



GNO Gardening Magazine

March 2020

In This Issue:

What's Bugging You? Crane Flies

By: Chris Dunaway

Fight the Bite! Tip 'n Toss

By: Victoria C. Bell

Microbial Biopesticides

By: Dr. Joe Willis

Super Plant Spotlight: Make Your Bedding Plants Super with this Dynamic Combo.

Serenita Raspberry Angelonia, Kauai Torenia and Little Ruby Alternanthera

By: Anna Timmerman

March Planting Guide

Farmer's Markets in the GNO Area

In the Kitchen with Austin

Upcoming Events

March Garden Checklist

Lawn Do's & Don't's



Photo of a crane fly
Tipulidae spp. being eaten
by a common Jumping
spider *Phidippus audax*.
Photo by Katrina Dunaway.



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What's Bugging You? Crane Flies!

If you have been outside lately, left your porch light on or maybe even seen what look like giant long legged bugs flying around and bouncing off walls, then you have likely seen crane flies. Many people mistakenly call them mosquito hawks but neither the adult or immature form of crane flies eat mosquitos or mosquito larvae.

Description

Adult crane flies within the genus *Tipula* are large tan or brown, long-legged, spindly bodied flies varying in body length from 0.39-0.98 inches (10-25 mm) for most species.

However, the giant crane fly, *Tipula abdominalis*, which does occur in Louisiana, may reach 1.9 inches (50 mm) in body length. The wings of most species are transparent, but a few possess dark wing patches. Many smaller species of crane flies are included in other genera, and some small species may be mistaken for mosquitoes. Crane flies possess greatly reduced mouthparts and short antennae composed of many similarly shaped segments. The presence of a distinctive V-shaped depression on the pronotum behind the head is diagnostic for the family. The genus *Tipula* exists in a bewildering variety of subtle variations, with almost 500 species in North America alone and approximately 2,500 species worldwide. *Tipula* is one of the largest genera

of animals, possibly only surpassed by the beetle genus *Agrilus* (approximately 3,000 species).

Larvae of crane flies are brown, fleshy, cylindrical maggots without legs. They bear an array of fingerlike

appendages on the rear end surrounding the spiracles (breathing orifices). Larvae can be quite large, up to 1.9 inches (50 mm) in body length.

Life Cycle

The larvae of crane flies occur in moist soil, forest leaves and wood litter and in aquatic habitats associated with organic matter, depending on the species. Most species are generalist detritivores, but a few may feed on living plant tissue,



A resting adult Crane Fly. Photo by Katrina Dunaway

such as grass roots. Larval durations vary according to species, but several generations per year are possible. Adults are short-lived, do not feed and live only long enough to mate and deposit eggs, typically not more than a week. Mating occurs a short time after adult emergence and may be preceded by a low-altitude mating flight just above grassy or herbaceous vegetation.

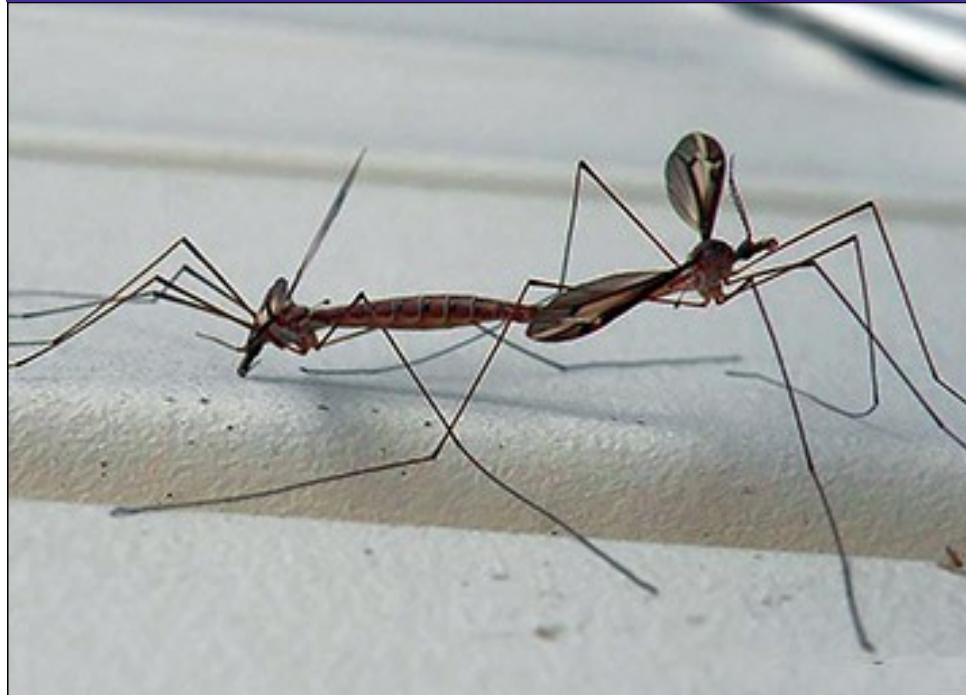
Ecological Significance and Pest Status

Larvae of crane flies are important in nutrient recycling of organic matter in both terrestrial and aquatic systems. The slow-flying, clumsy adults are an important forage base for birds, lizards and other insectivorous animals, including predatory insects

