4. It is time to purchase and plant strawberries. If you have limited space, you can plant them in flowerbeds or containers in full sun. Make sure they have good drainage. Some recommended varieties are Sea Scape, Camarosa, Eversweet and Chandler. Fertilize them with one-third of a pound of 10-10-10 per 100 feet before plants are mowed.
5. Warm-season turfgrasses are slowing their growth and preparing for dormancy. Stop nitrogen-fertilizing grasses. If you like green grass in the winter, you can overseed your lawn with ryegrass.



6. Fall is a great time to plant trees and shrubs. Some great fall blooming plants are sasanquas, cassias, golden raintree, re-blooming roses and encore azaleas.
7. Bare-root fruit trees can be planted at any time during the dormant season, usually from about mid-November through February in Louisiana. Wait until spring to plant tender citrus and fig trees. Many citrus fruit types are ready for harvest.
8. Soil tests should be conducted every two to three years to check soil nutrient levels. If your soil tests indicate the need for lime, this is a good time of year to do so. Consider applying lime following aerification so that materials are more accessible to plant roots. Remember, it takes time for lime applied at the soil surface to change the soil pH within the soil profile. If using calcitic limestone, apply up to 25 pounds of product per 1,000 square feet. If using calcium hydroxide, apply 5 to 10 pounds of product per 1,000 square feet. Plant spring-flowering bulbs in your gardens from late October through early December. Exceptions are tulips and hyacinths, which must be refrigerated and planted in late December or early January.
9. Watch azalea plantings for early fall infestations of lace bugs. Control with acephate, horticultural oil sprays (bifenthrin, cyfluthrin or permethrin), and other recommended insecticides.



White, yellow and brown mottling from lace bug damage.

10. Utilize fallen leaves as mulch, or build a compost pile using leaves, grass clippings and remains from your vegetable garden. We are still in hurricane season until the end of November. Do your part to be a good citizen and steward of our community by keeping storm drains free of leaves and lawn debris. If you choose not to utilize leaves as mulch or compost, bag them up. But please don't blow them into the roads or toward your neighbors' yards! I call this kicking the can.
11. Many of the summer-blooming perennials are finished or finishing up their floral displays for the year. Cut back the flower stalks and old, faded flowers to keep the plants looking attractive.
12. Prune ever-blooming roses by early September.
13. Enjoy the fall color in trees such as bald cypress, Nuttall oak, Shumard oak, cherry bark oak, flowering pear, Chinese pistachio, ginkgo, Japanese maple, sweetgum, sumac, red maple, Southern sugar maple and hickory. Plant some if you don't already have them in your landscape.

*Heather Kirk-Ballard, Ph.D.
Consumer Horticulture Specialist*



Cauliflower

Vegetable Gardening

Falling out of love with the heat? No worries! Fall is around the corner, and there are plenty of cool-season vegetables and herbs to plant. Before planting, following a few of these tips will set you up for a successful harvest.

1. Remove weeds in the garden.
2. Remove warm-season herbs and vegetables that have disease symptoms and are covered

in insects. If you have time, let the garden sit empty for a few days to a week.

3. Apply compost, fertilizers or aged manures. Building up soil nutrients prior to planting will increase later yields.
4. Check your irrigation. Fix leaks.
5. Find a source of mulch. My favorites are leaves, pine straw, shredded paper or plastic and paper mulches.

Now that the slate is clear, let's move on to the fun stuff ... planting!

In September

- **Plant transplants or start seed to transplant into the garden in the following two months:** Broccoli, Brussels sprouts, cabbage, Chinese cabbage, cauliflower, collards, lettuce, kohlrabi, kale and Swiss chard.
- **Direct-seed these into the garden:** Beets, endive, carrots, English peas, snow peas, mustard, onions (seeds, mid-to-late September), parsley, snap beans (early September), radishes, rutabaga, spinach and turnips.
- Garlic toes are planted in mid-to-late September. Shallot sets can be planted all month long.



Garlic Toes

In October

- **Plant transplants of:** Broccoli; Brussels sprouts; cabbage; Chinese cabbage; cauliflower; kale; lettuce; turnip, mustard or collard greens (although I always just direct-seed these because it's cheaper); and Swiss chard.
- **Direct-seed:** Beets, carrots, celery, endive, kale, leaf lettuce, mustard collard or turnip greens, radishes, onions (early-to-mid October to create sets for a December planting), parsley and spinach.



