



Torenia is a very durable annual sometimes referred to as wishbone flower and is available in seven different colors including blues, whites, pinks, yellows and purples.

Beat the Heat and Keep the Color

When looking for an annual flower that will thrive in Louisiana's summer and keep its color through the heat and into the fall season, look no further than the torenia. Torenia is a very durable annual sometimes referred to as wishbone flower and is available in seven different colors, including blues, whites, pinks, yellows and purples. The Kauai torenia series is a more compact variety that performs well in very hot and humid environments, making it the perfect addition to any late spring and summer landscape in Louisiana.

The Kauai series has some wonderful colorful varieties, including Blue and White, Burgundy, Deep Blue, Lemon Drop, Magenta, Rose and White. The Kauai torenia was inducted as a Louisiana Super Plant in the spring of 2014 as a compact mounding annual for shade to partially shaded areas. However, demo gardens planted at the Red River Research Station in Bossier City, Louisiana, have shown it to do very well in a full sun environment. The Kauai Torenia grows 8 to 12 inches tall with a spread of 8 to 12 inches. When planting Kauai torenia into the landscape, they work best when planted en masse and should be spaced about 10 to 12 inches apart to allow for optimal growth and appearance. While they do great in the landscape, they can also be used in large containers or mixed annual pots as a filler. For a shaded or afternoon planter they partner well with matching-colored caladiums as a center thriller and a simple green ivy as a spiller to a prostrate growth habit spilling over the edge of the container.

*Mark Wilson
Northwest Regional Horticulture Agent*

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Understanding Fertilizers and Nutrients

As an agent, the first question I get asked many times is, “can I use 13-13-13 or 8-8-8?” My first response is generally, “Yes, you can use whatever fertilizer you would like,” but I immediately follow up with, “What does your soils test say?” I find out many times the response is, “Well, I have never had my soil tested. I use 13-13-13 because that is what I always do.” I also find out many times people do not understand what the numbers stand for. Please understand I am not knocking 13-13-13 or 8-8-8. I am strictly using them as examples.

Nitrogen (N), phosphorus (P) and potassium (K) are essential nutrients that all plants need. Nitrogen helps promote plant vigor and growth. Nitrogen is what makes plants green. Phosphorus helps stimulate root growth. Lastly, potassium promotes overall plant health, including disease and drought tolerance. When you see 13-13-13 or any combination of numbers on fertilizer, you

are getting a percentage of N-P-K (nitrogen, phosphorus and potassium) per hundredweight. For example, 13-13-13 means you are getting 13 pounds of each nutrient per 100 pounds.

Now that you have a basic understanding of the numbers on the fertilizer bag, what they mean, and how they affect plant growth, you may be wondering, “How do I know exactly what I need in my yard or garden?” Simply contact your local extension office to get a soil test kit. Once you have gotten your test kit, you will need a shovel and a bucket. With the shovel, dig down about 3 inches and get a sample of that soil. Place that sample in your bucket. Repeat these steps up to 10 times in random spots, mixing thoroughly. Place the soil mixture in bags that come with the kit and place in the mail. The results will be mailed to you and will tell you the exact nutrient amounts you need. Contact your local AgCenter extension agent for assistance.

John Monzingo

Assistant County Agent, Webster and Claiborne Parishes



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Announcing the 2022 Louisiana Super Plant Inductions

From the persistence of COVID-19 to record-breaking natural disasters, 2021 presented numerous challenges to us all. The green industry has experienced its share of unique problems, too, often making it difficult to find the exact cultivar to stock in the nursery or plant in the landscape. With this in mind, we are hoping to make Louisiana Super Plant access a bit easier with the 2022 selections, all of which provide a bit of flexibility in this ever-changing time. This doesn't mean the superiority of the plant material is compromised, though! Each of the 2022 Louisiana Super Plants has been rigorously tested and vetted by the LSU AgCenter and members of the industry to be a perfect fit for every Louisiana landscape!



Louisiana iris is a native, herbaceous perennial that blooms in late spring.