March Vegetable Planting Guide

Crop	Recommended Variety
Cantaloupe	Ambrosia, Aphrodite, Athena, Primo, Vienna
Collards	Champion, Flash, Georgia, Top Bunch, Vates
Cucumbers	Dasher II, Diva, Fanfare, General Lee, Indy, Olympian, Sweet Success, Sweet Slice
Cucuzzi	None Given
Eggplant	Dusky, Night Shadow, Epic, Santana, Calliope
Kohlrabi	Early Purple Vienna, Early White, Vienna, Winner
Lima Beans (bush or pole)	Dixie Butterpea, Jackson Wonder, Thorogreen Florida Speckled, King of Garden
Okra	Annie Oakley, Cajun Delight, Clemson Spineless
Peppers, Bell (transplants)	Aristotle X3R, Jupiter, Lilac, Plato, Tequila
Peppers, Hot (transplant)	Grande, Tula, Mariachi, Mitla,
Pumpkins	Atlantic Giant, Baby Bear, Prankster, Sorcerer
Radishes	Cherriette, Champion, White Icicle, April Cross
Snap Beans (bush or pole)	Bush-Blue Lake 274, Bronco, Derby, Lynx, Strike Pole-Blue Lake, Kentucky Blue, McCaslin
Southern Peas	Queen Anne, California #5, Quickpick, Colussus
Summer Squash	Gold Rush, Justice III, Multipik, Patriot II
Sweet Corn	Merit, Silver Queen, Honey 'n Pearl, Ambrosia
Swiss Chard	None Given
Tomato (transplant)	Better Boy, Big Beef, Cupid, Pink Girl, Juliet, Sweet Milton, Bella Rosa, Carolina Gold
Winter Squash	Honey Bear, Sweet Mama, Table Queen, Tivoli

What's Bugging You? Crane Flies!



A mating pair of adult Crane Flies. Photo by Marvin Smith

and spiders. Early spring in Louisiana is heralded by the mating flights of crane flies in yards and fields. Adults are attracted to lights and often congregate around porch lights when few other insects are active during warm late winter evenings. The colloquial



A Crane Fly larvae. Photo by Jessica Louque Smithers Viscient

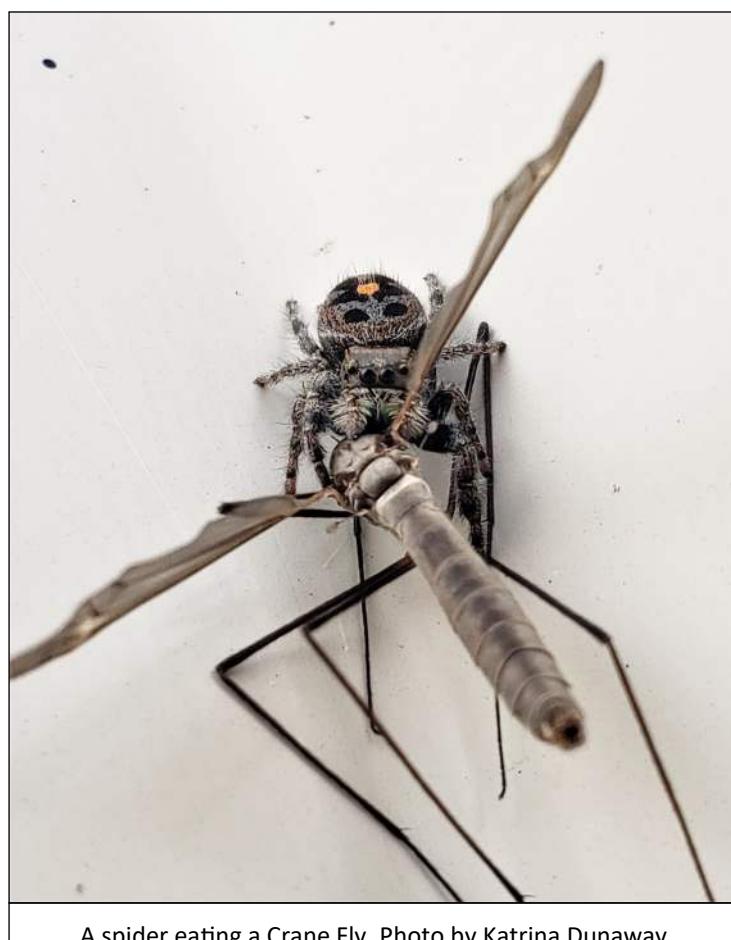
common name “mosquito hawk” refers to the mistaken belief that adult crane flies prey on mosquitoes. In fact, they do not feed at all. Larvae of some species in western North America are considered minor pests of lawns and turf grass, where they are referred to as “leather jackets.” None of the species occurring in Louisiana are considered pests. An interesting Louisiana connection exists in the

taxonomy of crane flies. The late LSU herpetologist Douglas Rossman (1936-2015) was an avocational crane fly taxonomist and has a species named in his honor, *Tipula rossmani*, based on specimens from Louisiana. The remarkable diversity of crane flies is known mainly through the productivity of two specialists of the group, Charles P. Alexander (1889-1981) of the University of Massachusetts and George W. Byers (1923-2018) of the University of Kansas.

Control

No control is recommended for crane flies. Accidental entry into homes can be prevented by turning off lights and sealing points of entry, such as loose-fitting doors.

~Chris Dunaway



A spider eating a Crane Fly. Photo by Katrina Dunaway

Fight the Bite! Tip 'n Toss

It is a well-known fact that you should not leave standing water in your yards, as it can breed mosquitoes. Even though we are in that time of year when the weather can change daily, mosquitoes are always a problem. In spite of our roller coaster weather patterns, be it hot, cold, wet, or dry, in Southeast Louisiana mosquitos are never really gone. And mosquitoes are not just a stinging, biting itchy nuisance, they can carry a number of diseases, one of which is Zika.

The Zika virus is a relatively new "flavivirus," originally discovered in 1947 in the Zika forest of Uganda. Initially the

virus was concentrated in Africa and Asia, spreading across to the Pacific Islands by 2015. By 2016, Zika was found in the Americas, believed to be brought to Brazil during the 2014 World Cup by a Polynesian tourist, and igniting a major public health crisis just in time for the 2016 Summer Olympics. While the Zika virus is primarily transmitted through the bite of an infected mosquito, it can also be passed from infected human to mosquito, thus allowing for the reproduction and distribution of the virus in a new geographic location. Also in 2016, Zika made its way to the US mainland and to Louisiana, which had 39 confirmed cases by the end 2017.

The principal carrier of Zika has been the *Aedes aegypti* mosquito, known as the yellow fever mosquito, and now is being found to be carried by the *Aedes albopictus*, the Asian tiger mosquito. Both mosquitoes are present in Southeast Louisiana and create round the clock challenges to staying bite free. The *Aedes aegypti* is known to be active in early morning or late afternoon while the *aedes albopictus* is also active in full sunlight. Wearing insect repellent all day is one option to fight the bite and controlling their

reproduction is another.

