UF IFAS Extension UNIVERSITY of FLORIDA
FLORIDA MASTER GARDENER
Manatee County FLORIDA

The Master Gardening Bench

The Manatee County Master Gardener Newsletter
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National Volunteer Month Spotlight: The Incredible Edible Gardeners

Text and photos: Christine Callahan, Master Gardener 2005
With Amy L. Stripe, Master Gardener 2008

April is National Volunteer Month, dedicated to honoring volunteers and encouraging volunteerism. Manatee County Master Gardeners (MG's) are a voluntary group created by the Extension Service to bring scientific-based horticultural information to individual residents. Manatee County MG's volunteer up to a collective 10,000 hours a year in the community. This article spotlights just one of the outstanding programs they provide. MG Christine Callahan has been volunteering at Anna Maria Elementary School since 2005 and gives us an update on her program.

The fourth graders at Anna Maria Elementary School are nearing the end of a year of growing food. Christine meets with students once a month with the goal of getting them to make healthier choices when it comes to what they eat. Her belief is children are more likely to eat what they grow.

Another goal of her program is to teach students all aspects of sustainable gardening as it pertains to the climate and growing season of Central Florida. To ensure success and avoid the issues with growing food in Anna Maria Island's nutrient-poor sandy soil, the entire garden is planted in containers.

In mid-September members of the two fourth grade classes worked in pairs along with three Master Gardeners, their teacher, and a local resident volunteer to plant twenty Earthboxes®. This cool weather garden consisted of a variety of greens including spinach, kale, bok choy, lettuce and arugula as well as peppers, tomatoes, eggplant, beets, carrots and herbs.

Master Gardener Melissa Snyder (2007) was able to find many of these plants in a seed tape, which helped with proper spacing of the seeds in the containers. Lesley Fleming, a horticultural therapist as well as a Master Gardener (2015), kept students focused on properly preparing the boxes for planting.

Once the garden was planted, each Earthbox was connected to aboveground irrigation tubing and watered automatically using a timer placed at a hose bib. To avoid the problem of inconsistent watering, the timer was set to water these boxes on a daily basis. It took only five minutes of watering to keep the boxes watered. During the monthly meeting students learned about plant biology, good and bad bugs, and plant nutrition.

Teachers brought students to the garden each week to make observations about the growing plants and to scout for any problems. In December, the entire team was treated to a harvest luncheon at Eat Here restaurant in Holmes Beach, just a few short blocks from the school. After the student diners were seated, they got to work assembling eggplant rotini for the main course. A cooking lesson AND a great meal: what a treat for all who attended!


Master Gardener Volunteers Melissa and Christine


December harvest

After the semester break, a cool weather garden was planted with broccoli, carrots, spring onions, Swiss chard, black bok choy, turnips, tomatoes, Japanese eggplants, lettuce, and herbs. And, in March the class went to Geraldson's Community Farm to see a farm in operation.

This month, students will separate out compostable materials during harvest and learn about composting. This new "Closing the Loop" compost project will set into motion a school-wide food scrap recovery and composting education and action program. With the help of Tracie Troxler, our resident volunteer who engages communities in composting, students and faculty will be exposed to the benefits of small scale, school-based composting and bring into focus the interrelationships between ecological health, human wellness, waste reduction, clean water and air, food, and natural resources.

To close this year's garden program, restaurant owners Sean Murphy and Susan Timmons will host a luncheon for these incredible edible gardeners at The Beach Bistro Restaurant in Holmes Beach. The chefs will create a multi-course luncheon for the gardeners from the ingredients found in their bounteous harvest, and the scraps will go into the school compost bins.

Visit the following for more information on:

Children's programs: http://edis.ifas.ufl.edu/fy1463,
Composting: http://edis.ifas.ufl.edu/ep323,
Vegetable gardening: http://edis.ifas.ufl.edu/vh021,
Volunteering to be a Master Gardener:
http://manatee.ifas.ufl.edu/lawn_and_garden/master-gardener/mg_application.shtml.

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Contents reviewed & edited by Lisa Hickey, Extension Agent
Send a photo or gardening problem via e-mail to the Master Gardeners at ManateeMG@gmail.com or visit them at the County Extension Office
Monday – Friday 9:00 a.m. to 4:00 p.m.; closed on Wednesday

What's That (Smell??): Stinkhorn

By Norma Kisida, Master Gardener 2012

Photo credit: Rebekah D. Wallace, University of Georgia, Bugwood.org

Mature stinkhorn

Photo credit: Fairchildgarden.org

Lattice stickhorn "egg" stage

You walk into the yard and smell something putrid in your normally pleasant-smelling landscape. Looking closer, you spot a strange mushroom-looking growth in your mulch. This is likely a stinkhorn (*Clathrus columnatus),* which belongs to a group of fungi common in our warm humid climate.