Spring 2021 proudly welcomed the addition of Louisiana iris to the Super Plants program. Native plants, such as the Louisiana iris, are well-suited to handle the wild weather swings we can experience in Louisiana. There are myriad flower colors and sizes to choose from, all of which attract a wide array of pollinators. Irises prefer full sun and typically bloom from late March through April, going dormant in the hot and dry late summer weather of August and September. Once temperatures cool off in November, Louisiana iris plants will once again start growing and provide striking sword-like green foliage throughout the winter when most other garden plants have gone dormant. Louisiana irises are highly adaptable plants that can make beautiful additions to water features and ponds. The term

“Louisiana iris” is a common name that refers to the five different native species naturally found in Louisiana and the hybrids of these species. Louisiana is home to several fantastic iris breeders that have released gorgeous and unique cultivars on the market, and the best time to find Louisiana iris plants at retail garden centers is in the spring — just before and during their blooming season.



White flame salvias tolerate heat extremely well, and may also perennialize in warmer winters, allowing it to bloom earlier in the spring.

For summer we are excited to promote the summer of salvias! We believe the pollinators are excited about this, too. For years we have wanted to include more salvias in the Louisiana Super Plants program, but we could never decide on just one cultivar because there are so many amazing choices on the market! With the need for flexibility, we have decided that we don't have to limit our choice to a single salvia. Instead, we have recommended a “summer full of salvias.” Additionally, summertime ushers in patriotic feelings for everyone, so we decided to focus on a red, white and blue color palette! We have five cultivars to announce, including:

- 1) Roman Red** — Showy crimson red flowers fully adorn this dense, bushy salvia. Plants have done quite well with average drainage in full sun, and they bring a pop of bright color to the front or middle of the landscape bed.
- 2) Skyscraper Orange** — While technically not red, the dark orange color is a close match, and it is too good to not include! Growing larger than Roman Red with taller flower spikes, this excellent performer stands out at the back of landscape beds and tolerates rainfall and average drainage like a champ. As a bonus, it may perennialize in average to warmer winters!
- 3) White Flame** — White is not a color often associated with salvias, but this amazing new *Salvia farinacea* shines

like a beacon in the landscape. The plants tolerate heat extremely well and may also perennialize in warmer winters, allowing it to bloom earlier in the spring.

4) Mystic Spires Blue (improved) — With its tall spikes of vibrant blue flowers rising above lush foliage, Mystic Spires Blue is one of the showiest salvias on the market. The plants remain compact and bushy, and they tolerate heat and humidity quite well.

5) Rockin' Blue Suede Shoes — Get ready to rock out all summer long with these fantastic light blue flowers contrasted against dark calyxes. These are big plants, so give them plenty of room! Blue Suede Shoes should easily perennialize in average winters.



Ornamental pepper plants are the perfect way to both spruce up the late summer landscape and celebrate the transition into fall.



Ornamental pepper have a tolerance for persistent heat and eye-catching range of foliage and fruit colors.

Finally, we wanted a plant choice for autumn that perfectly embodies the feeling and colors of the harvest season. And who doesn't love ornamental peppers? We plant them every year at the Hammond Research Station, and after many years of trying to identify the best, we have decided that this might be an impossible task! Therefore, we are including ornamental peppers as an entire group into the Louisiana Super Plants program. With their tolerance for persistent heat and an eye-catching range of foliage and fruit colors, these plants are the perfect way to both spruce up the late summer landscape and celebrate the transition into fall. While all ornamental pepper cultivars that are found in Louisiana nurseries and garden centers will be considered Louisiana Super Plants, some of our favorites are: Midnight Fire, Black Hawk, Hot Pops Purple, Chilly Chili and Calico. For some added fun, throw in some edible ornamental peppers like Mad Hatter or Candy Cane Red, since peppers labeled solely as "ornamental" are typically not suitable for consumption.

For more information on Louisiana Super Plants, please contact the Hammond Research Station 985-543-4125 or your local LSU AgCenter extension office.

