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A honeybee collecting nectar and pollen from a a bottlebrush flower Photo by Chris Dunaway

Louisiana Lawns Part V - Soil Compaction, Thatch Control and Topdressing

or the last installment in my lawn care series I will be writing about two problems that

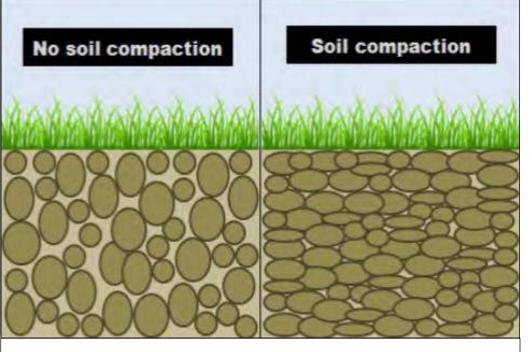
flooding. Soil compaction can also prevent root penetration and growth into the soil. Once saturated,

present themselves with opposite appearances. They are also the two conditions that can be detected more easily with your feet than with your eyes. I am talking about thatch buildup and soil compaction. I am not kidding about detecting them with your feet. Walking on a lawn with thatch buildup feels like you are walking on a floor covered with pillows. Walking on a lawn with soil compaction feels like you are still walking on the concrete sidewalk.

I have already written a comprehensive article on soil compaction for the August 2019

issue of GNO Gardening magazine. <u>You may find the</u> issue at the following link: mggno.com/wp-content/ uploads/2019/02/GN-August-2019.pdf. In summary, healthy soil consists of 50% pore space by volume. This pore space allows for water infiltration followed by the introduction of fresh air as the water recedes. Soil compaction occurs when the sand, silt, and clay particles that make up the mineral component of soil move closer together eliminating the critical pore space. Compaction is caused by the lose of organic material in the soil along with traffic on the surface. Vehicles, pedestrians, mowers and even heavy rainfall can contribute to soil compaction. Apparently, if you want a really healthy lawn, you should never actually walk on it.

Compacted soils inhibit water infiltration leading to increased run-off, including movement of pesticides and fertilizers into surface waters, erosion and



This graphic shows the relation between soil particles in compacted vs. non-compacted soil.

compacted soils are also very slow to dry. This heavy wet soil can actually suffocate some plants while others will die from the increased incident of soil borne diseases. Remember bad things grow in dark damp spaces. You can find more on soil compaction in a recently updated LSU AgCenter publication. <u>To see the publication, click here or go to: https://</u> www.lsuagcenter.com/topics/lawn_garden/ commercial_horticulture/turfgrass/managementpractices/cultural-maintenance-practices/soilcompaction-and-aerification.

Thatch buildup is another big lawn problem that I have been seeing a lot in our area. Thatch is a dense, spongy collection of living and dead grass stems and roots lying between the soil surface and the green blades of lawn turfgrass. As a grass plant grows, the older plant material collects in a layer on top of the soil. Thatch helps retain nutrients, maintain soil moisture and temperature, provides a physical

Louisiana Lawns Part V

cushion to traffic, and is a habitat for microbes and other biota. Although some thatch is desirable, too much thatch can have negative effects on turfgrass growth. Excessive thatch leads to spongy turfgrass surfaces, binds nutrients and pesticides, harbors destructive pests, and affects rooting and turfgrass tolerances to changes in temperature and drought.

Cultural Management Practices

There are three tasks that can be used to help deal with these issues.

Core Aeration

There are many methods for breaking up the soil surface to create channels for water and air infiltration and to break up soil layers. One recommended method is using a core aerator. These are mechanical or manual devices that force short hollow tubes into the ground which will remove a plug of soil leaving an open channel behind. Topdressing the area after core aeration will improve soil drainage, air infiltration and improve the health of the turfgrass.

Thatch Management



The thatch layer can be seen in this lawn after edging.



Core aeration using a manual aerator. Notice the soil cores on the surface.

As with soil compaction, there are many ways to help combat thatch buildup in your lawn. Proper cultural practices of fertilizing and mowing can have a significant effect on thatch buildup. Simply raking the lawn can help reduce thatch.

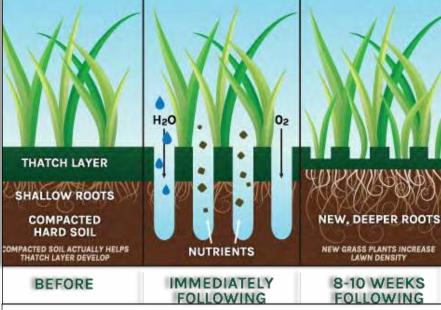
Topdressing

I am covering this topic last but topdressing is one of your first management options to help control both compaction and thatch buildup and can be used alone or with both aeration and dethatching.

The term 'topdressing' is used for both the material used and the process of adding a thin layer of material to the surface of a turfgrass or seedbed. This topdressing material can be sand, soil or compost or a blend of one or more of these. Topdressing has many purposes and benefits such as: reducing thatch layers, smoothing and leveling the surface, filling cracks and gaps, improving or altering the root zone structure, improving overseed or sprig establishment, helping conserve moisture, reducing turf disease, and aiding in damage recovery from vertical mowing or core aeration.

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The extent of topdressing and type of materials depend on the purpose. Topdressing material is usually a sand or sandy soil. Some use a 50:50 mix of sand and finely screened compost. The mix selected is often similar to or lighter than the current root-zone mix so that it blends well with the root zone soil structure to prevent soil layering. Soil layering can have a major effect on water movement into the soil as well as inhibiting root growth. It is often best to topdress at lighter rates more frequently than apply heavier amounts less frequently. For soil modification our experts recommend adding up to 1/2 inch of topdressing material over the surface. This would require 42 cubic feet of soil per 1,000 ft². In severe cases, topdress every 3 to 4 weeks during the warm season. For thatch management, try 1/8-inch dressing every 2 to 4 weeks and monitor the thatch layer to gauge for program adjustment. Thatch degrades best when under warm and moist environmental conditions. Using a compost mixture will improve the breakdown



This graphic depicts the benefits of core aeration by opening the soil to water and air infiltration.

of the thatch layer by increasing biological activity in the zone.

