



GNO Gardening Magazine

July 2020



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Cover Photo is of a tobacco  
hornworm caterpillar

Photo by Dr. Joe Willis

# What's Bugging You – Hornworm Caterpillars

This is the time of year when a lot of insect populations are at full swing and there are plenty of beasts to choose from for this month's What's Bugging You section. Two I'm sure you've encountered are leaf-footed bugs (GNO Gardening May 2019) and whitefly (GNO Gardening June 2020). You can read about these two pests in the referenced editions of GNO Gardening. Another very commonly encountered caterpillar this time of year is one that could be a Hollywood monster movie legend. With its gargantuan size, ominous appearance and voracious appetite, you could develop quite a script

around the hornworm. There are actually two species of hornworms that are a regular occurrence in our spring/summer gardens – the tobacco hornworm (*Manduca sexta*) and the tomato hornworm (*Manduca quinquemaculata*). They are so similar in their characteristics, that what you say about one is almost universally applicable to the other.

They can, however, be distinguished morphologically. The tomato hornworm has V-shaped yellow-white markings on the body and the tobacco hornworm has white diagonal lines. Additionally, the horn, a small protrusion on the final abdominal segment of the

caterpillar that gives the hornworm its name, is black on the tomato hornworm and reddish in color on the tobacco hornworm. The hornworms are caterpillars of the respective species of sphinx moths. The adult

moths are also very similar in appearance. Both are large moths with a wingspan of 3 to 4.75 inches. Both species are grayish-brown or dull-gray moths with the abdomen marked by a series of orange-yellow spots down each side - six pairs of spots on the tobacco hornworm and 5 pairs of spots on the tomato hornworm. The number of these spots on the abdomen are what give the insects their scientific name.

*Sexta* in Latin means six while

*quinque* means five. They overwinter in the pupal stage emerging as adults in early spring. The female moth lays 250-350 eggs singularly on host plants which hatch in about 5 days. The larval stage (the one we're most familiar with) lasts 20 days on average. The final larval instar can be 5/8" in diameter and 4" long. The pupal stage takes place 4-6" underground and averages about 50 days. In our area, we can easily have 3 to 4 generations per year.

Host plants for hornworms are members of the Solanaceae family which includes tomato, potato, eggplant, pepper and tobacco. The caterpillars



Photo by Dr. Joe Willis

A tobacco hornworm *Manduca sexta* feeds on an ornamental tobacco plant.

# July Vegetable Planting Guide

Crop	Recommended Variety
Broccoli (Seeds for transplant)	Green Magic, Everest, Castle Dome, Packman
Brussels Sprouts (Seeds for transplant)	Jade Cross E, Long Island Improved
Cabbage (Seeds for transplant)	Bravo, Rio Verde, Caraflex, Blue Vantage
Cantaloupe	Ambrosia, Aphrodite, Passport, Primo, Verona
Cauliflower (Seeds for transplant)	Snow Crown, Cumberland, Incline, Freedom
Collards	Champion, Flash, Georgia, Top Bunch, Yates
Chinese Cabbage (Seeds for transplant)	None Given
Cucumbers	<b>Slicers</b> = Dasher II, Diva, Fanfare HG, Indy <b>Pickler</b> = Calypso
Luffa Gourd	None Given
Okra	Annie Oakley, Cajun Delight, Clemson Spineless
Peppers, Bell (Seeds for transplant)	Aristotle XR3, King Arthur, Paladin, Carmen
Pumpkins	Atlantic Giant, Baby Bear, Prankster, Sorcerer
Shallots	Matador, Prisma
Southern Peas	Queen Anne, California #5, Quickpick, Colussus
Squash	<b>Zucchini</b> = Declaration II, Justice III, Payroll <b>Straight Neck</b> = Multipik, Patriot II, Liberator III <b>Crook Neck</b> = Destiny III, Gentry, Medallion
Tomatoes (Seeds for transplant)	Bella Rosa, Sun Chaser, Florida 91, Phoenix, Solar Fire, BHN-216, Solar Set
Watermelon	<b>Seedless:</b> Cooperstown, Gypsy, Matrix, Millennium <b>Seeded:</b> Mickey Lee, Sugar Baby, Amarillo

For more recommended varieties and supplier information click here to visit the  
Recommended Varieties Database on the LSUAgCenter website.