*Jeb Fields, Ph.D.
Extension Specialist for Commercial Ornamental Horticulture*

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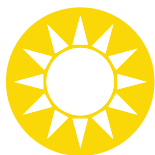


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Checklist for June, July, August



Bandana Lantana.

June

1. In the vegetable garden: It's harvest time this month for those vegetables planted in early spring! Cut back basil by half. Watch for insects and disease.
2. In the lawn: Mowing will keep you busy. When rain is scarce be sure to irrigate as needed. Summertime is the busiest time for lawns as this is the time they thrive. You may fertilize again if you applied in April, if you wish. As temperatures heat up you will need to transition from herbicides you used in spring to products that can be used in temperatures above 85 F, such as metsulfuron (MSM Turf or Celsius), that are less damaging to lawns but tough on weeds.
3. In the landscape beds: It might be time to replace spring annuals, such as petunias, with more heat-tolerant plants like periwinkle, purslane, portulaca, lantana, yarrow, sedum, gaillardia, black-eyed Susans and sunflowers.
4. Trees and shrubs: Thin fruit trees to produce larger fruit. Keep root-suckers pruned. It's harvesting time for blueberries and blackberries! Prune old fruiting canes of blackberries after harvest. Keep your figs watered if rain is scarce to prevent fruit drop at the base of the tree.

July

1. In the vegetable garden: Plant pumpkins for carving in the fall! Time for heat-set tomatoes, such as Florida 91, Phoenix, Sun Leaper, Solar Set and Sunmaster.
2. In the lawn: Keep up the mowing and be on the lookout for chinch bugs in hot, dry weather, especially in St. Augustinegrass. The grass will first

turn yellow in affected areas and then eventually die. Control with carbaryl or cyfluthrin/Imidacloprid. It's still a great time to dethatch and aerate lawns.

3. In the landscape beds: Cut back leggy annuals. Cut back daylilies about 4 inches to remove spent flower stalks and old foliage. Don't let the weeds get the best of you in your beds. Pull weeds and mulch now if you haven't already to keep beds looking good into the winter. Divide bearded iris and spider lily bulbs this month.
4. Trees and shrubs: Prune hydrangeas. It's fig harvesting time! Plant palms this month through September. Some selections suited for Louisiana are cabbage palm, needle palm, jelly palm, palmetto and Mediterranean fan palm.



Hydrangeas.



Large patch lawn damage.

August

1. In the vegetable garden: Time to plant seeds of cool-season vegetables, including broccoli, Brussels sprouts, cabbage, cauliflower, Swiss chard, collards, cucumbers, mustard greens, shallots, squashes and turnips. You can also transplant fall tomato and bell pepper plants toward the end of the month. If you planted eggplant and okra in spring and they still look good, you can ratoon them for fall production.
2. In the lawn: Watch for large patch (formerly known as brown patch in the South). It looks like large circles in the grass of yellow and brown. Brown patch is often a problem in the fall and winter, and if you had it this past year, treat your lawn with a granular fungicide containing one or more of the following active ingredients: maneb, myclobutanil, PCNB, propiconazole, thiophanate-methyl or triadimefon. Follow label instructions as it will likely be a problem again in this fall.
3. In the landscape beds: Divide overcrowded daylilies and Louisiana irises. Share them with friends and family!
4. Trees and shrubs: Spray fig trees with a copper-based fungicide according to the label after harvest has been completed to prevent the fungal disease fig leaf rust. Time to prune roses by reducing them by one-third of their height and fertilize to encourage fall blooms. Continue your spray schedule to control fungal diseases on roses.

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

Bountiful Vegetable Gardening



There seems to be a trend in vegetable gardening among homeowners these days. Over and over on social media, in emails and phone calls to the LSU AgCenter, we keep hearing about people not finding success in the vegetable garden. My favorite is the garden meme that says something like “invest \$70 into a backyard garden and get a return of \$750.” These posts usually evoke responses such as “I only make one or two tomatoes,” or “my bell

pepper plants are stunted,” or “that horrible squash vine borer just will not leave us alone!” Someone will comment, “Yeah, right. I invested \$2,000 and got 10 really expensive squash and two okra pods.” Sometimes these statements are accompanied by photographs to prove the point of being unsuccessful. Sometimes AgCenter extension agents visit home gardens to see the problem, and sometimes people are simply venting their garden woes online without also indicating what might have gone wrong.