Apply fertilizer and soil amendments to the area prior to topdressing. The improved soil contact will help prevent off target movement and improve necessary chemical reactions.

It is imperative to maintain a well-managed turf.

Dense healthy lawns are less susceptible to weed and pest infestations because they are able to out-compete most weeds for space and recover quickly from damage. However, weak lawns with bare spots thinned by disease, insects and improper cultural practices are prone to decline. Cultural practices such as timely fertilization, mowing at the correct height and frequency and integrated pest management programs promote healthy lawns and significantly reduce the potential for weed establishment, invasion by pests and disease.



Chris Dunaway spreads a topdressing of compost and sand over this lawn. Spread the soil so that it falls down between the blades of grass.

~Chris Dunaway

June Planting Guide

Сгор	Recommended Variety			
Cantaloupe	Ambrosia, Aphrodite, Athena, Primo, Vienna			
Collards	Champion, Flash, Georgia, Top Bunch, Yates			
Cucuzza	None Given			
Eggplant	Dusky, Night Shadow, Epic, Santana, Calliope			
Hot Peppers (transplant)	Grande, Tula, Mariachi, Mitla,			
Luffa Gourd	None Given			
Okra	Annie Oakley, Cajun Delight, Clemson Spineless			
Peanuts	None Given			
Pumpkins	Atlantic Giant, Baby Bear, Prankster, Sorcerer			
Southern Peas	Queen Anne, California #5, Quickpick, Colussus			
Sweet Potato	Beauregard, Evangeline, Hernandez, Jewel			
Swiss Chard	None Given			
Watermelon	Seedless: Cooperstown, Gypsy, Matrix, Millennium Seeded: Mickey Lee, Sugar Baby, Amarillo			

July Vegetable Planting Guide

Start Seeds for Transplant				
Broccoli	Cauliflower			
Brussels Sprouts	Bell Peppers			
Cabbage	Tomatoes			

Direct Seed or Transplant Cantaloupe Luffa Gourd Shallots Collards Okra Southern Cucumbers Pumpkins Peas

August Vegetable Planting Guide						
Bell Peppers	Cauliflower	Irish Potatoes	Mustard	Snap Beans		
Broccoli	Chinese Cabbage	Kale	Pumpkins	Squash		
Brussels Sprouts	Collards	Lima Beans	Rutabaga	Tomatoes		
Cabbage	Cucumbers	Luffa Gourd	Shallots	Turnips		

HUMMINGBIRD PLANTS

had an overwhelming response from readers and fans last month for my hummingbird article. ...Okay, my Parrain and a couple of friends said they read it and liked it. Still, I assume lots of readers

won't offer recipes.

Trumpet vine (*Campsis radicans*) is another vine but one I don't grow on purpose. It has tubular redorange flowers on vines that grow up to 40 feet.

out there were interested in finding out more information on plants we can grow to attract and feed hummingbirds. For those of you who spent the last month waiting for the exciting followup, here you go.

There are hundreds or more plants available to us that will attract hummingbirds. Besides providing nectar, which we imitate in feeders, these plants attract insects which the birds may eat as well as provide needed shelter for the hummingbirds. Just about all plants with red, preferably



Trumpet vine flowers.

That's why I don't plant them – they take up a lot of space and can be aggressive growers. But this North American native has zero pest problems and can look nice if you have the space. Runners may pop up in the yard so it's best on a wooded edge where it can climb trees and not annoy you.

Angel Earrings

(Fuchsia spp.; actually a brand name by Suntory) are perennial plants that usually survive our winters, especially if mulched in cold weather. Long

tubular, flowers will attract hummingbirds. But they like other colors and shapes too. Here's a good sampling of what to grow and how:

Hyacinth bean (*Lablab purpureus*) is a vine we usually grow as an annual that can grow up to 20 feet long. The vines are purple and the leaves typically have a purple-ish tinge. The flowers? Yep, also purple. Native to Africa and Asia, it's very drought-tolerant but also tolerates "wet feet." It will want support so give it a fence or trellis where it tends to grow up and out. As a legume, it requires no nitrogen fertilizer. And the immature pods are apparently edible (cooked), though I've never tried them myself so I

stems have dark green foliage with pendulous, intricate flowers. With hybrids and varieties, you can find them in shades of pink to white growing a couple of feet wide and just over a foot tall. My favorites have pink four-lobed skirts with purple centers. The pendulous habit does not climb well but they look great in hanging baskets or as "spillers" in combination displays. They like morning sun with afternoon shade, or dappled shade/sun. They can be propagated by cuttings but don't sell them or you'll get in legal trouble.

Coral honeysuckle (*Lonicera sempervirens*) looks like what you'd expect to attract hummingbirds. It has tubular red flowers that grow on climbing vines

HUMMINGBIRD PLANTS

with deep green foliage. Native to North America, it has few to no pest problems. It propagates easily from cuttings too, so buy one and make your own copies.

Maypop / **passion flower** (*Passiflora incarnata*) is another native, though some man-made crosses have been developed. The natives have delicate, complex replenishes itself every year. But I've seen it survive our "winter" most years. The leaves look very much like soybean and grow to about the same height (2-3'). Red tubular flowers grow on tall spikes.

Plumbago (Plumbago auriculata) is neither red nor

tubular, but pollinators dig it. It's native to South Africa – yes, it loves heat, drought, and whatever soil. It can be maintained as a low (12-18") mound, or trimmed up to make a bush 4' tall or more. Flowers are prolific in light blue or (less commonly) white. You can even box off a row of them for a hedge effect.