<http://apps.lsuagcenter.com/diseaseresistance/>

# What's Bugging You – Hornworm Caterpillars

develop rapidly (only 20 days) but do the majority of their damage just before pupating. This is when they consume about 90% of the plant leaf material that they will eat. This is why the damage and the caterpillar seem to appear almost “over night”. The caterpillar has been there feeding for a while but almost unnoticeably. Then – “BOOM” – you wake up one morning, stroll into the garden and are aghast that virtually overnight, your tomato plant has no leaves left on it – only skeletal veins. The culprit may still be there or may have already dropped to the soil and headed underground for the pupal stage. They also leave behind large dark-green to black pellets of barrel-shaped frass. You may often notice the frass on the leaves before the plant is totally destroyed. If so, look for the hornworm on your plant and remove it immediately.

For home gardeners, removing the caterpillars by hand is a very effective way to control hornworms. The horn may make them look fierce and dangerous, but they can be easily and safely



Photo by Dr. Joe Willis

A hornworm caterpillar has stripped the leaves of this ornamental tobacco plant.



Photo by Chris Dunaway

Look for the unique barrel-shaped frass (excreta, poo, etc.) of hornworm caterpillars. Where there is frass, there is feeding.

handled. Just pluck them off and drop them into a cup of soapy water or feed them to your chickens or friendly birds. Or you could move them to solanaceous weeds like ground cherry, horsenettle, jimsonweed and nightshade. Because they are members of the Lepidopteran insect family, they are also controlled effectively with products containing *Bacillus thuringiensis* (Bt) or spinosad. Hornworms are also the food for a tiny parasitic braconid wasp (*Cotesia congregates*) which lays its eggs on the hornworm larvae. They hatch and eat the hornworm larvae alive from the inside out. See, I told you these guys are perfect for a Hollywood monster picture.

~Dr. Joe Willis

# Super Plant Spotlight - Lemon Sedum

If you are looking for some sizzling hot color to add to your summer landscape, look no further than Lemon Sedum! This is a 2019 LSU AgCenter Super Plant addition and it will thrive in our long, hot, humid summers. Being a sedum, it is succulent and well adapted to harsh weather conditions. It is able to store water and will not get upset if the soil it is planted in dries out for a while. Lemon Sedum can be utilized as a bedding plant, a container plant, or a border for flower beds. Lemon Sedum was selected as an LSU AgCenter Super Plant for its vigorous growth and low-maintenance requirements.

The chartreuse green color and the small, white star-shaped flowers of Lemon Sedum make it pop in a garden against a palate of darker greens or even mulch, stone, or other ground cover materials. It will spread into compact mounds and when planted in a pot, it trails and spills out over the edge for a nice effect. If it gets too leggy or rangy, Lemon Sedum responds well to a trimming and the clippings can be easily rooted to produce more plants.

Because they are adapted to dry, well-drained conditions, do not plant Lemon Sedum in areas of the garden that hold water. Slightly mounding the soil before planting can help provide more ideal planting conditions for this sedum. Pots with ample drainage are always a good choice. Lemon Sedum does not need to be watered frequently, but can handle the summer rains just fine provided the soil is able to drain out any excess water.

Sedums do great in rock gardens or in between pavers as well, they require a shallow amount of soil to get established and root easily from clippings. To

establish the clippings, lightly cover them with a sandy soil so that the leaves are still showing, and keep the area moist until roots form. Lemon Sedum is a great “passalong” plant as well, so share some with a friend!



Lemon Sedum growing in a container.

Once Lemon Sedum gets established, it has few, if any pest or disease issues to contend with. Snails and slugs may nibble a bit, but will not consume the entire plant. Fertilize new plantings with a little all-purpose fertilizer to get them going. A slow release product works well and can be reapplied as needed, usually about twice per year. Lemon Sedum is happy in both full sun and partial shade. Most local garden centers and big box retailers carry Lemon Sedum, which is sometimes labeled under branded names. Just look for the happy, sunny lime green sedum and pop a few into your garden today!

~Anna Timmerman

# Water Math

When the weatherman says that there was an inch of rain, what does he mean? Technically an inch of rain is the

amount of water required to cover a given area to a depth of 1 inch. But how much water is that?