Both *Aedes* mosquitoes thrive in urban environments as they will breed in the smallest of containers, including pet water bowls, plant saucers, bottle caps or the throat of a beloved bromeliad. Anything outside that collects standing water is a potential mosquito breeding ground.

There is an easy solution to interrupting the reproduction of these unwanted pests, "tip and toss." Once a week, take 10 minutes to go around your yard and get rid of standing water.

Due to vigilant efforts to eliminate the spread of Zika, Louisiana has not

experienced any new active cases of the virus. What you do in your back yard and around your property contributes to this effort and to the quality of life and health of your home and your neighborhood. Just like when we pitch in to clean out the storm drains, we need to take a little time to tip and toss any standing water outside of our homes. Just 10 minutes once a week is enough time to go around and prevent mosquito reproduction. The mosquito breeding cycle takes 5 to 7 days, so once a week is enough to eliminate that next batch from hatching. Ten minutes once a week to tip and toss! Get the kids involved, make a game out of it. It's easy and it will have a big impact.

~Victoria C. Bell

Victoria C. Bell is the Zika Prevention Outreach Coordinator for the Louisiana Department of Health, Office of Public Health, Region 1 – (New Orleans). Ms Bell maintains numerous outreach materials on Zika prevention, preparedness, detection and health impacts of the virus on pregnant woman and children. She is available for speaking engagements and/or to distribute materials at garden clubs, neighborhood association meetings, church fairs, or local festivals. She can be reached at Victoria.C.Bell@la.gov or (504)599-0120.



Microbial Biopesticides

The past several issues of GNOGardening Magazine contained articles on pesticides generally considered less toxic and more environmentally friendly such as horticultural oils, insecticidal soaps, Neem, diatomaceous earth and kaolin clay. Several of these fall into the category of “biopesticides” defined by the EPA as “certain types of pesticides derived from such natural materials as animals, plants, bacteria, and certain minerals.” This category is further divided into three classes:

1. Biochemical pesticides are naturally occurring substances that control pests by non-toxic mechanisms. Conventional pesticides, by contrast, are generally synthetic materials that directly kill or inactivate the pest. Biochemical pesticides include

substances that interfere with mating, such as insect sex pheromones, as well as various scented plant extracts that attract insect pests to traps. Because it is sometimes difficult to determine whether a substance meets the criteria for classification as a biochemical pesticide, EPA has established a special committee to make such decisions.

2. Microbial pesticides consist of a microorganism (e.g., a bacterium, fungus, virus or protozoan) as the active ingredient. Microbial pesticides can control many different kinds of pests, although each separate active ingredient is relatively specific for its target pest [s]. For example, there are fungi that control

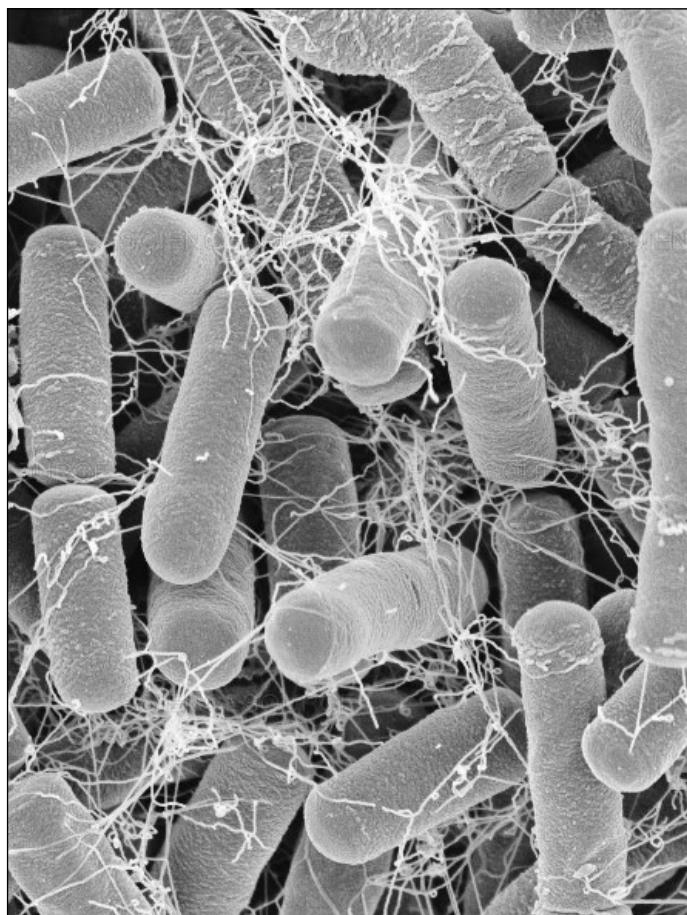
certain weeds and other fungi that kill specific insects.

The most widely used microbial pesticides are subspecies and strains of *Bacillus thuringiensis*, or Bt. Each strain of this bacterium produces a different mix of proteins and specifically kills one or a few related species of insect larvae. While some Bt ingredients control moth larvae found on plants, other Bt ingredients are specific for larvae of flies and mosquitoes. The target insect species are determined by whether the particular Bt produces a protein that can bind to a larval gut receptor, thereby causing the insect larvae to starve.

3. Plant-Incorporated-Protectants (PIPs) are pesticidal substances that plants produce from genetic material that has been added to the plant. For example, scientists can take the gene for the Bt pesticidal protein and introduce the gene into

the plant's own genetic material. Then the plant, instead of the Bt bacterium, manufactures the substance that destroys the pest. The protein and its genetic material, but not the plant itself, are regulated by EPA.

In the next few issues, we will concentrate on microbial pesticides – what they are, how they work, how to use them, etc. As mentioned above, the most widely known and used microbial pesticide is commonly called Bt. In the common vernacular, Bt refers to the group of *Bacillus thuringiensis* subspecies and the spores they produce that contain delta-endotoxins. There are at least four subspecies that are currently used for their insecticidal properties: *B.t. subsp. kurstaki*, *B.t. subsp. israelensis*, *B.t. subsp.*



Bacillus thuringiensis bacteria magnified 4,000 times.