The mature stinkhorns grow to various shapes and colors and emerge for a few weeks once or twice a year, usually during cool, wet weather. They can occur naturally in the soil or be brought in with mulch or other organic matter. The fruiting bodies start in the soil or mulch as white, round, egg looking balls, which, under wet conditions, rupture, and the stinkhorn emerges.

Stinkhorns reproduce by emitting a foul smell to attract ants and flies that carry the spores to other locations. Although extremely stinky, they are not harmful and are actually considered beneficial by helping to break down organic matter. If you find the mature stinkhorns or "eggs" and want to remove them, dig them up and place in a sealed plastic bag and put in the trash. There are no chemical controls recommended.

http://solutionsforyourlife.ufl.edu/hot_topics/lawn_and_garden/stinkhorns.html

Dark color phase larva of the forest tent caterpillar, *Malacosoma disstria Hübner*.
Credits: James R. Meeker, FDACS, Div. of Forestry

Adult forest tent caterpillar, *Malacosoma disstria Hübner*.
Credits: Jeffrey Lotz, Div. of Plant Industry

Caterpillars Pitch Their Tents in Spring

By Jim Haupt, Master Gardener 2015

Spring is often the time of year when insects make their grand appearance, sometimes in large numbers, along with voracious appetites. In north Florida, the eastern tent caterpillar (*Malacosoma americanum*) is a frequent, springtime intruder. At about the same time of the year, in central Florida, forest tent caterpillars (*Malacosoma disstria*) pitch their silky tents. Fortunately, both caterpillars will not eat everything in sight. Tent caterpillars (or simply "tents') are host specific and very picky eaters. Host trees, including oaks and gums, will quickly re-leaf if kept otherwise healthy.

The forest tent caterpillar is uniquely different from other *Malacosoma* species in that the larvae do not construct tents, but rather, spin silken mats on the trunks and branches where they molt and rest after feeding. Larvae also deposit silken strands along pathways to their food source.

The forest tent caterpillar (*Malacosoma disstria*), is one of the most common caterpillars to attack oak trees in central Florida. In fact, these tents are considered to be the most common indigenous tent caterpillar in North America. Although generally harmless to humans, populations reached outbreak proportions in west central Florida during the spring of 1993 on water oaks. They reached outbreak proportions in Manatee County in 1997, again on water oaks.

Forest tent caterpillars are not found in 38 of Florida's 67 counties, but considering that host trees are found statewide, they could exist anywhere in the state. During an outbreak in west central Florida, larvae fed on a wide variety of deciduous hardwood trees including unlikely hosts such as citrus, azalea, rose, pine, and loquat.

Host trees that experience widely spaced years of defoliation, usually recover. However, several consecutive years of heavy can cause stress and dieback if coupled with other stress factors.

Eggs are laid in masses of 100-300, and hatch in late February, producing larvae in 4-6 weeks. Larvae are two inches long, hairy, with pale bluish lines on the sides of a brownish body. A row of white spots extends down the middle of the back.

So what can we do when we've reached our threshold of tolerance? For smaller tents, removing caterpillars by hand and crushing them is an option. For larger numbers of tents, cutting off the infested twig, then twirling or rolling the end of the twig, and destroying it can do the trick. "Bt" (*Bacillus thuringiensis*), a bacterial pesticide that only kills caterpillars, is recommended by the University of Florida because it is pest-specific and safe for the environment.

Normally, the forest tent caterpillar has no impact on tree mortality. Because they only produce one generation per year and are host specific, treating your large trees may not be necessary. These campers disappear almost as quickly as they make their springtime appearance! For more information, visit: http://Edis.ifas.ufl.edu/pdffiles/IN/IN34100.pdf.

Liming

By John Dawson, Master Gardener 2007

For some of us ex-Northerners, springtime means liming your lawn after the last frost date with fertilizing two weeks later. But for a lot of us in this area, that could be a big mistake. The reason we use lime on lawns, landscapes, and gardens is to increase the pH levels of the soils to a point optimal for the plants we are growing. But, you should not add any amendments until you know your soil pH.

The term **pH** (potential of hydrogen) is a numeric scale (0-14) used to specify acidity or alkalinity. Soils are described as acidic (pH levels of 0 to 7.0) or alkaline (levels of 7.0 to 14). The average pH for Florida soils is 6.1, or slightly acidic. Coastal areas (sandy /shell soils) or newly developed areas exposed to a lot of construction materials such as fill soil, concrete or stucco tend to be more alkaline. Areas near pine flatwoods tend to be more acidic.

Soil pH dictates the ability of your plants to take up nutrients from the soil. Within certain low or high pH ranges, nutrients may simply be "unavailable" which means that even supplemental fertilizers will not be effective, and in fact, could cause problems.