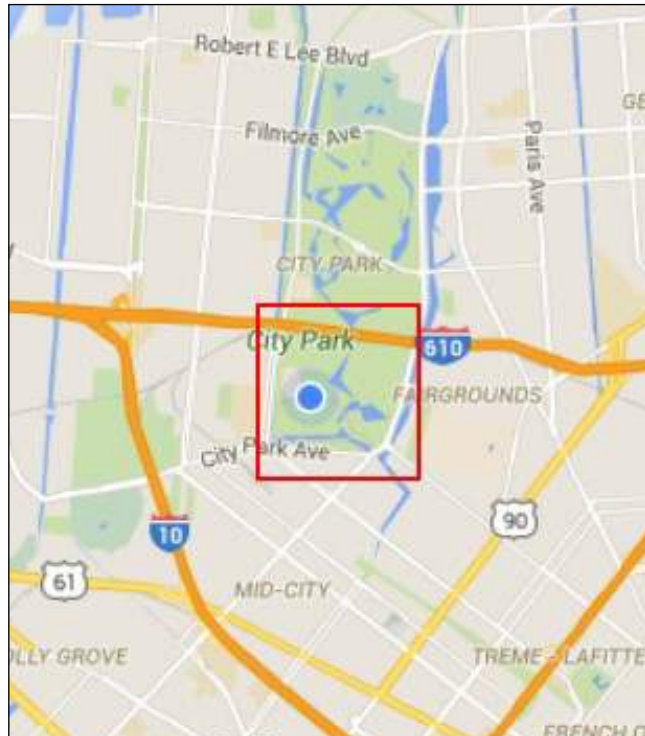
According to the US Geological Survey it takes just over 0.62 gallons of water to cover 1 square foot.

Now that we know that, how does this relate to our lawn and garden? It is a general rule that most plants need about 1 inch of water per week during the hot growing season. This does not necessarily mean that you need to give each plant 0.62 gallons of water. Instead, you should calculate the area of the root zone and multiply that by 0.62 to find the total volume of water needed. For example, a raised bed garden measuring 8' x 4' will have an area of 32 square feet.  $\text{Area} = \text{length} \times \text{width}$ . Multiplying 32 sqft. x 0.62 gallons tells us that our garden should get 19.8 gallons of water per week.

All of this water, however, should not be applied all at once. The garden design and soil texture influence how often the garden needs to be watered but raised beds and containers should typically be watered everyday. To determine how much water to apply at each occasion, divide the total gallons needed by the number of days. If we water our 8' x 4' garden everyday then we will need to divide 19.8 by 7 to see how much water we need per day. My trusty calculator shows that we will need to irrigate the whole area with 2.8 gallons of water per day. I will cover how to determine the rate of your irrigation system later in this article.

Lawn grass also needs about an inch of water per week. It is better to water deeply to a depth of 4 to 6 inches a few times per week rather than watering everyday. Here again, the soil plays an important role in determining how frequently irrigation is required.

According to the Louisiana Lawns Best Management Practices publication from the LSU AgCenter, coarse sandy soils absorb well but don't hold much moisture, so they require less water per irrigation, but require more frequent irrigation. Finer clay loams will require more water per irrigation, but supply that moisture longer than do sandy loams. Sandy soils absorb water the fastest at about 2 inches per hour. Loam soils absorb at three-quarters inch per hour, and clay soils have the slowest absorption rate at one-half inch per hour. A spade or soil sample tube can show wetting depth. Do not apply water at a rate faster



One square mile indicated by the red square on the map of New Orleans City Park will receive over 17 million gallons of water with a one inch rainfall.

than the penetration rate to avoid runoff. If you cannot adjust the flow rate you may divide the timing into smaller increments allowing the water to percolate into the soil between. Do not water again until you see first signs of moisture stress such as graying of turf or footprints that remain after walking. Light, frequent waterings wet only the surface of the soil and result in developing shallow roots and a weak turf.

You should not grow turf grass in heavy or compacted soils. You can improve the structure by core aerating and overtopping with a thin layer of fine compost and course sand. This will introduce organic matter and increase the soil permeability.

Trees should be treated differently. First, it is

# Water Math

important to know where to water a tree. Unlike grass and vegetable plants, the water absorbing roots of a tree are far away from the trunk. The thick roots next to the trunk are there for support and don't actually like getting wet. If we look at a tree as it were an umbrella, we should be watering right in the area around the drip line. The irrigation zone is the region defined by 1/2 the distance between the trunk and the drip line on one side and twice the distance from the trunk and the drip line on the other. Think of it as big donut surrounding your tree.