In November

- **Plant transplants of:** Broccoli, cabbage, cauliflower, broccoli, kale and Swiss chard. *If possible, try and plant these transplants early-to-mid November. Any later than that and you risk a freeze taking out small plants.*
- **Direct-seed:** Beets, carrots, kale, mustard, spinach, Swiss chard and turnips.
- **Continue to plant:** Shallot sets and garlic toes in the first part of the month.



Swiss Chard

For my last piece of fall garden advice, think about how much produce you can eat and or give away at one time. Like many of you, I am an overzealous gardener. Planting 50 to 100 heads of cabbage or broccoli at one time is nothing. But my small family can't eat all of that. We give it away and waste some. To avoid this, use successional planting.

This means divide your garden rows in thirds or quarters. Instead of planting the entire row in cabbage, plant one-third of the row. Then wait two to three weeks and plant the middle third of the row. Then wait two to three more weeks and plant the last third. This will help your fall crops, such as cabbage, broccoli, cauliflower, head lettuce and more, come in throughout the entire season rather than all at once.

Enjoy the Garden,

Kathryn "Kiki" Fontenot, Ph.D.
Associate Professor, LSU AgCenter School of Plant,
Environmental and Soil Sciences

Fall Lawn Care in Louisiana

Should you fertilize lawn during fall?

Louisiana usually stays warm well into the fall, and lawns continue to grow until nighttime temperatures dip into the 50s. So, be sure to mow and water your lawn as needed to keep it healthy.

If the fall feels more like summer, keep an eye out for armyworms in bermudagrass. Sod webworms and chinch bugs may still be active in St. Augustinegrass deep into the fall. Chinch bugs are most active in hot and dry weather. Insecticides such as carbaryl, bifenthrin and chlorantraniprole are effective insecticides for killing chinch bugs and moth larvae such as armyworms.

When summer is over it is time for your fertilizer spreader to hibernate until next year. Fertilizing warm-season lawn grasses during the fall with high nitrogen (summer-type) fertilizers or winterizing fertilizers containing high levels of nitrogen is not recommended for Deep South lawns. Stimulating fall growth of St. Augustinegrass, centipedegrass and zoysiagrass with nitrogen leads to increased large (brown) patch disease and winter kill. Bermudagrass may be fertilized into September, but I would not make any more applications of high percentage nitrogen-containing fertilizers after late August on St. Augustinegrass, centipedegrass or zoysiagrass.



Armyworm feeding on bermudagrass. - photo by D. Sexton

If you would like to extend the green color in home lawns this fall, apply foliar iron spray or spreadable iron granules. This will give you a nice flush of green color without increased growth.

Winterize the lawn?

I am sure that you have heard of winterizer fertilizers. Potassium (the last number in the analysis on fertilizer bag) is the nutrient associated with winter hardiness and increased disease resistance with turfgrass. There is an advantage to having the correct amount of potassium in the soil when it comes to dealing with environmental stress. Get a soil test before applying high potassium fertilizer, however, since there is no advantage to applying excessive amounts of this nutrient. If a soil test indicates that potash is lacking, choose a fertilizer containing potassium with zero or a very low percentage of nitrogen (the first number on a fertilizer bag) during the late summer or early fall because we are not trying to stimulate growth for the reasons discussed above. If a soil test calls for adding potassium, you can apply during late summer to early fall while the lawn is still growing. Very slow growth still occurs even though day lengths get shorter by late September and October. I am sure that you have probably noticed before that you do not have to mow your lawn as often as we move into October.

An important fact to consider if you bag your lawn clippings: The removal of grass clippings from lawns can severely deplete the soil of potassium. Grass leaves and stems contain very high levels of potassium. Keep in mind that when a lawn is mowed appropriately, it is better to leave clippings to decompose on the lawn as a good source of turf nutrients, including potassium. Clippings from a lawn that is mowed regularly have only a small role in the overall buildup of thatch in turfgrass.

Speaking of soil tests ...

Fall is the best time of the year to get your soil tested by the LSU AgCenter Soil Testing and Plant Analysis Lab.

Soil testing really is the first step to a beautiful lawn next spring and is the best way to determine exactly what your lawn needs to become thick and healthy. If you have not tested your soil in the past several years, do it now.