Cigar plant, Bat-faced cuphea, Mexican

heather (*Cuphea spp.*) are all cuphea species and hummingbirds love them all. Mexican heather is low-growing but the others are more upright.

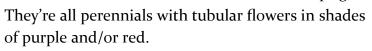
flowers with purple and white lines. Crosses can be almost white, red, or darker purple. There is symbolism in the details of the flower that are said to reflect Jesus' passion and crucifixion, hence the scientific name.

Aloe (*Aloe vera, other spp.*), the one you use for bo-bos and burns, makes tubular red or yellow flowers. There are lots of species and they're all easy-to-grow succulents. It may take a year or more, but most will eventually send up a tall flower spike. They can be grown in pots or in the

ground and they thrive on neglect.

Bottlebrush (*Callistemon citrinus, C. lanceolatus*) is a low-maintenance shrub or tree with red flowers that look like... yes, bottle brushes. Native to Australia, it tolerates drought, heat, and a wide range of soil types. Dwarf varieties grow to 12-18" tall. Full size ones can grow to trees as tall as 30' but more commonly max out at 15-20'. They can be left to grow as a thick hedge, or trimmed to a lollipop shape.

Coral bean (*Erythrina herbacea*) also requires no nitrogen, like any bean. It sprouts from seeds and



Lantana, morning glory, 4 o'clock, fire bush, red hot poker, Indian pink, shrimp plant, cypress vine, zinnia, Turk's cap, salvia...

The list of hummingbird-attracting plants goes on and on but I'm running out of space. You might check out onlineplantguide.com for more ideas. Also BTNEP (Barataria-Terrebonne National Estuary Program) has a good poster with some Louisiana natives you might like.

~Andre' Brock



Passion flowers on a vine.

Louisiana Super Plant Spotlight - 'Senorita Rosalita' Cleome

a common ornamental plant for years. The old varieties did have a few problems. Namely, spines, sticky foliage, an off-putting odor and the capacity to produce hundreds of seeds that all



'Senorita Rosalita' cleome flower.

seem to germinate. This self-seeding attribute could become a real weed problem.

But this Louisiana Super Plant is a hybrid variety that has spineless, non-sticky foliage, no foul odor and the

lso known as Spider Flower, cleome has been flowers are sterile so there is no seed production. The lavender-pink flowers are a little smaller than the old standard varieties, but it produces flowers all over the stalk and not just at the tip, it blooms continuously throughout the summer (until frost) and deadheading is not required.

> 'Senorita Rosalita' cleome prefers full sun but can grow in partial sun and well-drained soil. Grows 24-48 inches tall by 20-24 inches wide and plants should be spaced 18 inches apart. It can be planted anytime from spring through summer and is very heat and drought tolerant. Though the flowers are sterile, they still attract pollinators like butterflies and hummingbirds. It is an excellent plant to use to add height and drama to the landscape and does well in containers as a thriller.

> Plant Senorita Rosalita cleome for height and drama in the landscape. Use as a tall border in the flower garden or plant a few to add a wow factor to a specific area. Either way you plant it, Senorita Rosalita cleome will put on a super display. Proven Winners now has a white blooming member of the Senorita line -Senorita Blanca.

~Dr. Joe Willis



'Senorita Rosalita' cleome

Look At Me – Vitex agnus-castis

f you're home region is in the north, you may have seen this gorgeous tree/shrub and thought it was a different type of lilac. If your home region is the south, you know it's not lilac because they don't survive down here. A lot of gardeners know this plant and right now, it's getting a lot of attention

maintained as container specimens. Under ideal conditions, it is hardy to -9°F (Zone 6).

Vitex has aromatic, palmately-compound, grayishgreen leaves with 5-7 lance-shaped leaflets (each leaflet up to 6" long). In early Summer and often repeating in late Summer as well, Vitex is covered

from admirers and pollinators alike.

This plant goes by several other common names - chaste tree, Abraham's balm, lilac chaste tree, Monk's pepper. Vitex (a member of the Lamiaceae family) is a Mediterranean native that has been used for centuries as an anaphrodisiac (substance that quells or blunts



Figure 1: Mature specimen of Shoal Creek Vitex in full bloom.

with long (up to 12") loose panicles of tiny, lightly fragrant, lavender to pale violet flowers. Each panicle contains hundreds of typical Lamiaceae flowers, each having 2 fused petals making the upper lip, 3 fused petals making the lower lip, 4 stamens and 1 carpel. Each

the libido), thus the common name chaste tree. There is no clinical evidence supporting this belief. The use of teas, extracts and tinctures made from Vitex leaves, flowers and fruit are used for many alternative medicinal purposes with most of these lacking any supporting research as well. Me, I just appreciate its beauty and toughness.

Vitex can be grown as a small tree or as a large shrub. It can reach a size of 10-15' high by 10-15' wide; however, it tolerates pruning well and can easily be size-maintained. Vitex prefers full sun but can grow in partial sun. This is a hardy, drought-tolerant plant but can take our rainy weather as long as it is planted where it has good drainage. I've even seen these

the libido), thus the common name chaste tree. There flower produces a small globose purple fruit that has a is no clinical evidence supporting this belief. The use pungent flavor. Flowers are attractive to butterflies, of teas, extracts and tinctures made from Vitex leaves, bees and hummingbirds.

Vitex are salt tolerant with very few pest problems. The most common are root rot when grown in poorly drained soil and thrips. Because of the profuse production of seeds, it can become invasive.

Shoal Creek Vitex is designated a Louisiana Super Plant and vitex as a group as a Texas Superstar.

The wild-type variety produces pale lilac flowers but many varieties have been developed with variations in flower color, plant size and even variegated. Here are a few of them:

Look At Me – Vitex agnus-castis

'Abbeville Blue' - Blue flowers. 10-20'.