Microbial Biopesticides

tenebrionis and *B.t.* subsp. *aizawa*.

Bacillus thuringiensis is a common, soil-dwelling bacterium that occurs naturally in the gut of caterpillars of moths and butterflies, as well as on leaf surfaces, in aquatic environments, in animal feces, in insect-rich environments, and in flour mills and grain-storage facilities. Insecticidal activity was first noticed in 1901 in silkworms dying in Japan. The bacterium causing the collapse was isolated and named *Bacillus sotto*. It was rediscovered in 1911 in the German state of Thuringia killing flour moths and thus named *Bacillus thuringiensis*. Farmers started to use Bt as a pesticide in 1920. Commercial spore-based formulations called Sporine were produced in France beginning in 1938. Sporine, at the time was used primarily to kill flour moths. In the US, Bt was used commercially starting in 1958 and first registered by the EPA in 1961. Up until 1977, only thirteen Bt strains had been described. All thirteen were toxic only to certain

species of lepidopteran larvae. In 1977 the first subspecies toxic to dipteran (flies) species was found, and the first discovery of strains toxic to species of coleopteran (beetles) followed in 1983. In 1976, it was found that endospore and crystal protein formation were encoded by genes carried on a plasmid

(extrachromosomal circular DNA common in many bacteria). In fact, *Bacillus thuringiensis*, *Bacillus cereus* (common soil bacterium) and *Bacillus anthracis* (the cause of anthrax) differ primarily in the plasmids they

harbor. These crystalline proteins are commonly called Cry proteins and the majority of cry protein genes are located on plasmids. Cry proteins or toxins have specific activities against insect species of the orders Lepidoptera (moths and butterflies), Diptera (flies and mosquitoes), Coleoptera (beetles) and Hymenoptera (wasps, bees, ants and sawflies), as well as against some nematodes.

When insects ingest toxin crystals, their alkaline digestive tracts denature the insoluble crystals, making them soluble and thus amenable to being cut with proteases found in the insect gut. This cleavage activates the Cry toxin which is then inserted into the insect gut cell membrane, paralyzing the digestive tract and forming a pore. The insect stops eating and starves to death. In 1996 another class of insecticidal proteins in *Bacillus thuringiensis* was discovered: the vegetative insecticidal proteins or Vip. Vip proteins are different from Cry proteins, have different receptors, and some kill different insects.



An example of a commercially available pesticide containing *Bacillus thuringiensis*.

Active Ingredient:	
Bacillus thuringiensis	subspecies kurstaki strain SA-12 solids, spores and Lepidopteran active toxins (At least 6 million viable spores per mg)*.....
Other Ingredients:	
Total:	1.65%
	100.00%

A close-up photo of the active ingredients from the Monterey B.t. pictured above. Notice that it contains the kurstaki strain of B.t.

Spores and crystalline insecticidal proteins produced by *B. thuringiensis* have been used to control insect

pests since the 1920s and are often applied as liquid sprays. Some common trade names are DiPel and Thuricide but they are sometimes just labeled Bt. Because of their specificity, these pesticides are regarded as

environmentally friendly, with little or no effect on humans, wildlife, pollinators, and most other beneficial insects, and are used in organic farming. CEASE is an EPA registered product that is sold as a

Microbial Biopesticides

biofungicide with a patented strain of *Bacillus thuringiensis* as the active ingredient. From the label: "CEASE can be used for organic production and targets common fungal diseases such as *Botrytis*, Powdery Mildew, Anthracnose, *Didymella bryoniae* (Gummy Stem Blight) and several leaf spot diseases such as *Alternaria* and *Entomosporium*. CEASE also controls bacterial diseases such as *Pseudomonas*, *Erwinia*, and *Xanthomonas* spp., as well as the soil diseases *Rhizoctonia*, *Pythium*, *Fusarium* and *Phytophthora*. CEASE is a contact biological fungicide containing a patented strain of the bacterium *Bacillus subtilis* which works in two ways. First, the bacterial spores occupy space on the plant surface and compete with the pathogens; then active compounds called lipopeptides produced by each bacterium disrupt the germination and growth of invading pathogens." In studies I've been able to locate, thus far, CEASE was only moderately effective.

Bacillus pumilus strain GB34 is used as an active ingredient in agricultural fungicides. The bacterium colonizes plant root hairs and prevents *Rhizoctonia* and *Fusarium* spores from germinating. *B. pumilus* is a common soil bacterium on soybean roots. Yield Shield is a concentrated form of the GB34 strain from Bayer sold as a seed treatment for a multitude of plants for suppression of *Rhizoctonia* and *Fusarium* root diseases.