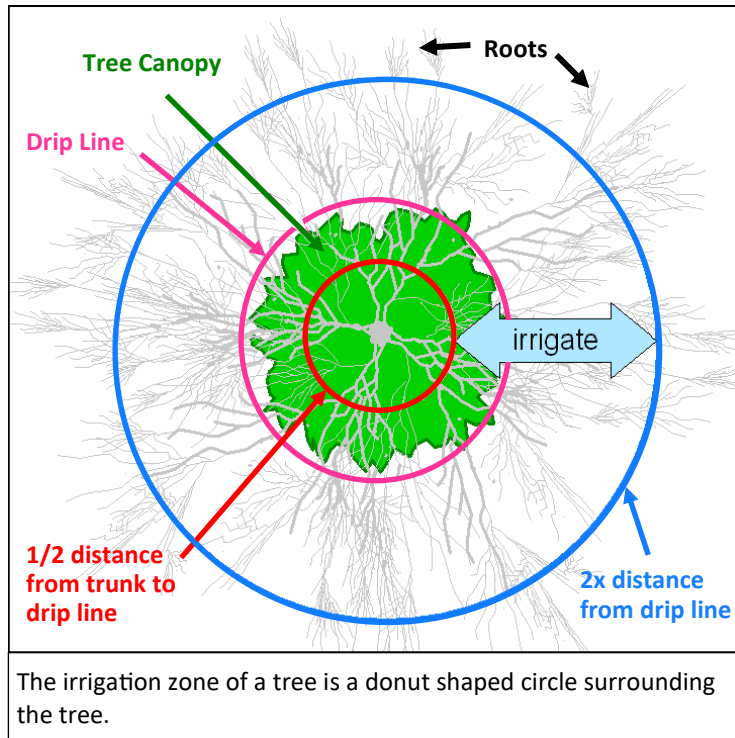
The amount of water needed depends on the size of the tree. The rule of thumb is that trees need 10 gallons of water for every inch in diameter of the trunk measured at chest height per week. So a tree with a 10 inch diameter trunk will need 100 gallons of water per week. Trees should be irrigated to a depth of between 18-24 inches. Just like grass, shallow watering can lead to weak poorly performing trees. Adjusting the flow rate to match the soil type is the best way to deep water trees. Soaker hoses work very well for this application.

With all of these situations it is important to know the flow rate of your irrigation equipment. One way to know the rate of flow is to calibrate your irrigation equipment.

A five gallon bucket works well for calibrating hose end sprayers and even soaker hoses can be calibrated by placing them in the bucket. First, mark the bucket at the 5 gallon mark. (Yes, 5 gallon buckets actually can hold more than 5 gallons.) I use a gallon jug to

measure and mark the bucket at each level from 1-5 gallons. This can be useful for slower flow rates. You

can also add 8.34 pounds of water per gallon. With the bucket marked, turn on the water to a comfortable flow rate. Start a timer as you begin to fill the bucket. Stop the timer and water when the water level



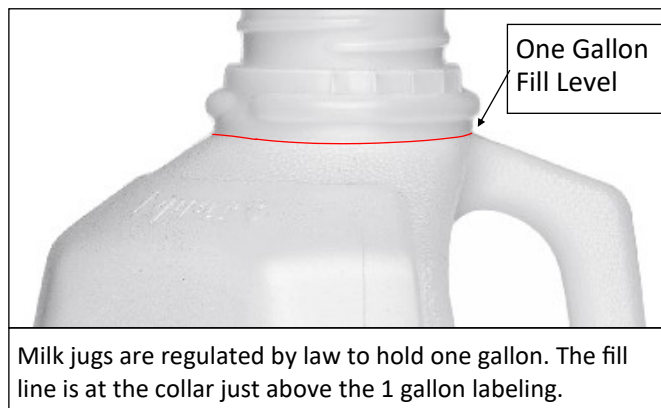
reaches the 5 gallon mark. Flow rate equals the volume divided by the time it takes to fill. (Rate = Volume/Time) For our example if it takes 3.5 minutes to fill a 5 gallon bucket, we divide the volume of 5 gallons by the 3.5 minutes that it took to fill the bucket, our flow rate is 1.4 gallons per minute. That's equal to 2¼ inches per minute. For slower rates you

can fill to lower volumes just be sure to change the volume in the formula. You can adjust the flow rate with the valve at the hose bib or with an adjustable nozzle to achieve the desired volume.