'Alba' - White blooms.

'Blue Diddley' - Low growing to 6', blue flowers.

'Blue Puffball' - Low growing to 4', blue flowers.

'Blushing Spires' - Pink flowers.

'Delta Blues' - More compact variety to 10'.

'Latifolia' - Blue/lavender blooms. Green/blue foliage. 15'

'Le Compte' – Larger spikes of purple-blue flowers. 15'

'Montrose Purple' - Tall, to 25'. Blue flowers.

'Pink Sensation' - Light pink flowers, to 15'

'Rosea' - To 10', pink flowers. Also called Pink Chaste Tree.

'Salinas Pink' - True pink flowers.

'Shoal Creek' - Larger spikes of violet-blue flowers. 15'.

~Dr. Joe Willis



Figure 3: Close-up showing individual flowers typical of the Lamiaceae family.



Figure 2: Developing panicle of beautiful lilac blue flowers. Note the palmately compound leaves.

Quick Info				
Botanical Name	Vitex agnus-castus			
Common Names	Chaste tree, lilac chaste tree, chasteberry, vitex			
Plant Type	Deciduous shrub			
Mature Size	4 to 25 feet tall; 4 to 25 foot spread (varietal)			
Sun Exposure	Full sun			
Soil Type	Loose, well-drained soil			
Soil pH	5.6 to 7.5 (acidic to slightly alkaline)			
Bloom Time	Late spring-Mid summer			
Flower Color	Violet, blue and pink			
Hardiness Zones	6 to 9 (USDA)			
Native Area	Mediterranean, Asia			

f you find yourself repeatedly pulling the same grassy weeds out of your garden, over and over, seemingly like you have déjà vu, you may have a sedge problem on your hands. If your weed cloth, mulch, cardboard, or gravel is plagued by this "grass" that keeps punching through - you guessed it, most likely you have got sedge problems.

Sedges can fool us easily. Their growth habit suggests that they are grasses, however when herbicides labeled for grass control are applied, sedges usually do not bat an eye. Pulling or digging them out reveals a vast root network, complete with little "nuts" underground, which regenerate into a new plant overnight if left in the soil. I have seen sedges pierce through a double layer of commercial grade plastic row cover like it was nothing. Sedges, it seems, are not something to take lightly.

In our gardens, lawns, and landscapes the most common sedges are yellow nutsedge (*C. esculentus*) and purple nutsedge (*C. rotundus*). Both are



Yellow nutsedge



Purple nutsedge

perennial weeds found throughout Louisiana. They have leaves that resemble a grass, however if you roll the stem of these plants between your fingers it will reveal a triangular shape. This is a good hack for determining if your zombie grass that refuses to die may indeed be a sedge, which requires some specific control tactics.

Telling yellow and purple nutsedges apart comes down to seed head coloration and the shape of the leaves, as well as the overall height of the mature plant. The seed heads of yellow nutsedge often appear in the warm season and have a yellow tint to them. The seed heads of purple nutsedge have a purple to a red-brown tone, the seeds that both produce are rarely viable. The leaf blade tips of yellow nutsedge are pointed, unlike those of purple nutsedge, which are rounded. Both have those tell-tale triangular stems that sedges are known for. A nice way to remember this is "sedges have edges, rushes are round, grasses have knees (nodes) that bend to the ground". Both prefer areas with poorly draining soil, but will take advantage of any situation, including

the most perfectly draining raised bed. Yellow nutsedges grow taller than purple nutsedges, usually around 12-16" at maturity. Purple nutsedge is much shorter, usually under 6" tall at maturity. Another triangular-stemmed sedge in our area is the diminutive green kyllinga (*Kyllinga brevifolia*) which stands about 2-4" tall. For more information on green kyllinga click here or go to https:// www.lsuagcenter.com/topics/lawn_garden/ commercial_horticulture/turfgrass/turfgrass-weeds/ sedges/green-kyllinga

For something that does not produce a lot of viable seed, sedges sure do spread in a hurry. They have underground rhizomes which form chains that spread quickly through the soil. One individual sedge can quickly form a patch up to 10' in diameter. The afore mentioned "nuts" are storage organs for sugars and carbohydrates and can create a new plant. Pieces of the rhizomes left in the soil will also regenerate into a new plant. These chains of rhizomes and nuts can run



Seed head of yellow nutsedge



Seed head of purple nutsedge

14" or more below the soil surface, and they are brittle. Pulling or digging them up often breaks them into smaller pieces, each of which has the potential to become a new sedge plant. Mud or soil adhering to vehicle tires or equipment can harbor these ticking time bombs, spreading them into new areas. When hand weeding, many gardeners remove just the tops of these sedges, which pop back up in a matter of days. Weed whacking or mowing them down produces the same results. Hand digging with a trowel or screwdriver to try and remove as much of the root system as possible can yield decent results over time, but the gardener must remain very vigilant and ready to do some heavy weeding at a moment's notice. Sedges laugh at mulch. It does not control them.

So how are sedges controlled in the lawn, garden, and

landscape? This is one of the rare instances where I recommend reaching into our weed management toolbox for a selective herbicide product. One application of the right chemical control can save years of pulling and digging, which is rarely 100% successful. Sedges are best controlled chemically when actively growing, which ensures the product is absorbed deeply into the root system. Choose to spray on a windless day, with a warm temperature and plenty of soil moisture present. This gives you the best shot at killing the rhizomes and nuts buried deeply in the ground. It is always better to spray herbicides at the right time to make them more effective, decreasing the chance that you will need to apply more herbicide. Minimizing herbicide applications and impacts is an important part of IPM (integrated pest management). Always follow label directions, the label is the law!