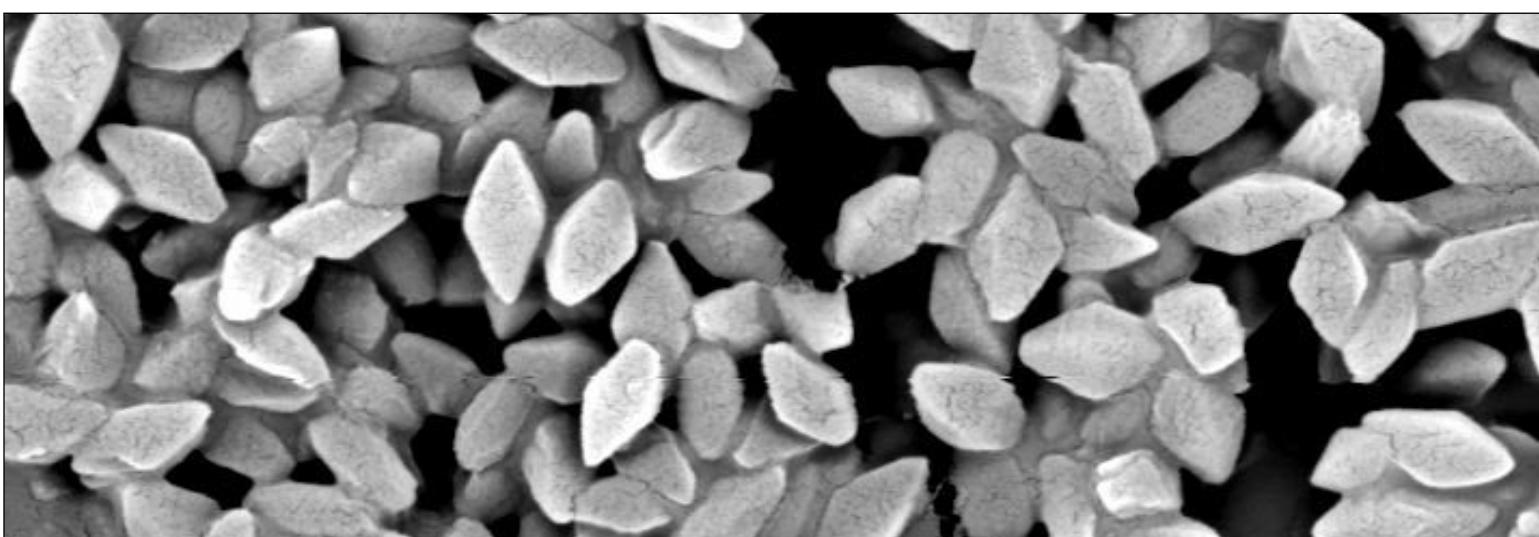
Bacillus thuringiensis subsp. *israelensis* (Bti) is used across the United States for mosquito control. Bti is

approved for aerial spraying, can be sprayed over waterbodies such as ponds, lakes, rivers and streams. Bti is used to kill developing mosquito larvae in standing water where those larvae are found. Bti can be used around homes in areas and containers where water can collect, such as flowerpots, tires, and bird baths. Bti can also be used to treat larger bodies of water like ponds, lakes and irrigation ditches.

One of the more important points to remember when using Bt products is that in order to work, the insect must ingest the product. Therefore, if a part of the plant isn't sprayed, it isn't protected. Most formulations contain surfactant and sticker components that help the material spread further and remain for long periods (it becomes rain-fast). Most also include agents to protect the spores and crystals from UV light. UV light and alkaline conditions rapidly break down the crystalline proteins.

When applying the product always read and follow the label directions. It is important to get full coverage, top and bottom. Additionally, new growth will not be protected and reapplications are necessary. All the products I've looked at labelled for use on edible crops have a 0 REI (re-entry interval) and can be applied up to the day of harvest. There are currently over 180 registered products that contain Bt. It has been used and researched for almost 50 years and is still considered one of the safest, most effective, most environmentally friendly pesticides available.

~Dr. Joe Willis



Microscopic view of B.t. crystalline proteins magnified 6,400 times.

Super Plant Spotlight: Make Your Bedding Plants Super (Plants) With This Dynamic Combo: Serenita Raspberry Angelonia, Kauai Torenia, and Little Ruby Alternathera

March is the perfect time to recharge landscape beds with warm season annuals that jazz up the place. This month's Super Plant Spotlight features three LSU AgCenter Super Plants that require identical growing conditions. All three also work within a nice purple-violet color palate and can be used in combination to create an instant, impactful warm season garden design. Use this recipe for success to make all of your neighbors jealous!

Required growing conditions: Choose an existing landscape bed or create one with full to partial sun (6-8+ hours per day). Be sure that the soil is well draining and fertile, add soil amendments if needed to correct any nutritional or soil structure issues. Add some slow release fertilizer or compost to the bed so that it will feed the bedding plants throughout the warm season. A soil test will help guide you with your application rates.

Plant Placement:

Working in existing areas



Various colors of Kauai Torenia



Serenita Raspberry Angelonia

landscaped with evergreens or other shrubs is possible with these plants. Many of us have a permanent planting within the bed and like to spot in annuals for seasonal color. Each of these three plants has different heights and growth habits, so follow this formula:

Plant Little Ruby Alternathera near the back of the landscape bed, against the house foundation, or closest to existing perennial landscape plants.

Alternathera grows about 12" tall and will spread 14-16" wide. Plant them 12" apart so that they grow together into a massed planting for maximum visual pop of deep violet/mauve. A single row or a staggered double row is best so that they grow into one another.

Next, plant the middle section of the bed with Serenita Raspberry Angelonia, which is a smaller, trailing variety. It tends to grow 10-14" tall and spreads out to 10-12" wide. Its violet-red flower spikes contrast nicely with the darker violet tone of the Little Ruby Alternathera,

Super Plant Spotlight: Make Your Bedding Plants Super (Plants) With This Dynamic Combo: Serenita Raspberry Angelonia, Kauai Torenia, and Little Ruby Alternathera

which acts as a backdrop. Either clump them in odd-numbered groups or do a staggered,

which would both also work well within this landscape design.



Little Ruby Alternanthera

honeycomb pattern, leaving 8-12" between each plant.

At the front and edges of the bed, plant Kauai Torenia either in groups of three or as a massed planting 10-12" apart. Kauai Torenia grows 12" tall and will spread about 12" wide. Kauai Torenia is a nice low-growing compact form and has a little hint of yellow within a magenta and white colored flower. There are also varieties in a rose color and a lemon color,

Warm Season Care:
With a little light maintenance, this landscape bedding design can last well into the end of the summer months. Keep soil moist, but not saturated. Deadhead Angelonia as needed if a neat look and more blooms are desired. Alternathera tends to grow strongly in the summer heat, you can safely trim it back as needed. A second application of a slow release fertilizer product in July will help to keep the blooms coming for the second half of

the warm season. Be sure to mulch with pine straw or bark to suppress weeds and regulate soil moisture. A pre-emergent herbicide product can be applied to the bed after planting and before mulch is laid to help control warm season weed species.