To measure the rate of an overhead sprinkler system we can place containers in different areas within the coverage area. The containers can be of any size or shape but they must have flat bottoms

with straight sides and they must be placed level.

Once the containers are in place you may run your sprinkler for a specified time then measure the level of water in the containers. This will tell you the rate of coverage at that setting. You can also turn on the



# Water Math

sprinkler and then monitor how long it takes to fill the containers to the desired level. You can adjust the rate by changing the flow at the valve or by adding additional sprinkler heads.

Drip irrigation systems can be calibrated by adding up the factory set flow rate of each emitter in the garden area. Add or remove emitters to achieve the desired rate for the area.

For proper irrigation of your garden plants and trees it is necessary to know the size of the area to be irrigated, the needs of the plants, the flow rate from

## SPRAY HEAD FLOW - Average Gallons Per Minute (GPM)

SPRAY HEAD ARC COVERAGE	1 Quarter (1/4) 90° Arc	1 Third (1/3) 120° Arc	1 Half (1/2) 180° Arc	2 Thirds (2/3) 240° Arc	3 Quarters (3/4) 270° Arc	Full Circle 360° Arc
5' Radius	0.10	0.12	0.21	0.25	0.29	0.39
8' Radius	0.25	0.31	0.50	0.70	0.76	1.02
10' Radius	0.40	0.55	0.80	0.97	1.04	1.60
12' Radius	0.61	0.80	1.23	1.60	1.78	2.50
15' Radius	0.91	1.20	1.80	2.34	2.75	3.70

The table above shows the flow rate and coverage areas for this line of spray heads.

your irrigation system and the local weather conditions. Underwatering can be detrimental to your plants. Overwatering is not only bad for the plants but it is also a waste of water and money and can lead to runoff of nutrients and pesticides into our local water systems.

~Chris Dunaway

## Watering Worksheet

Use the following information to help you determine your watering needs.

### Food Garden

- Calculate the size of your garden.  
Garden Area = Length x Width  
Enter your numbers  
\_\_\_\_\_ ft. (length) x \_\_\_\_\_ ft. (width) = \_\_\_\_\_ sqft.
- Calculate how much water your garden needs using the rate of one inch per week.  
Water volume per week = Garden Area x 0.62 gallons.  
\_\_\_\_\_ sqft. (Area) x .062 gallons = \_\_\_\_\_ gallons/week.  
Water volume per day = Gallons per Week / 7.  
\_\_\_\_\_ gallons per week / 7 = \_\_\_\_\_ gallons/day.
- Calculate the flow rate of your irrigation system.  
Flow rate = Time to fill a set volume / the volume.  
\_\_\_\_\_ time to fill 5 gallon bucket / 5 = \_\_\_\_\_ gallons/minute.  
or  
Flow rate = total rate of all emitters in an area.  
Emitter gpm 1. \_\_\_\_\_ + 2. \_\_\_\_\_ + 3. \_\_\_\_\_ + 4. \_\_\_\_\_ + 5. \_\_\_\_\_ = gallons/gpm
- Calculate the length of time to supply the necessary volume.  
Run Time = Required Volume / Gallons per minute.  
Needed Volume \_\_\_\_\_ / gallons/minute \_\_\_\_\_ = \_\_\_\_\_ run time.

### Lawns

- Repeat steps 1 and 2 above. Change the frequency in step 2 to the number of times per week that you water.
- Calibrate sprayer equipment to determine flow per minute.  
Time to fill container to one inch = \_\_\_\_\_ minutes
- Calculate the length of time required to apply the needed amount of water.  
Run Time = Required Volume / Gallons per minute.  
Needed Volume \_\_\_\_\_ / gallons/minute \_\_\_\_\_ = \_\_\_\_\_ run time  
Flow rate should not exceed penetration rate for the soil type.