I want Horticulture Hints readers to know that you can be successful in the vegetable garden. Success in the garden, like success in everything in life, comes with a little grit, elbow grease, and the ability to see problems and not run away. Below are a few tips I’d like you to try this summer. These tips will not solve all your problems, but they are a start. Keep letting us, the LSU AgCenter, know what problems you are having (along with a photo or two of the problem) so we can help set you back on the path of success.

1. Problem: My plants are small, they are barely growing or I do not make very much produce.

Solution: Have you applied fertilizer? Nine times out of 10 the gardener did not incorporate any fertilizer into the soil — or not enough fertilizer. Start with a 13-13-13 fertilizer broadcast into the soil before planting your seeds or seedlings. Let’s just use a medium rate of fertilizer as an example: Use 5 to 6 pounds (10 to 12 cups) of 13-13-13 per 300 square feet. If your garden is only 100 square feet then you would use 2 pounds or 4 cups of 13-13-13. If you have a 4-foot by 8-foot raised bed, that is 32 square feet and you should apply about 1 pound (actually 0.62 of a pound, but round up and make it easy). That would be 2 cups of 13-13-13 before planting. But that isn’t all. You also need to fertilize again when your summer plants begin to bloom. I like 1 tablespoon of calcium nitrate, which is 15% nitrogen, between every other plant. Apply every other week through harvest. You can also use a basic blue water-soluble fertilizer. Those are usually 15% nitrogen as well, and you would apply 1 tablespoon per gallon of water and drench your plants every other week through harvest. This extra bump of nitrogen really increases plant growth and yields.

2. Problem: That squash vine borer comes every year, and my vines are just wilting. It’s in my pumpkins, squash, zucchini, etc.!

Solution: Move. Seriously, just get a new house and a new garden. We know it is not practical, but once these moths find you, they have written your address down in their book. So, start by covering your



Adult squash vine borer.

cucurbit plants with insect netting. The netting lets in light but also keeps adults (moths) off your plants. Remove the netting after flowers begin to open. Now you need bees. Otherwise, you will have beautiful plants and vines and no fruit. Next, the moth will come back to find you, so be prepared. Scout your plants three to four times a week. As soon as you see the holes be prepared to mix up an insecticide with the active ingredient bifenthrin. Mix it according to the label. Don't guess. If you guess then it won't work for any of us because the larvae will eventually become resistant, and the chemical does not work anymore. Spray the solution right where you see the small hole with "saw dust" coming out of it. That should kill the larvae. You don't want to use insecticides? Use an X-Acto knife, cut a 1-inch slit parallel with the vine above and below the little hole with sawdust coming out of it. Hand remove the larvae and wrap the vine back together with a small rubber band just tight enough to keep it together without choking off the plant. Also, try not growing any cucurbits for one year. Let the moths go somewhere else and then slowly get back into it.



3. Problem: My vegetable garden costs me too much money to grow.

Solution: Convince your neighbor to grow a vegetable garden and give you the excess. I kid that the only people saving grocery money are those people who live next door to a vegetable gardener. All kidding aside, remember this is a hobby for you. It's also a form of exercise. Cut the gym membership and buy an extra bag of fertilizer and flat of plants. Well, you say, I still need to go to the gym. I agree. I should be there too. Think of the garden as your own private meditation. Breathe in fresh air. No one is bothering you because the kids think you're giving yourself a chore. In the crazy busy world we live in, we do not spend enough time outdoors being in nature and watching slow growth and tiny blooms. Turn off your phone, order in dinner