For controlling these sedges in the lawn, Image (Imazaquin) is a good option. It is labeled for use in



Nutsedge chain of connecting rhizomes



Nutsedge subterranean "nuts"

St. Augustine, Bermuda, Zoysia, and Centipede lawns. After applying the product, irrigate or water it into the soil with ½" of water to get it down to the rhizomes and nuts. If you don't kill those, the sedges will be back from the dead in no time. A second application may be needed to knock out any remaining survivors in 3-5 weeks. Other products for use in lawns include the active ingredients halosulfuron, sulfosulfuron, trifloxysulfuron, and sulfentrazone. Image is a good sure bet for our area and readily available at the lawn and garden centers. Sedgehammer (halosulfuron-ethyl) is also easy to find and effective if applied correctly.

For controlling these sedges in flower beds and around woody ornamental plants, Sedgehammer again is a great choice. This product cannot, however, be used around edible crops such as our vegetable gardens and fruit orchards. Control of sedges around edible plants requires the use of products labeled for safe use in these areas. Pelargonic acid (sold as Scythe by Dow) is a good option but can be expensive. Pelargonic acids are found naturally in many plants

and can kill non-target crops. A directed spray stream and is known by alternative names around the world targeting just the sedges is necessary for safe application to avoid harming your crops. Other options for use in vegetable gardens and fruit orchards include ammoniated nonanoate, which is an organic product sold as BioSafe AXXE or Mirimichi

including "earth almond" and Chufa. The roots of yellow nutsedge can be consumed raw and cooked, and have a nutty, slightly sweet flavor (yes, I have tried them). If you have ever enjoyed a cold drink of Horchata at your favorite taqueria, there is likely Green Pro. These organic herbicides are non-selective some yellow nutsedge in this vanilla laced, cinnamon

and carry the Warning label, making proper personal protective equipment (PPE) very necessary, even for organic products. Other organic options include plant essential oil-based herbicides containing citrus, clove, or cinnamon oil (SafeGro Weed Zap, Avenger Weed Killer Concentrate). These essential oil derived herbicides smell lovely, but also require PPE and a targeted application to protect crops, and they can be quite expensive. Acetic acid (vinegar) based herbicides can also work with repeated applications over time, as it will only burn the



Cross section view of triangular stem

sweet beverage, which has roots in Spanish cuisine, and is now available throughout the world wherever good Hispanic food is found. The roots of purple nutsedge are also edible but have more of a menthol-like flavor (have not tried these yet, probably will skip it). Purple nutsedge tubers are tastier after drying, which makes it taste less like Vick's VapoRub. The "nuts" of yellow nutsedge are good lightly roasted in a cast iron pan with a little olive oil and sea salt. Nutritionally they are often compared to a good quality olive. From experience,

tops out. They usually carry Danger as the signal word, and proper PPE is extremely important. These products can cause blindness if accidentally put in your eyes.

Nutsedges do have some redeeming qualities. I am a fan of knowing thine enemy and the whole "eat the weeds" movement. Yellow nutsedge is indeed edible

harvesting enough yellow nutsedge "nuts" for it to be worth the effort is difficult, but if you have already dug them up, this recipe may be worth a try. Eat the weeds. You just may enjoy it, especially if you too have been frustrated by pulling the same "grasses" up a million times, only to have them pop right back up.

What's Bugging You? Squash Vine Borer (Melittia cucurbitae)

f you've ever grown squash, you've probably

you recognized it or not. If you're growing squash for the first time, you have a high probability of seeing this pest (or its effects) unless you take action to stop it.

As demonstrated by its scientific name and common name, the squash vine borer is a pest of members of the Cucurbitaceae family, particularly squash. Squash vine borer attacks many different types of cucurbits: summer and winter squashes, pumpkins and gourds. Hubbard squash is a preferred host plant.

Occasionally, it is found in cantaloupes or watermelons. Rarely, it is a pest of cucumbers and butternut squash. The insect seems to prefer cucurbit varieties with large hollow stems; therefore, even squash, pumpkins and gourds will vary in their susceptibility to the pest depending on variety.

In our area and most of the southern U.S., there are two overlapping

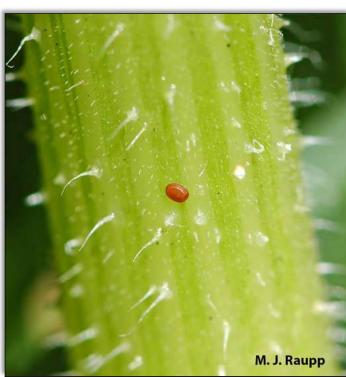
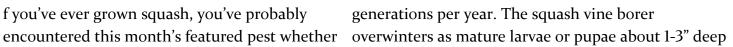


Figure 1: Squash Vine Borer egg on squash leaf petiole.



in the soil. In spring (most years in May/June), adult moths emerge, mate and begin looking for hosts. The female moth lifespan is about 5 days during which time she can lay 150-200 eggs. Male moth lifespan is about 3 days. Eggs are laid singly on stems, leaf petioles, leaves and fruit buds, usually withing a few inches of the soil line. Eggs hatch in 8-14 days and newly emerged larvae immediately bore into stems and begin feeding. Once inside the stem, larvae are protected from most predators and insecticides



Figure 2: Squash Vine Borer mature larva in squash stem.

and will spend 4-6 weeks feeding and growing to about 1" long. They emerge from the stem and drop to the ground where they burrow down and pupate. Adults emerge in 14-30 days unless it is the overwintering generation.

Eggs of the squash vine borer are dark to reddish brown, ovoid and slightly flattened. They are about 1 mm long and 0.85 mm wide. You can see

What's Bugging You? Squash Vine Borer (*Melittia cucurbitae*)

them with the naked eye because of the high color contrast between the dark eggs and the light bright green of the plant (**Figure 1**).

Larvae are creamy white with a dark brown head. They are 1.5-2mm long when they first emerge and

reach a mature length of about 1" (25 mm) (**Figure 2**).