### Trees

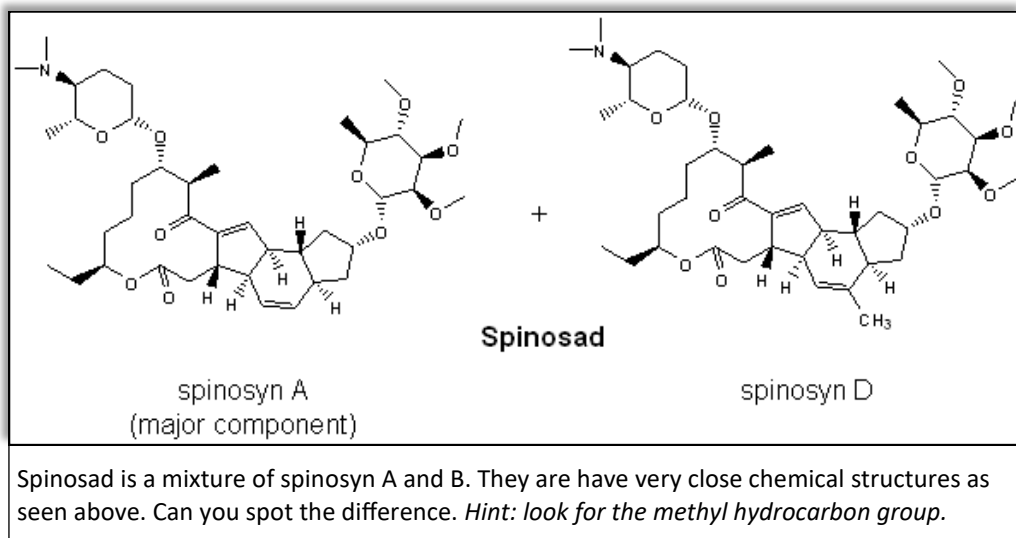
- Calculate the amount of water needed per week.  
Required Volume = Diameter of Trunk in Inches x 10  
Tree diameter \_\_\_\_\_ in. x 10 = \_\_\_\_\_ gallons required
- Calculate the length of time required to apply the needed amount of water.  
Run Time = Required Volume / Gallons per minute.  
Needed Volume \_\_\_\_\_ / gallons/minute \_\_\_\_\_ = \_\_\_\_\_ run time  
Flow rate should not exceed penetration rate for the soil type.

# Alternative Insect Control – Spinosad

We have been presenting a series of articles on effective pest control measures you can use as alternatives to the chemical pesticide approach. This month we highlight Spinosad. Spinosad is an insecticide based on chemical compounds produced by the bacterium *Saccharopolyspora spinosa*. *S. spinosa* was isolated from soil collected inside a nonoperational rum distillery in the Virgin Islands. While on vacation in the Caribbean in 1982, a scientist discovered the soil dwelling bacterium in the abandoned distillery.

When grown in culture, *Saccharopolyspora spinosa* produces chemical compounds called spinosyns. Spinosad is a mixture of two of these compounds called spinosyn A and spinosyn D. Spinosad has been registered for use in pesticides by the EPA since 1997. Spinosad is manufactured using a fermentation process in which *Saccharopolyspora spinosa* colonies

Orthoptera, Hemiptera and Hymenoptera. That means two-spotted spider mites, caterpillars, thrips, aphids, leafminers, leaf-footed bugs, stink bugs, flea beetles, Colorado potato beetles, cucumber beetles,



grasshoppers, etc. It is also toxic to honeybees and other pollinators but only during the first 3 hours following application. Individual product labels will give you all this information for each product. Apparently, spinosad has some systemic properties and quantities as low as 1 mg/plant could protect tomato plants from mite infestation when root applied. Foliar applications have shown only minor translaminar movement. It is generally considered a contact insecticide that must be ingested by the target pest. It has shown a mortality rate of 100% when required dosage amounts are ingested. It is registered for use in organic production, has extremely low mammalian toxicity but is toxic to aquatic invertebrates.

Spinosad is broken down in the environment by UV radiation and microbial activity but has slightly better residual when compared to Bt. Some products available that contain Spinosad include: Monterey Spinosad Garden Insect Spray, Entrust SC, Southern Ag Conserve Naturalyte Insect Control, Ferti-Lome Spinosad, Conserve SC and others. Spinosad is a relatively new weapon in the IPM arsenal that more gardeners should consider using.