— because you know you will be out there until 8:30 p.m. — and think of this as an alternative to therapy. Some reading this article will say, "I don't need therapy. This is still not saving me money." Here is my last solution to help you save yourself money in the garden:

- Step 1.** Find a 5-gallon bucket in your shed that has a crack or a broken handle. Do not throw it out.
- Step 2.** If the crack is not big enough, hit it with a hammer and make it bigger. We need drainage.
- Step 3.** Fill it with a decent potting soil. Yes, go buy a nice bag of potting soil.
- Step 4.** Plant three to five cucumber seeds in the bucket. Once they emerge, thin them down to two plants. Or purchase one cucumber seedling and plant it in the middle of the pot.
- Step 5.** Insert one tomato cage into this 5-gallon bucket.
- Step 6.** Water each night as you come home from work.
- Step 7.** When it starts to bloom, give it a little fertilizer, as I mentioned in problem/solution Step 1. You do not need to add any before planting if this is fresh soil with a fertilizer already in it.
- Step 8.** Email me and tell me how many cucumbers you picked off that single plant this summer.

You will feel good, I promise! And, just maybe, you will plant a second bucket next year.

Enjoy the Garden,

*Kathryn "Kiki" Fontenot, Ph.D.
Vegetable Gardening Specialist
LSU AgCenter School of Plant,
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Tips for Summer Care of Turfgrass

Summer is the peak growing season for lawns in Louisiana. If you did not fertilize during the spring, you still have time to fertilize and get your yard in good shape prior to fall. Keep up a good fertility program through early to late August. Remember to apply all granular materials on a dry lawn and water very soon after application. Make sure lawns are getting adequate amounts of moisture during the summer months, but don't overwater. Water deeply only once or twice per week or as needed based on the amount of rainfall. The purpose of irrigation is to supplement rainfall. I am not a fan of watering lawns everyday unless we are in severe drought.

Consider aerifying compacted soil. I've seen aerification completely change thin lawns caused by compacted soil into thick and healthy turf. Aerifying helps with water percolation and increases the turf's rooting depth and makes for a more drought-tolerant lawn. Lawn care companies can aerate, or you can rent an aerator from a rental store and do it yourself. If your soil is prone to compaction, consider aerating one to three times this growing season. Aeration may be the game changer that your lawn is missing.

Fertilizing the lawn

St. Augustinegrass and zoysia both respond well to fertilizer applications. St. Augustinegrass may be fertilized up to three times during the growing season in April, June and mid-August. Fertilize zoysia twice per growing season in April and again in July.

Bermudagrass is an even bigger fertilizer user and can be fertilized from three to five times during the growing season, especially if you like to mow grass. Carpetgrass and centipedegrass are not big fertilizer users. Up to two applications (in April and an optional application in July) will take care of centipedegrass, and a single application will be sufficient for carpetgrass (April).

Centipedegrass should receive its second and final fertilizer application in July. For centipedegrass, apply only one-half pound of actual nitrogen per 1,000 square feet. For example, apply 3 pounds of 17-0-17 per 1,000 square feet or 5 pounds of 10-0-10 per 1,000 square feet. St. Augustinegrass would need 6 and 10 pounds of the aforementioned fertilizers.

If your lawn is not performing well, there could be a nutrient deficiency in the soil. The only surefire way to know what your soil needs is to collect a soil sample and submit it for testing at the LSU AgCenter Soil Testing and Plant Analysis Lab. To simplify the soil sampling and submission process, there are pre-addressed submission boxes with sampling

instructions at several garden centers throughout the state and at your local parish extension office. Once submitted, the results will be sent to your home mailbox and or email, usually in less than two weeks. Your parish LSU AgCenter extension agent can help you interpret the results from the soil sample and tell you exactly what's needed nutrient-wise to make your lawn beautiful.

Correct mowing heights are highly important

You may not know this, but there is a correct mowing height for your lawn. St. Augustinegrass is very finicky when it comes to mowing height. Don't cut it too short and don't allow it to get too tall. It likes to be maintained around 3 inches, the tallest mowing height of all the lawns grown in Louisiana. If you cut St. Augustinegrass too short, it becomes stressed and more prone to disease and weed infestations.