Pupae found in the soil are mahogany brown, approximately ¹/2" (14 mm) long, and enclosed in silk cocoons.

Adult moths look like paper wasps in overall appearance. They are ½" to ¾" long (l4mm) with a bright orange abdomen and conspicuous black dots (**Figure 3**). Females are larger than males with wider abdomens. Unlike most moths, squash vine borers are



Figure 3: Adult Squash Vine Borer

damage causes infested plants to weaken, wilt and often die. Plants sometimes appear to wilt overnight as the larvae grow. The larva pushes yellow, wet, sawdust-like excrement (frass) out of its expanded entry hole in the stem. On commercial farms, losses

> due to squash vine borers can be as high as 25%. In home gardens, losses can be 100% because there's lots of moths and very few plants.

The most effective way to control squash vine borer is to stop the larvae from entering the plant stem. Once inside the stem, it is protected from predators and most insecticides. There are no recommended organic control measures that are significantly effective. Azadirachtin, neem oil,

active during the day and rest at night. They feed on nectar during their short lifespan. Legs are orange and black with white bands on the black leg area. The antennae are notably feathery, black with white bands and hooked at the tip. The wings are held flat against the body when at rest. The front pair are covered with scales that give them a metallic green to black shine. The hind pair are mostly clear. Adults fly during the day flitting around in a zig-zag pattern and are easily mistaken for wasps.

Once the larvae enter the stem, their continuous feeding damages stems so water and nutrients taken up by the roots cannot reach the rest of the vine. This

pyrethrins, and spinosad are labeled for use against squash vine borer. Kaolin clay sprays may also be used as a crop protectant. (see GNO Gardening Nov. 2019 – Oct. 2020 for articles on these alternative control options).

With the use of regular monitoring and close inspection, you may get some control by removing the eggs before they hatch. You may also be able to excise the growing larvae before they have done significant damage. This control approach is a laborious and time-consuming process.

The most effective biological control is commercially available entomopathogenic nematodes (see GNO Gardening Sept. 2020). These have been shown to

What's Bugging You? Squash Vine Borer (*Melittia cucurbitae*)

provide the same level of control as conventional pesticide applications.

Chemical control is the main method of controlling squash vine borer in the United States. Insecticides containing one of the following active ingredients has shown good control: carbaryl, permethrin or bifenthrin. These must kill the larva before it has entered the stem. Two approaches can be used to time these control sprays. One is to begin spraying once the vines begin to run and continue spraying at the shortest label recommended interval for six weeks. The second is to watch for adult moths or eggs and begin spraying once they are detected. Follow the

same regularity of spraying as in the first approach.

Homeowners can also try injecting entomopathogenic nematodes or BT into the plant stem once you notice the entry holes. With diligence, this approach is also very effective.

Another effective method is to plant a Hubbard squash as a trap plant. *Melittia cucurbitae* preferentially lay their eggs on Hubbard squash vines. Once the first flight of adults is over, remove the infested squash vine and destroy it along with the squash vine borer larvae.

~Dr. Joe Willis

Featured **BUG'S EYE VIEW** By MSU Extension entomologist Dr. Blake Layton SIGN UP Link to subscribe: extension.msstate.edu/newsletters/ TODAY! bugs-eye-view 551991 5141 EXTENSION

If you enjoy learning about insects, you might be interested in subscribing to "Bug's Eye View". Bug's Eye View is a FREE digital newsletter from MSU Extension entomologist Dr. Blake Layton. The newsletter features a different insect each week from mid-March through mid-October! Subscribe here and also view archived issues:

http://

<u>extension.msstate.edu/</u> <u>newsletters/bugs-eye-view</u>

Bug's Eye View will also be on Facebook this year.

https://www.facebook.com/ groups/msuextbev

Some recent interesting issues: Two-Striped Walking Stick, Rat-tailed

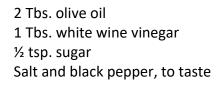
In the Kitchen with Austin

Tomato and Sweet Onion Salad

Talk about easy! This is the best summer salad ever. Fresh tomatoes, sweet onions, and garden basil, how can you go wrong?

Ingredients:

1 ½ lb. ripe mixed tomatoes
½ small sweet onion, sliced thinly
½ cup torn fresh basil leaves



Directions:

Combine tomatoes, onion, basil, oil,

vinegar, and sugar in a large bowl; season with salt and pepper and toss to combine.

Salad can be made no more than 6 hours ahead. Cover, chill, and serve.

Bon Manger!

Coming Events



NEW ORLEANS BOTANICAL GARDEN CITY PARK

Pelican Greenhouse Plant Sales

Visit the Pelican Greenhouse for a large selection of plants for sale. Many of plants are propagated from cuttings, seeds, and divisions from plants already growing in the Botanical Garden

Open weekends. Fridays, Saturdays, and Sundays from 8am to NOON

Location: Pelican Greenhouse (not inside the Botanical Garden): 2 Celebration Drive.