~Anna Timmerman

[Click here or go to https://www.lsuagcenter.com/portals/our_offices/research_stations/hammond/features/super_plants_to_learn_more_about_the LSU AgCenter Super Plant program.](https://www.lsuagcenter.com/portals/our_offices/research_stations/hammond/features/super_plants_to_learn_more_about_the LSU AgCenter Super Plant program)

Independent Garden Centers in the GNO Area

Orleans Parish

Urban Roots	2375 Tchoupitoulas St., New Orleans,	(504) 522-4949
The Plant Gallery	9401 Airline Hwy., New Orleans	(504) 488-8887
Harold's Plants	1135 Press St., New Orleans	(504) 947-7554
We Bite Rare and Unusual Plants	1225 Mandeville St., New Orleans	(504) 380-4628
Hot Plants	1715 Feliciana St., New Orleans	www.hotplantsnursery.com
Delta Floral Native Plants	Pop Up Locations	(504) 224-8682
Pelican Greenhouse Sales	2 Celebration Dr., New Orleans	(504) 483-9437
Grow Wiser Garden Supply	2109 Decatur St., New Orleans	(504) 644-4713
Ninth Ward Nursery	2641 Deslonde St., New Orleans	(504) 296-8398
Jefferson Feed Mid-City	309 N. Carrollton Ave., New Orleans	(504) 488-8118
Jefferson Feed Uptown	6047 Magazine St., New Orleans	(504) 218-4220

Jefferson Parish

Perino's Garden Center	3100 Veterans Memorial Blvd., Metairie	(504) 834-7888
Rose Garden Center	4005 Westbank Expressway, Marrero	(504) 341-5664
Banting's Nursery	3425 River Rd., Bridge City	(504) 436-4343
Jefferson Feed	4421 Jefferson Hwy., Jefferson	(504) 733-8572
Nine Mile Point Plant Nursery	2141 River Rd., Westwego	(504) 436-4915
Palm Garden Depot	351 Hickory Ave., Harahan	(504) 305-6170
Double M Feed Harahan	8400 Jefferson Hwy., Harahan	(504) 738-5007
Double M Feed Metairie	3212 W. Esplanade Ave., Metairie	(504) 835-9800
Double M Feed Terrytown	543 Holmes Blvd., Terrytown	(504) 361-4405
Sunrise Trading Co. Inc.	42 3 rd St., Kenner	(504) 469-0077
Charvet's Garden Center	4511 Clearview Pkwy., Metairie	(504) 888-7700
Laughing Buddha Garden Center	4516 Clearview Pkwy., Metairie	(504) 887-4336
Creative Gardens & Landscape	2309 Manhattan Blvd., Harvey	(504) 367-9099

Plaquemines Parish

Southern Gateway Garden Center	107 Timber Ridge St., Belle Chasse	(504) 393-9300
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St. Charles Parish

Plant & Palm Tropical Outlet	10018 River Rd., St. Rose	(504) 468-7256
Martin's Nursery & Landscape	320 3 rd St., Luling	(985) 785-6165

St. Bernard Parish

Renaissance Gardens	9123 W. Judge Perez Dr., Chalmette	(504) 682-9911
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*If you would like your licensed retail nursery listed, please email gnogardening@agcenter.lsu.edu

Coming Events

Container Gardening Presentation with LSU AgCenter Extension Agent, Andre Brock Tuesday, March 10 th , 2—3 PM Laplace branch library 2920 US-51, Laplace, LA Cost=Free *Master Gardener Continuing Ed Credit!	Northshore Garden & Plant Sale Friday, March 20 th and Saturday, March 21 st , 9 AM—4 PM Covington Fairgrounds 1301 N Florida St, Covington, LA Website link: https://www.facebook.com/events/865457923887603/?event_time_id=865457930554269 Cost=\$5, Children 18 and Under Free
Tree School Thursday, March 12 th , 8 AM—4 PM Jefferson Performing Arts Center 6400 Airline Dr, Metairie, LA Website link: https://www.facebook.com/events/869588500169019/ Cost=Free With Advance Registration *Master Gardener Continuing Ed Credit!	Seasonal Herbal Salve Making at Speak Easy Farm Saturday, March 21 st , 10 AM Speak Easy Farm 1214 France St, New Orleans LA Website link: https://www.facebook.com/events/614827459369800/ \$35, Preregistration Required, Email speakeasymakers@gmail.com *Master Gardener Continuing Ed Credit!
Old Garden Rose Sale Friday, March 13 th , 4—6 PM Pelican Greenhouse, 2 Celebration Dr, New Orleans City Park Website link: https://www.facebook.com/events/896664617442606/ Cost=Free Admission	Greater New Orleans Iris Society General Meeting Saturday, March 21 st , 9 AM—Noon City Park Iris Nursery Website link: https://www.facebook.com/events/2647773011911788/ Cost=Free to members
Pelican Greenhouse Plant Sale Saturday, March 14 th , 9 AM—Noon Pelican Greenhouse, 2 Celebration Dr, New Orleans City Park Website link: https://neworleanscitypark.com/events/pelican-greenhouse-plant-sales Cost=Free Admission	Green Block Know Your Neighborhood Green Infrastructure Week March 23-27 th Website link: www.hscnola.org Cost=Free *Master Gardener Continuing Ed Credit!
Baton Rouge Spring Garden Show Saturday, March 14 th - Sunday March 15 th , 9 AM—4 PM John M. Parker Agricultural Coliseum Baton Rouge, LA Website link: https://www.facebook.com/events/179740673258496/ Cost=\$5, Children 12 and Under Free	Basic Plant ID Class with Dr. Charles Allen Featuring Over 200 Species March 24-26 th Allen Acres Bed and Breakfast 5070 Hwy 399, Pitkin, LA Website link: https://www.facebook.com/events/456648525243877/ Cost=\$300, Preregistration Required *Master Gardener Continuing Ed Credit!
Beekeeping, the Hive and the Honeybee Saturday, March 14 th , 10:30 AM—Noon New Orleans Botanical Garden 5 Victory Ave, New Orleans, LA Website link: https://www.facebook.com/events/2466150243597997/ Cost=\$15 *Master Gardener Continuing Ed Credit!	Pollinator Garden Planting Workday Saturday, March 28 th , 9 AM Centennial Park Butterfly Garden 101 Willow Drive, Gretna, LA Contact: Project Leader, Ginna Hoff at e-mail: ginna@access4less.net Cost=Free Bring tools, hats, gloves, and drinking water. *Master Gardener Volunteer Credit!