~Dr. Joe Willis

Group	5	INSECTICIDE
Active Ingredient:	spinosad (a mixture of spinosyn A and spinosyn D) .....	
		22.5%
Other Ingredients .....		77.5%
Total .....		100.0%
Contains 2 lb of active ingredient per gallon.		
When in doubt, look for "spinosad" on the product label.		
Always read the label before using.		

are grown using natural products such as soybean and cottonseed meal. Currently, spinosad is found in over 80 registered pesticide products.

Spinosad affects the nervous system of insects that eat or touch it. It causes muscle hyperactivity – they get an uncontrollable nervous twitch. This leads to paralysis and ultimately death, typically within 1-2 days. They simply run out of gas. Spinosad has been shown to be effective against a large number of garden pests including mites, and insects in Thysanoptera, Lepidoptera, Coleoptera, Diptera,

# Louisiana Certified Habitat

To all Louisiana Residents, Gardeners, and Nature Enthusiasts

The Louisiana Native Plant Society (LNPS) is proud to announce the creation of the **Louisiana Certified Habitat Program**. The purpose of this program is to recognize Louisiana residents and organizations utilizing native plants and making landscaping choices on their land that conserve and improve our environment. *Any property from the smallest city garden to rural acreage is eligible to apply.*

Louisiana prairies, forests, and wetlands are part of our natural heritage and are dwindling reservoirs of environmental resilience. Severe habitat loss from development and agriculture has made conservation on private property more important than ever. The qualifying criteria for each level of the **Louisiana Certified Habitat** program (Bronze, Silver, and Gold) includes a checklist of good land stewardship practices and the presence of a certain percentage or number of native plants. Native plants are the foundation of the natural food web, supporting and attracting insects that feed other animals. Incorporating them heavily into our landscapes provides these crucial resources for wildlife. Louisiana is especially important to birds that travel through on a major migratory route to and from Central and South America. Our natural spaces provide critical food, cover, and breeding areas for these decreasing populations.

The Louisiana Certified Habitat Program will be administered by the LNPS and partners; including the Native Plant Initiative of Greater New Orleans (<https://www.npi-gno.org/>), Acadiana Native Plant Project ([greauxnative.org/](http://greauxnative.org/)), Capital Area Native Plant Society (<http://canps.weebly.com/>). Applications and general information may be obtained at <https://www.lnps.org/>. The cost of Certification is \$45 with local partners offering some discounts to their membership.

Apply today or visit our website and partner's websites to find more information on starting your own native plant garden.

~Brian Sean Early, President, Louisiana Native Plant Society



Apply today

[Click this link or go to npi-gno.org/habitat-application to find the on-line application.](https://www.npi-gno.org/habitat-application)

# Local Independent Garden Centers

Orleans	Address	Contact
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
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		
Perino's Garden Center	3100 Veterans Memorial Blvd., Metairie	(504) 834-7888
Rose Garden Center	4005 Westbank Expressway, Marrero	(504) 341-5664
Rose Garden Center	5420 Lapalco Blvd., Marrero	(504) 347-8777
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 3rd St., Kenner	(504) 469-0077
Laughing Buddha Garden Center	4516 Clearview Pkwy., Metairie	(504) 887-4336
Creative Gardens & Landscape	2309 Manhattan Blvd., Harvey	(504) 367-9099
Plaquemines		
Southern Gateway Garden Center	107 Timber Ridge St., Belle Chasse	(504) 393-9300
St. Charles		
Plant & Palm Tropical Outlet	10018 River Rd., St. Rose	(504) 468-7256
Martin's Nursery & Landscape	320 3rd St., Luling	(985) 785-6165
St. Bernard		
Renaissance Gardens	9123 W. Judge Perez Dr., Chalmette	(504) 682-9911
Soil Vendors		
Schmelly's Dirt Farm (Compost Only)	<a href="https://www.schmellys.com/compost-sales/">https://www.schmellys.com/compost-sales/</a>	
Laughing Buddha Garden Center	4516 Clearview Pkwy., Metairie	(504) 887-4336
Reliable Soil	725 Reverand Richard Wilson Dr., Kenner	(504) 467-1078
Renaissance Gardens	9123 W. Judge Perez Dr., Chalmette	(504) 682-9911
Rock n' Soil NOLA	9119 Airline Hwy., New Orleans	(504) 488-0908

We recommend that you call before visiting to enquire about operating hours or special instructions.