Visit NewOrleansCityPark.com for park map



Local Independent Garden Centers

Orleans

Orleans		
Urban Roots	2375 Tchoupitoulas St., New Orleans, LA 70130	(504) 522-4949
The Plant Gallery	9401 Airline Hwy., New Orleans, LA 70118	(504) 488-8887
Harold's Plants	1135 Press St., New Orleans, LA 70117	(504) 947-7554
We Bite Rare and Unusual Plants	1225 Mandeville St., New Orleans, LA 70117	(504) 380-4628
Hot Plants	1715 Feliciana St., New Orleans, LA 70117	www.hotplantsnursery.com
Delta Floral Native Plants	2710 Touro St., New Orleans LA 70117	(504) 577-4290
Pelican Greenhouse Sales	2 Celebration Dr., New Orleans, LA 70124	(504) 483-9437
Grow Wiser Garden Supply	2109 Decatur St., New Orleans, LA 70116	(504) 644-4713
Jefferson Feed Mid-City	309 N. Carrollton Ave., New Orleans, LA 70119	(504) 488-8118
Jefferson Feed Uptown	6047 Magazine St., New Orleans, LA 70118	(504) 218-4220
Crazy Plant Bae	800 N. Claiborne Ave., New Orleans LA 70119	(504) 327-7008
Jefferson		
Perino's Garden Center	3100 Veterans Memorial Blvd., Metairie, LA 70002	(504) 834-7888
Rose Garden Center	4005 Westbank Expressway, Marerro, LA 70072	(504) 341-5664
Rose Garden Center	5420 Lapalco Blvd., Marrero, LA 70072	(504) 347-8777
Banting's Nursery	3425 River Rd., Bridge City, LA 70094	(504) 436-4343
Jefferson Feed	4421 Jefferson Hwy., Jefferson, LA 70121	(504) 733-8572
Nine Mile Point Plant Nursery	2141 River Rd., Westwego, LA 70094	(504) 436-4915
Palm Garden Depot	351 Hickory Ave., Harahan, LA 70123	(504) 305-6170
Double M Feed Harahan	8400 Jefferson Hwy., Harahan, LA 70123	(504) 738-5007
Double M Feed Metairie	3212 W. Esplanade Ave., Metairie, LA 70002	(504) 835-9800
Double M Feed Terrytown	543 Holmes Blvd., Terrytown, LA 70056	(504) 361-4405
Sunrise Trading Co. Inc.	42 3 rd St., Kenner, LA 70062	(504) 469-0077
Laughing Buddha Garden Center4	516 Clearview Pkwy., Metairie, LA 70006	(504) 887-4336
Creative Gardens & Landscape	2309 Manhattan Blvd., Harvey, LA 70058	(504) 367-9099
Charvet's Garden Center	4511 Clearview Parkway, Metairie, LA 70006	(504) 888-7700
Barber Laboratories Native Plants	6444 Jefferson Hwy., Harahan, LA 70123	(504) 739-5715
Plaquemines		
Southern Gateway Garden Center	107 Timber Ridge St., Belle Chasse, LA 70037	(504) 393-9300
Belle Danse Orchids	14079 Belle Chasse Hwy., Belle Chasse, LA 70037	(504) 419-5416
St. Charles		
Plant & Palm Tropical Outlet	10018 River Rd., St. Rose, LA 70087	(504) 468-7256
Martin's Nursery & Landscape	320 3 rd St., Luling, LA 70070	(985) 785-6165
St. Bernard		
Renaissance Gardens	9123 W. Judge Perez Dr., Chalmette, LA 70043	(504) 682-9911
Soil Vendors		
Schmelly's Dirt Farm	8301 Olive St., New Orleans, LA 70118	(504) 535-GROW
Laughing Buddha Garden Center	4516 Clearview Pkwy., Metairie, LA 70006	(504) 887-4336
Reliable Soil	725 Reverand Richard Wilson Dr., Kenner, LA 70062	(504) 467-1078
Renaissance Gardens	9123 W. Judge Perez Dr., Chalmette, LA 70043	(504) 682-9911
Rock n' Soil NOLA	9119 Airline Hwy., New Orleans, LA 70118	(504) 488-0908
Grow Wiser Garden Supply	2109 Decatur St., New Orleans, LA 70116	(504) 644-4713

Farmers Markets in the GNO Area

Farmers Markets in the Greater New Orleans Area

Jefferson Parish

Gretna Farmer's Market 739 Third Street, Gretna Every Saturday, except the Saturday of Gretna Fest, 8:30AM-12:30PM

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-Thurs 8AM-6PM, Fri 8AM-7PM, Sat 7AM-7PM, & Sun 7AM-6PM

Lafreniere Park Market-Metairie 3000 Downs Blvd. Wednesdays, from 3-7PM

Laughing Buddha Farm Hub-Clearview 4516 Clearview Store Pickups, preorder online at <u>https://www.laughingbuddhanursery.com/buy-groceries-1</u>

Jean Lafitte Town Market-Lafitte 920 Jean Lafitte Blvd. Last Saturday of the month, 9AM-1PM

Orleans Parish

Crescent City Farmer's Market- Mid-City 500 N. Norman C. Francis Thursdays from 3-7PM Walk-up and curbside pre-orders at <u>www.crescentcityfarmersmarket.org</u>

Crescent City Farmer's Market- City Park Tad Gromley Stadium parking lot at Marconi and Navarre Sundays from 8AM-Noon Preorder contact-free drive through only, info at <u>www.crescentcityfarmersmarket.org</u>

Crescent City Farmer's Market- Uptown 200 Broadway Tuesdays from 8AM-Noon Walk-up and curbside pre-orders, info at <u>www.crescentcityfarmersmarket.org</u>

***SPROUT NOLA ReFresh Market-Truck Farm Table200 N. Broad (In Whole Foods lobby or in parking lot, weather permitting)Walk up

SPROUT NOLA ReFresh Market-Lafitte Greenway 2606 St. Louis Mondays from 3-6PM Walk up and pre-orders at <u>https://app.sourcewhatsgood.com/markets/refresh-farmers-market/products</u>

Vietnamese Farmer's Market 14401 Alcee Fortier Blvd., New Orleans East Saturdays, 5:30AM-8:30AM

Marketplace at Armstrong Park 901 N. Rampart Thursdays from 3-7PM

Farmers Markets in the GNO Area

New Orleans French Market Lower Decatur Street Daily, 9AM-6PM

Know Dat Grow Dat Microgreens & Produce Online Sales https://www.knowdatgrowdat.com/shop or https://www.knowdatgrowdat.com/shop

Mid-City Arts and Farmer's Market Comiskey Park, New Orleans Market dates vary and are on hold due to Covid-19, check <u>http://midcityaf.org</u>