To test your soil, submit a pint of soil to the LSU AgCenter Extension Service office in your parish. The pint should be a composite of soil samples collected from several different areas in the lawn. You only need to go about 4 inches deep. Also, to simplify the soil sampling and submission process, there are pre-addressed submission boxes with sampling instructions at several garden centers throughout the state. There is a small fee for testing.

The sample results will be sent to your home mailbox and email in less than two weeks. An LSU AgCenter extension agent can help you interpret the results from the soil sample. The results may indicate that lime is needed to increase soil pH. If so, fall and winter are good times to apply lime because it takes several months to activate in the soil. Elemental sulfur may be recommended to reduce soil pH in alkaline soils.

Weed control

The best way to cut down on winter weed problems is to get your lawn thick and healthy during the spring and summer months. If your lawn struggled during the growing months, inevitably it will be full of winter weeds next spring. Late summer/early fall is your first opportunity to reduce winter weed infestations with preemergence herbicides. Preemergence herbicides, such as prodiamine, pendimethalin, dithiopyr, isoxaben and indaziflam may be applied in mid-to-late September to help manage the first flush of winter weeds like annual bluegrass, chickweed and lawn burweed. Consider reapplication in early November. These herbicides work prior to the emergence of the weeds, so timing the application before the weeds germinate is critical. Atrazine can be applied on most southern lawns for annual bluegrass and broadleaf weeds in October except for bermudagrass. Atrazine could be applied on bermudagrass after the bermudagrass is dormant. MSM (metsulfuron) can be highly effective postemergence on broadleaf weeds, such as white clover and lawn burweed. Lawn burweed, or “sticker weed,” is a winter annual that germinates in October and grows all winter long. Next April, lawn burweed produces the burs that are capsules that contain burweed seed. To avoid the stickers in the spring, you must treat lawn burweed during fall and winter.

*Ron Strahan, Ph.D.
Associate Professor, LSU AgCenter
Weed Scientist and Turfgrass Specialist*



Annual bluegrass is the most common grass infesting winter lawns.



Lawn burweed germinates in the fall and produces painful stickers by the spring.



Wild geranium is a common winter broadleaf infesting fall lawns.

Laurel Wilt, a Disease of Woody Trees, Active in Louisiana

Laurel wilt is a devastating disease of woody trees in the Lauraceae family. Trees currently susceptible to laurel wilt include avocado, California laurel, camphor tree, pondberry, pondspice, redbay, sassafras, swampbay and spicebush.

Laurel wilt was first confirmed in the state in 2014 on mature sassafras trees in Union Parish. Since then, the disease has spread to Beauregard, Bienville, Claiborne, Grant, Lincoln, Natchitoches, Ouachita, Rapides, Sabine, Vernon and Winn parishes. The disease is caused by a fungus called *Raffaelea lauricola* that clogs the vascular (xylem channels) system of the tree and interrupts the water supply. As a result, the affected tree wilts and eventually dies. Initial symptoms of laurel wilt are rapid wilting and drooping (flagging) of leaves. As the disease progresses, infected trees exhibit reddish to purplish brown discoloration of foliage and the entire canopy turns brown. Brown leaves do not defoliate immediately and tend to remain attached to the branches for a period of one year or more in the case of redbay trees, but brown leaves drop readily in other host trees. Removal of bark from infected trees reveals discoloration of sapwood.

The fungus is carried by the invasive redbay ambrosia beetle (*Xyleborus glabratus*) from infected to healthy trees. The



Figure 1. A group of dead sassafras trees with brown leaves infected with laurel wilt caused by *Raffaelea lauricola*. Photo by Raj Singh, LSU AgCenter



Figure 2. A young sassafras exhibiting flagging of shoots near the apex of a diseased tree. Photo by Raj Singh, LSU AgCenter



Figure 3. A sassafras leaf exhibiting symptoms of lack of water (marginal necrosis) due to clogging of xylem tissue. Photo by Raj Singh, LSU AgCenter