Centipedegrass is often maintained too tall. Centipedegrass should be mowed to 1 to 1.5 inches. This helps prevent thatch buildup. Zoysia also likes to be mowed in the 1-to-1.5-inch range. Bermudagrass should be mowed from 1 to 2 inches, shorter mowing heights are better when more frequent mowing is possible. Keep mower blades sharp to ensure a clean cut and good lawn health.

Insect pests



Armyworm defoliating bermudagrass

Watch for chinch bugs in St. Augustinegrass and bermudagrass lawns and treat with an LSU AgCenter-recommended insecticide such as bifenthrin (Talstar and many other trade names). Chinch bug problems show up as yellowish-brown to straw-colored areas of the lawn during hot, dry weather. These insects extract plant juices from turfgrass stems and crowns while pumping toxic salivary fluids into the lawn. The fluids disrupt the plant's vascular system. The damage actually resembles herbicide damage.

Check for chinch bugs in the lawn by saturating suspected areas with a gallon of water mixed with a few squirts of lemon dishwashing soap. This soapy solution irritates chinch bugs and brings them up near the grass surface so you can see them and determine if the bugs are causing the lawn damage. If it's hot and dry and there are dead spots in your St. Augustinegrass, chinch bugs are the first thing that I would consider.

Additional insect problems that appear during the summer include armyworms and tropical sod webworms. These moth larvae or "worms" can cause severe lawn damage very quickly and will need to be killed with insecticides to prevent further damage. Tropical sod webworms can devastate St. Augustinegrass and carpetgrass lawns. Tropical sod webworms crushed St. Augustinegrass in 2020. However, populations were not severe in the 2021 growing season. Armyworms prefer bermudagrass and can completely defoliate acres of pasture and lawns. Carbaryl, bifenthrin and chlorantraniliprole insecticides are options for tropical sod webworms, armyworms, as well as chinch bugs infesting the lawn.

Be mindful of these pests as you walk through your lawn. Investigate damaged areas and treat accordingly.



Tropical sod webworm caused heavy damage in St. Augustinegrass lawns in 2020

Virginia buttonweed and other summer weeds

In late spring to early summer, Virginia buttonweed starts forming mats that can eventually smother out the lawn. Pull up small populations of Virginia buttonweed or carefully treat with herbicides like metsulfuron (MSM Turf and other trade names) or Celsius. These herbicides work well with repeated applications spaced four to six weeks apart. Metsulfuron and Celsius can be safely applied on St. Augustinegrass, centipedegrass, bermudagrass and zoysia during warm weather. Carpetgrass will be damaged by the herbicide Celsius. Bahiagrass will not tolerate metsulfuron or Celsius. When it comes to "managing"



In late spring to early summer, Virginia buttonweed starts forming mats that can eventually smother out the lawn.

buttonweed it is important to start spraying early in the growing season (April) and spray often. Don't wait until September to make your first herbicide application.

Common lespedeza is a mat-forming annual legume that emerges in the spring and lingers deep into fall throughout Louisiana. By late summer, the plant matures and becomes woody-like and tough on lawnmower blades. Metsulfuron works well on this weed, but early summer applications are more effective.



Common lespedeza is a mat-forming annual legume that emerges in the spring and lingers deep into fall throughout Louisiana.

Torpedograss is a perennial grass that's mainly a problem in south Louisiana, but I do get calls about it from north Louisiana as well. There are few lawn problems more devastating than a torpedograss infestation. Torpedograss is extremely tolerant of herbicides and easily outcompetes slow-growing grasses like centipedegrass.

The weed often starts from soil brought in during flower bed construction. However, it quickly spreads from the flower bed to the lawn. The ability to suppress torpedograss in lawns depends on the turfgrass species. Selectively removing torpedograss out of lawn grasses and sports fields is rarely completely achievable.