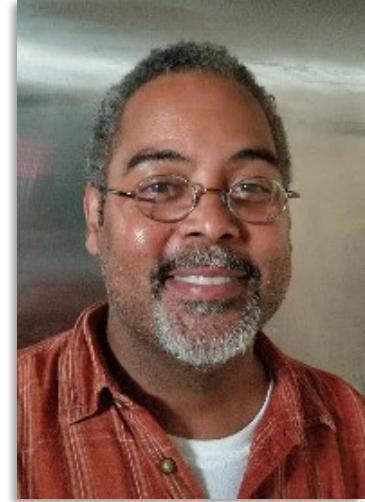
In the Kitchen with Austin

Spinach Frittata

This recipe is great as it is, but you can modify it to incorporate whatever seasonal veggies you have on hand. It is surprisingly simple and extremely satisfying. I know you'll enjoy it!



A slice of spinach frittata.



Ingredients:

- 1 Tbs. olive oil
- 1 small onion, chopped
- 1 lg. bunch spinach

Directions:

Preheat oven to 350 degrees. Spray 9-inch pie plate with Pam for baking.

Heat oil in a skillet over medium heat. Add onion and sauté until clear. Add spinach and cook until excess moisture evaporates. Let cool.

Wisk eggs, half and half, and cheese in a large bowl. Stir spinach mixture into egg mixture. Season to taste with salt and pepper.

Turn into pie pan, spreading top evenly. Bake until top is browned and a toothpick comes out clean, 40-45 minutes.

Bon Manger!

Coming Events

Herb Society Spring Plant Sale

Saturday, March 28th, 9 AM—3PM

8301 Olive Street, New Orleans

Website link: <https://www.facebook.com/events/645670989583504/>

Cost=Free admission

Louisiana Iris Bloom Celebration

Saturday, March 28th, 9 AM- 2 PM

Northlake Nature Center

23135 Hwy 190, Mandeville, LA

Website link: <https://www.facebook.com/events/1300235546828139/>

Cost=Free

*Master Gardener Continuing Ed Credit!

Fungi Fest With Coastal Plains Outdoor School

March 28-29th, 9 AM—4 PM

All You Need Institute- SE Mississippi

Website link: <https://www.facebook.com/events/640639820026153/>

Cost=\$99, Preregistration Required

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Spring Garden Day at Hammond Research Station

Saturday, March 28th, 10 AM—I PM

Hammond Research Station

21549 Old Covington Hwy, Hammond LA

Website link: <https://www.facebook.com/events/2118975708396625/>

Cost=\$5 Per Vehicle

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Native Plants: How They Help Birds, Butterflies and People

Tuesday, March 31st, 6—7 PM

Southeastern at Livingston

9261 Florida Blvd, Walker, LA

Website link: <https://www.facebook.com/events/185406369199285/>

Cost=Free

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Farmers Markets in the Greater New Orleans Area

Jefferson Parish

Fat City Farmer's Market

3215 Edenborn, Metairie

Every 2nd and 4th Sunday, 9AM-1PM

Gretna Farmer's Market

739 Third Street, Gretna

Every Saturday, except the Saturday of Gretna Fest,
8:30AM-12:30PM

Kenner Rivertown Farmer's Market

2115 Rev. Richard Wilson Drive, Kenner

Every Saturday, October-July, 9AM-1PM

Nawlins Outdoor Market

1048 Scotsdale Dr., Harvey

Every Saturday & Sunday, 9AM-5PM

Old Metairie Farmer's Market

Bayou Metairie Park, Between Metairie Lawn Dr. and
Labarre

3rd Tuesday of the month, 3:30PM-7:30PM

Westwego Shrimp Lot

100 Westbank Expressway at Louisiana St., Westwego

Daily Mon-Sat 8AM-8PM, Sun 8AM-6PM

Crescent City Farmer's Market- Ochsner West Campus

2614 Jefferson Highway, Ochsner Rehab Facility

Wednesdays, 3PM-7PM

Bucktown Farmer's Market

325 Hammond Hwy., Metairie

Weekly on Fridays, 3-7 PM

Orleans Parish

Crescent City Farmer's Market- Uptown

200 Broadway Street at the River, New Orleans

Tuesdays, 9AM-1PM

Crescent City Farmer's Market- Bywater

Chartres and Piety, at Rusty Rainbow Bridge

Wednesdays, 3PM-7PM

Crescent City Farmer's Market- Mid-City

3700 Orleans Avenue, New Orleans

Thursdays, 3PM-7PM

Crescent City Farmer's Market- Bucktown

325 Metairie-Hammond, Highway at Bucktown Harbor

Fridays, 3PM-7PM

Crescent City Farmer's Market- Downtown

750 Carondelet St at Julia, New Orleans

Saturdays, 8am-12PM

Crescent City Farmer's Market- Rivertown

Williams Boulevard at the River

Saturdays, 9AM-1PM

Sankofa Market

5029 St. Claude St., New Orleans

Monday-Thursday, 9:30AM-4:00PM

ReFresh Farmer's Market

300 North Broad St., New Orleans

Mondays, 4:00PM-7:00PM

Vietnamese Farmer's Market

14401 Alcee Fortier Blvd., New Orleans East

Saturdays, 5:30AM-8:30AM

Marketplace at Armstrong Park

901 N. Rampart, New Orleans

Thursdays, 3PM-7PM

Mid-City Arts and Farmer's Market

Comiskey Park, New Orleans

Market dates vary, check <http://midcityaf.org>

Treme Farmer's Market

814 N. Claiborne, New Orleans

Market dates vary, check <https://gloriastremegarden.com/treme-farmers-market/>

Laughing Buddha Farm Hubs

Bywater, Broadmoor, Lakeview, Irish Channel, Mid-City, Algiers Point, Uptown Locations