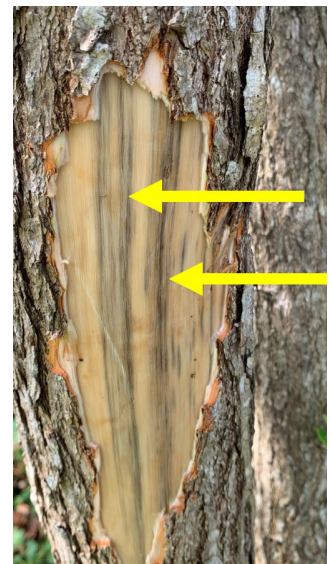


Figure 4. Discoloration of sapwood of a sassafras tree infected with laurel wilt. Photo by Raj Singh, LSU AgCenter



Figure 5. A cross-section exhibiting discoloration of sapwood of a sassafras branch infected with laurel wilt. Photo by Raj Singh, LSU AgCenter



Figure 6. Toothpick-like tubes comprised of fine sawdust caused by redbay ambrosia beetle on the bark. Photo by Albert Mayfield, USDA Forest Services



Figure 7. Redbay ambrosia beetle entrance hole on a young sassafras tree. Photo by Raj Singh, LSU AgCenter



Figure 9. Flagging of a young branch resulting from a black twig borer injury. Photo by Raj Singh, LSU AgCenter

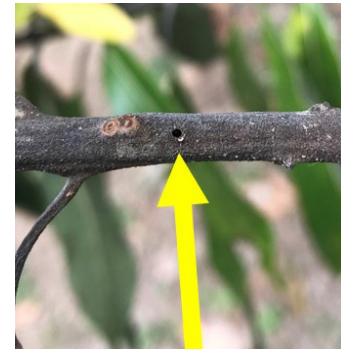


Figure 10. Black twig borer entrance hole on a flagged branch. Photo by Raj Singh, LSU AgCenter

pathogen also may spread from infected trees to neighboring healthy trees through grafting roots. Both the beetle and fungus also may spread to new locations indirectly when people move infested firewood from areas where laurel wilt and redbay

ambrosia beetles are prevalent. Redbay ambrosia beetles are brown to black in color and very small (2 mm) in size. Initially, the redbay ambrosia beetles may attack the branches, and the infested trees may not look wilted. Later, the trees start to wilt, and toothpick-like tubes of fine sawdust produced by ambrosia beetles can be seen on the trunk. The sawdust toothpick-like tubes may easily



Figure 8. Redbay ambrosia beetle adult. Photo by Jason A. Smith, University of Florida

wash away with rainwater and may not be present on infected trees after a downpour.

Rapid and early disease detection and removal of infective trees is the most effective management strategy to combat laurel wilt. After removal, burn the diseased trees or dispose of them properly to prevent the further disease and beetle spread. Avoid moving firewood from areas where laurel wilt and redbay ambrosia beetles are prevalent or known to occur. When it comes to firewood, remember to buy local and burn local!

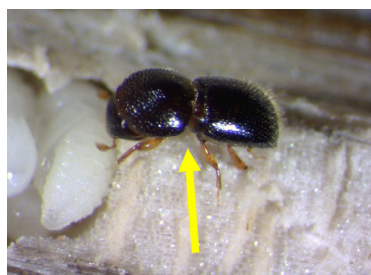


Figure 11. An adult black twig borer (*Xylosandrus compactus*). Photo by Raj Singh, LSU AgCenter

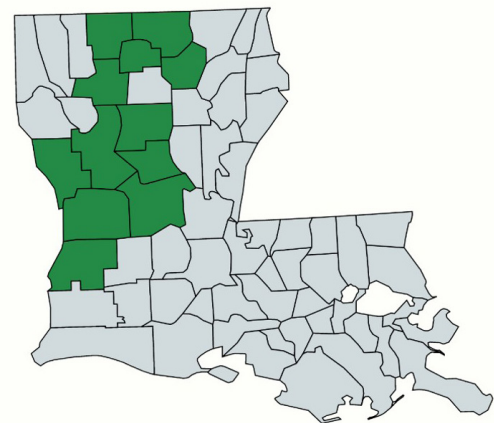


Figure 12. Distribution as of March 10, 2021 of laurel wilt disease in Louisiana. Photo by Raj Singh, LSU AgCenter

Early symptoms of laurel wilt can be easily misdiagnosed with the damage caused by the black twig borer (*Xylosandrus compactus*). The black twig borer attacks small diameter branches and causes death (flagging) of infested branches. If you notice symptoms of laurel wilt on susceptible host trees listed above, please contact Dr. Raj Singh at 225-578-4562 or email rsingh@agcenter.lsu.edu

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