# In the Kitchen with Austin

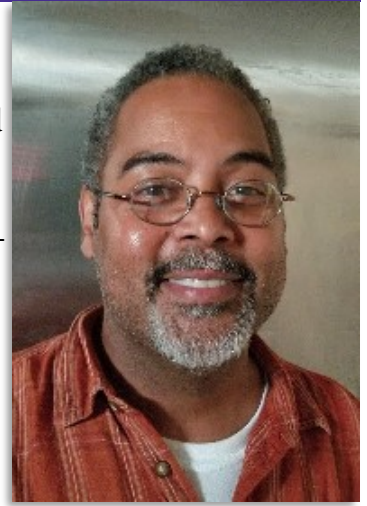
## Socca

(French Chickpea Pancake)

Socca is the perfect vehicle for summer's bounty of vegetables! It is easy to make and can be enjoyed alone or paired with whatever you have growing in the garden. Try it topped with sliced tomatoes, dipped in eggplant spread, or simply sprinkled with a little parmesan cheese. It's also a great side dish served with green salad, and it's gluten free!

### Ingredients:

1 cup chickpea flour	Rosemary, chopped
1 cup water	Salt and pepper, to taste
2 Tbs. olive oil, plus additional to coat pan	



### Directions:

Whisk chickpea flour and water together in a bowl until smooth. Cover mixture and let it sit for 1 to 2 hours. This resting time allows batter to thicken. Add olive oil, rosemary, salt and pepper stirring well to combine. Set oven to 450°. Coat a cast iron or metal pie pan with oil and place it in the oven while preheating. Pour mixture into hot pan and return to oven. Bake for 15 minutes or until edges and top of pancake begin to brown. Cut and serve warm out of the oven.

*Bon Manger!*

## July Checklist/Garden Tips

Sharpen your lawn mower blades. They have generally gotten dull by this time of the year.

Fine, silvery webbing appearing on the bark of area trees is completely harmless. The webbing is produced by tiny scavenging insects called bark lice.

Cut back perennials in the garden when they finish flowering and the foliage begins to look tired.

Keep caladiums well watered during hot, dry weather to keep the foliage in good shape through the summer. You may apply a fertilizer now to encourage vigorous growth. Break off any flowers that form.

Remember to harvest herbs such as mints, basil, rosemary, lemon balm and Mexican tarragon regularly to keep the plants shapely and under control. Some herbs such as thyme, sage and lavender tolerate heat and rain poorly and may not be doing well now as a result.

Keep up with weeding. This time of year weeds can get out of hand very fast. Use mulches wherever possible. If you need help with herbicide recommendations, contact your local LSU AgCenter Extension office.

Container plants should not be placed directly onto wooden decks. The moisture underneath can damage the wood (saucers do the same thing). Boost pots off of the surface an inch or two with pieces of brick, small blocks of wood or special terra-cotta pot supports available at some local nurseries and garden shops.

Keep old flowers cut off roses. Trim back to the first five leaflet leaf. Spray weekly with a combination insecticide/fungicide product labeled for roses if the types you grow are susceptible to black spot.

# Lawn Care Do's & Don't's

## Do's:

1. This is the last month to lay sod for Centipede, Zoyia, or St. Augustine grasses. Bermudagrass may be installed through August. Seeding of Centipede may be done this month but is not recommended.
2. You may fertilize at this time if you have not already done so. Look on page 5 of the [Louisiana Lawns Best Management Practices Guide](#) for information on the correct timing and application rates.
3. Chinch bugs are active this month so keep scouting for damage and apply treatment if chinch bugs are detected.
4. Irrigate as necessary to moisten the soil to a depth of 4-6 inches. The best time to water is in the morning. It is safest, from a disease standpoint, not to keep a grass wet all night long. Watering established sod during midday is discouraged because of extra loss from evaporation.
5. Aerate the soil if necessary to alleviate compaction.
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 for your turfgrass type.



A local homeowner recently sent in this photo of an immature chinch bug. You can barely see the tiny insect in the center of the image on the left. The magnified image on the right clearly shows the chinch bug. Photo by B. Moldaner

## Don't's

1. Do not apply selective herbicides to the lawn.
2. Do not cut more than 1/3 of the height at a single time.
3. Do not try to grow grass in deep shade.

## 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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