Laughing Buddha Farm Hubs Pick up points vary, pre-orders available Bywater, Broadmoor, Lakeview, Irish Channel, Mid-City, Algiers Point, Uptown Locations https://www.laughingbuddhanursery.com/events

Barcelo Gardens Farmer's Market- Upper 9th Ward 2301 Gallier Street Saturdays from 10AM-1PM

Bywater Market at Trap Kitchen-Bywater 1043 Poland Ave Sundays from 10AM-3PM

Paradigm Farmer's Market-Central City 1131 S. Rampart Sundays 9AM-Noon

Lot 1701 Small Business and Farmer's Market-Central City 1701 Oretha Castle Haley Blvd. Every 1st and 3rd Saturday from 11AM to 3PM

BOUNYFUL Farmer's Market-Algiers Point 149 Delaronde St. First and Third Sundays of the month, from 11AM-3PM

Edgewood Park Market-Edgewood 3317 Franklin Ave. First market Sunday, May 2nd from 11AM-3PM

New Orleans East Hospital Farmer's Market- New Orleans East 5620 Read Blvd. First Tuesday of the Month- 3PM-Dusk Third Thursday of the Month- Noon-3PM

Sheaux Fresh Sustainable Foods- Treme-Laffite 585 N. Claiborne at Lafitte Greenway (under overpass) Wednesdays from 2-5PM Saturdays from 10AM-2PM Check for current dates/times at www.sheauxfresh.org

Holy Cross Farmer's Market- Holy Cross/Lower 9th Ward 533 St. Maurice First Saturday of the month, 9:30-Noon beginning May 1st

St. Charles Parish

German Coast Farmer's Market at Westbank Bridge Park-Luling 13825 River Road Wednesdays, from 1-6PM

German Coast Farmer's Market at Ormond Plantation-Destrehan 13786 River Road Saturdays, from 8AM-Noon

June Checklist/Garden Tips

During dry weather don't forget to keep your compost pile evenly moist. Dry organic matter will not decompose. Do not, however, keep the pile saturated as that can cause bad odors.

Powdery mildew continues to be a problem on many ornamentals (crape myrtles, euonymus, roses) and vegetables (squash, cucumbers). Treat with chlorothalonil or other labeled fungicides.

Apply paint or shade cloth to greenhouses to prevent heat buildup. Fans should run just about constantly.

Prune climbing roses and ramblers that bloom on one year old growth now if needed to shape and train them.

Prepare trees for hurricane season by pruning our all weak, rotting or dead branches. Remove dead or rotten trees that might blow over in high winds.

Remove any flowers that appear on caladiums or coleus to promote continued production of colorful foliage.

When a gladiolus finishes blooming, prune off the faded flower spike but leave the foliage intact. The foliage will produce food that is stored in the newly developing corm ensuring a large, healthy corm that will bloom well next year.

Trim dead flowers from chrysanthemums that bloomed earlier if you have not done so already. Cut plants back about half way and fertilize to encourage vigorous growth. Pinch vigorous shoots over the next six weeks to create a bushier, fuller plant. Do not pinch or cut back after late July.

Plant a row or two of peanuts in the home garden now as early summer crops are pulled up. Shell raw peanuts and plant about three to four seeds per foot of row. Water once a day until the seeds come up. Peanuts also make an excellent green manure crop. Just as the plants come into flower turn them under. They will enrich the soil with nitrogen and organic matter. Allow the bed to sit for a few weeks while the organic matter decomposes, and you will be ready to plant a fall crop.

Dig and store gladiolus corms after the foliage turns brown. The largest corms are the ones that will flower next year.

Watch the rainfall you receive carefully, as it varies widely around the area. Cut back on irrigation whenever your garden receives one half inch or more of rain. Over watering is entirely possible if you are not careful, and that can lead to fungus problems such as stem, crown and root rot.

High temperatures and high humidity create a high heat index here in the summer. Adjust your gardening schedule to take advantage of cooler times of the day. Remember to drink plenty of water.

Spray peach tree trunks with permethrin to prevent the peach tree borer from getting into the trunk and causing damage.

Keep caladiums well watered during hot, dry weather to keep the foliage in good shape through the summer. Fertilize occasionally to encourage vigorous growth. Break off any flowers that form.

Lawn Care Do's & Don't^{'s}

Do's:

2. Chinch bugs, which are most damaging during hot dry weather, often begin to show up in June. Look for irregular dead areas that enlarge fairly rapidly. The grass will have a dry, straw-like appearance. Treat with acephate, permethrin, cyfluthrin or other labeled insecticides to prevent extensive damage. Follow label directions carefully.



Image at left shows the life stages of a chinch bug from egg to adult.

- 3. Irrigate as necessary to moisten the soil to a depth of 4-6 inches.
- 4. Aerate the soil if necessary to alleviate compaction.
- 5. You may fertilize Your lawn in June if desired. See page 5 of the <u>Louisiana Lawns Best Management Guide</u> for information about proper fertilization rates for your turf grass variety.
- 6. Dethatch the lawn if necessary.
- 7. Spread fill soil and compost over the lawn to add organic material and smooth out the lawn. Do not add more than 2 inches over actively growing grass.
- 8. Set your mower to the correct height. See page 5 of the <u>Louisiana Lawns Best Management Guide</u> for information about proper mowing height for your turf grass variety.
- 9. You may still plant warm season grasses such as St. Augustine, centipede, bermuda and zoysia. You may need to pay particular attention to watering properly. Do not let the new grass dry out.

Don't's

- 1. Do not apply selective herbicides (weed killer) to the lawn. It is too hot. Pull weeds by hand or spot treat with non-selective herbicides.
- 2. Do not cut more than 1/3 of the height at a single time.

Your Local Extension Office is Here to Help

E-mail us at: GNOGardening@agcenter.lsu.edu



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For more information visit LSUAgCenter.com

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