<https://www.laughingbuddhanursery.com/events>

Second Saturday Community Market at the Audubon Louisiana Nature Center

11000 Lake Forest Blvd., New Orleans, LA 70127

Second Saturday of the month, 8:30-11:30 AM

Marketplace at Armstrong Park

901 Rampart St., New Orleans, LA 70116 (Between St. Ann and St. Philip) 3-7 PM

St. Bernard Parish

St. Bernard Seafood and Farmer's Market

409 Aycock St., Aycock Barn, Old Arabi

2nd Saturdays, 10AM-2PM

March Garden Checklist

- ⇒ It should be safe to plant tender bedding plants now such as marigolds, zinnias, blue daze, pentas, celosia, salvia, portulaca, purslane, melampodium and others in South Louisiana. Wait until the weather is warmer in April to plant tender bedding plants in North Louisiana.
- ⇒ Continue to plant roses purchased in containers. Bare root roses available at various places, like hardware stores, garden departments of chain stores and supermarkets, should have been planted last month. If you see the bare root bushes have begun to sprout, they are not your best choice for a quality plant.
- ⇒ Begin planting warm season vegetables as soon as the weather allows. The great advantage of early planting is increased production during the milder early summer period and often fewer pest problems. For a free copy of the Vegetable Planting Guide, contact your parish LSU AgCenter Extension office or click on the following link: <https://www.lsuagcenter.com/~media/system/d/e/3/e/de3e7516e68dfee4a21a84b38caa4df8/pub1980%20vegetable%20planting%20guide%20rev%2001%2017pdf.pdf>
- ⇒ Plant summer flowering bulbs into the garden beginning in late March. Don't be alarmed if they don't take off and grow rapidly right away. Most of these bulbs are tropical and will wait until April or even early May to make vigorous growth. Wait until April to plant caladiums.
- ⇒ Remove faded flowers and developing seed pods from spring flowering bulbs that are to be kept for bloom next year. Do not remove any of the green foliage, and fertilize them if you did not do so last month. Those spring flowering bulbs being grown as annuals can be pulled up and discarded anytime after flowering. Chop them up and put them in your compost pile.
- ⇒ Established perennials should be fertilized this month. This is most efficiently and economically done by using a granular fertilizer with about a 3:1:2 ratio (such as 15-5-10) scattered evenly through the bed following package directions. After the fertilizer is applied, water the bed by hand to wash any fertilizer granules off the foliage and down to the soil.
- ⇒ As the weather warms up, lawn grasses will begin to grow and you will need to start mowing more frequently. Now is a good time to sharpen your mower blades.
- ⇒ Check your oak trees regularly (use binoculars) for masses of young, black buckmoth caterpillars, and consider having your tree sprayed if you see large numbers. You will likely need to have your tree sprayed if you saw large numbers of these stinging caterpillars last year.
- ⇒ Warmer temperatures and active growth make watering increasingly important if regular rainfall does not occur. New plantings need the most attention. They are vulnerable to drying out until the plants have a chance to grow a strong root system into the surrounding soil. Thoroughly water new plantings once or twice a week as needed, especially those in full sun.
- ⇒ For blue flowered hydrangeas add aluminum sulfate to the soil around your bushes now. For pink flowers, apply lime. Flower buds are already present so do not prune at this time.
- ⇒ Thrips are a common problem on roses in spring and early summer. Thrips are tiny insects that infest the flowers buds, and are always worse on the spring and early summer flowers. Symptoms include buds that do not open properly, and when the flowers do open the petals have brown, scorched edges. Thrips do not damage the bush, but it is heartbreaking to see the flowers ruined. Spray once or twice a week with Acephate or Mavrik for control during the early summer blooming season.
- ⇒ Fertilize roses in early March, and begin spraying regularly for disease and insect problems. For convenience, use a material that combines an insecticide and a fungicide in the same product. Follow label directions carefully.
- ⇒ Make notes on your spring flowering bulbs over the next few weeks while they are blooming. Record when they bloom, how well they performed and other relevant information. This will help you plan for what you want to plant this coming fall.
- ⇒ Powdery mildew, a fungus disease that attacks a wide variety of plants, can begin to show up this month. The disease appears as a white, powdery spot or area on foliage or flower buds. This disease can damage the foliage and cause flower buds to abort. Control with chlorothalonil or other labeled fungicides.
- ⇒ Finish up planting trees and shrubs into the landscape by the end of this month.
- ⇒ Treat tulips as annuals and remove the whole plant when they finish flowering since they will not rebloom again next year. Chop up the foliage and bulbs and add them to your compost pile.

Lawn Care Do's & Don't's

Do:

1. Get your lawn mower ready for action. Sharpen or replace the blade, check the air filter and clean out larger debris and replace if necessary. Check the oil level and change if necessary.
2. Take a soil test.
3. Apply sulfur or lime to adjust the pH if necessary according to soil lab recommendations.
4. Make the first application of the recommended rate of nitrogen fertilizer for your turf variety on or shortly after March 15. See the fertilizer recommendations on page 5 of the [Louisiana Lawns Best Management Practices Guide](#). Click here or go to <https://www.lsuagcenter.com/~/media/system/7/c/8/e/7c8e4b17a12a51839443d9296bd03edc/pub2940louisianalawnsmarch2008.pdf> to see the guide. Do not apply phosphorous or potassium fertilizer unless recommended by a soil test.
5. Apply selective herbicides and sedge killers to kill off weeds growing in the lawn. You may also scout the lawn and remove weeds by hand. Make a game out of it with kids and grandkids.
6. Continue to scout for fungal damage and control with fungicides if necessary. The most prevalent is called Large Patch of Warm-Season Turfgrass. [Click here to find information about large patch disease from the LSU AgCenter](#).
7. If necessary, kill off vegetation and prepare the soil for sod installation

Do Not:

1. Do not lay down fill over the lawn grass.
2. Do not lay sod or spread warm-season turfgrass seed.
3. Do not dethatch
4. Do not aerate the lawn.

[Click here for info.](#)



Click on the logo above or go to lsuagcenter.com/topics/lawn_garden/home_gardening/lawn

Your Local Extension Office is Here to Help

[E-mail us at: GNOGardening@agcenter.lsu.edu](mailto:GNOGardening@agcenter.lsu.edu)



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