Quinclorac (Drive and other trade names) is an herbicide that is somewhat effective in suppressing torpedograss in bermudagrass and zoysia. Unfortunately, you cannot use quinclorac in centipedegrass and St. Augustinegrass.

Sethoxydim (Bonide Grass Beater and other trade names) will temporarily injure torpedograss infesting centipedegrass, but it does not provide long-term control. The torpedograss recovers and the weed re-infests the centipedegrass. Unfortunately, there are no selective herbicide options for torpedograss infesting St. Augustinegrass. Often, complete renovation is necessary when centipedegrass and St. Augustinegrass are severely infested.

If you decide to renovate and install a new lawn, consider sodding the lawn with zoysia (semi-shady or full sun lawns) or bermudagrass (for full sun only). Converting to zoysiagrass or bermudagrass will allow the use of quinclorac, the most effective selective herbicide on torpedograss. Installing zoysia may be the better fit for Louisiana because of its good shade tolerance and drought tolerance. Zoysia is not a high maintenance grass when managed properly. Maintain zoysia at 1 to 1.5 inches with a sharp mower blade and fertilize twice per year. There are several sod farmers in Louisiana that grow zoysia, so it is readily available.

Proper lawn maintenance keeps your lawn healthy and reduces the need for the use of pesticides. If it becomes necessary to use a pesticide in the lawn, it is highly important to always read and follow their labels before using. The label will tell you how to use the product safely to achieve satisfactory results. You will find the label attached to the product's container.

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Need help with your garden?

Get It Growing with Heather Kirk-Ballard

Get the latest lawn and garden information designed for Louisiana gardeners from Heather Kirk-Ballard and the LSU AgCenter Get It Growing series. Find useful lawn and garden tips through television, print and the web.



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Leaf Spot and Fruit Rot of Strawberry

A new disease, Pestalotia leaf spot and fruit rot, which is caused by the fungus *Neopestalotiopsis* species, has been detected in strawberries in Louisiana. An aggressive form of this pathogen was first detected in Florida during the 2018-19 growing season. The disease has since been confirmed in Georgia, North Carolina and Texas. More recently, the pathogen has been detected in strawberry fields in south Alabama.



Figure 1: Initial leaf spot symptoms produced by *Neopestalotiopsis* species. Photo by Raj Singh.

Initially, the pathogen causes leaf spot and fruit rot but later infects crowns and roots, leading to plant death. Leaf spots vary in size and are light to dark brown with tan centers. Similar spots appear on the fruits, but these spots are slightly sunken and cause rotting of fruits. As the disease progresses, tiny black fungal fruiting bodies appear on both leaf and fruit spots. These fruiting bodies produce spores under favorable environmental conditions. The disease favors extended rainy weather, and disease development is optimal between 77 to 86 degrees F.

The disease spreads to new strawberry fields by means of infected transplants. Once introduced, the pathogen spreads within a field or to nearby fields by rain splashes and irrigation water, contaminated field equipment, and field workers.

Successful disease management requires integrating cultural and chemical control practices. Growers must buy disease-free, healthy transplants to avoid introduction of the pathogen to new fields. Careful inspection of transplants is necessary, as initial disease symptoms may not be readily visible. Sanitation of farm equipment is helpful in reducing local disease spread within and to nearby fields. Farm workers should limit field activities when plants are wet.

The leaf spots and fruit rot caused by *Neopestalotiopsis* species can be easily confused with other strawberry diseases; therefore, accurate diagnosis and identification is required. If you suspect



Figure 2: Older leaf spots exhibiting tiny black fruiting bodies of the pathogen in the center (pointed by black arrow) of an older leaf spot caused by *Neopestalotiopsis* species. Photo by Raj Singh.



Figure 3: As single spore (1000-times magnification) of *Neopestalotiopsis* species. Photo by Raj Singh.

this new disease in your strawberries, please contact your local parish agent. The LSU AgCenter Plant Diagnostic Center is available for your plant diagnostic needs. If you need more information regarding sample submission, please call 225-578-4562 or visit our website at www.lsuagcenter.com/plantdiagnostics.

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