Fortunately, most garden/landscape plants and turfgrasses grow in a wide range of pH levels. If your soil tests within a range of 5.5 to 7.0, you may not need to make any adjustments. It is always best to use plants that grow well in your soil's natural pH. If you really must have that special plant/lawn that doesn't fare well in your natural pH range, then you will need to amend your soil or grow it in a pot where you can add special soil amendments.

Amending soil is a temporary fix and will require additional applications over time. You can find the pH ranges for many plants in the Florida-Friendly Landscaping™ Guide to Plant Selection & Design, offered free online at http://fyn.ifas.ufl.edu/pdf/FYN_Plant_Selection_Guide_v090110.pdf.

Amending your soil pH means either applying acidifiers to lower pH (a topic for another day) or liming to raise pH. Liming materials, such as, agricultural limestone (calcium carbonate or chalk) or dolomite (calcium carbonate and magnesium carbonate) are usually used in liming our soils.

Lime is a basic chemical that neutralizes an acid soil by making it more alkaline. Applying too much lime (besides being more costly) can be harmful by burning tender roots. It is essential to conduct a lime requirement test which measures your soil's natural ability to resist changes in pH. This test is provided as part of the standard landscape and garden soil test offered through the University of Florida Extension Soil Testing Laboratory (http://soilslab.ifas.ufl.edu). **Results of this test will indicate exactly how much lime you need to apply to reach a target pH.**

The degree to which a given amount of lime per unit of soil volume will increase soil pH depends on the cation (positively charged particle) exchange capacity (CEC) also known as soil lime buffer capacity. Soils with low CEC will show a more marked pH increase than soils with high CEC. Soils with low CEC will have more rapid leaching of amended lime and will require additional liming more often. More lime is required to change the pH of high CEC soils from 5 to 6 (2,400 lbs/acre) compared to the lime required to change the pH from 5 to 6 in a low CEC soil (1,200 lbs/acre).

CEC varies amongst different soil types because of differences in soil organic matter and clay contents. Soils with more organic matter and clay generally have higher CEC and will require more lime. Over-liming is most likely to occur on soil which has low CEC, such as sand (a lot of home soils in our area), which is deficient in buffering agents such as organic matter and clay. If you amend your soil, you should have it checked yearly. Follow all directions from the soil laboratory results on properly watering in any applied lime.

For further information on this topic go to http://edis.ifas.ufl.edu/ss480. For vegetable gardeners with acidic soil please go to http://edis.ifas.ufl.edu/vh024. Don't guess, get your soil tested!

Herbs as a Ground Cover?

By Nancy Porter, Master Gardener 2014

To some of us, planting space is at a premium. So, if we have the choice of planting things for the eyes to feast upon, why not consider something that will answer not one, not two, but three desires? Beauty to behold, aroma to enjoy, AND tastiness to our meals.

We have the opportunity to plant herbs as ground covers to beautify our surroundings and create beautiful deliciousness in the kitchen. Most herbs will grow in conditions of soil and sunlight that are similar to vegetable gardening. Take into consideration pH testing and preparation of soil, in addition to fertilizing and watering. Keep in mind a little goes a long way when planting herbs for culinary purposes.

These low-growing herbs, mostly perennial, can provide us with a delightfully pretty, aromatic, and tasty garden. For more information, visit http://edis.ifas.ufl.edu/vh020 Herbs in the Florida Garden.

German Chamomile (*Matricaria chamomilla*)		Has a delightful scent and provides a delicious and soothing tea. Chamomile is rather aggressive; install barriers to keep it from overtaking your entire garden. Boggy soil is a no-no; well-drained soil is best. Plant it where it will get sun in winter and shade in summer.
Chervil (*Anthriscus cerefolium*)		Sometimes referred to as French parsley, is a member of the carrot family (who knew?) and, as expected, is often used in French dishes. Chervil enjoys cool conditions, so plant it in the cooler months. Adding sphagnum peat moss will help provide the moist conditions it needs to thrive. Shade is necessary, as it will struggle in sun. Harvest leaves before the weather gets too hot.
Horehound (*Marrubium vulgare*)		A perennial herb with hairy oval leaves. Since it is a weed in much of the United States, it should do great here! Well-drained soil and sun are needed, and it should be spaced about 12 – 18 inches apart. Trim plants regularly to keep them bushy. Horehound is used to make candy. It is thought to alleviate throat tickles and coughing.
Lemon Balm (*Melissa officinalis*)		As the name implies, it is a lemon-scented perennial herb that belongs to the mint family. This herb can be used as a back drop to your garden, as it grows a bit higher (2 feet) and in clumps. It enjoys well-drained soil and lots of sunlight. Plants are started from seeds or cuttings. It might be 2 years before a well-sized clump is formed.

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Marjoram (*Origanum majorana*),		Is also called sweet marjoram. It is a perennial that grows upright. For your ground cover, p**ot marjoram** (*O. onites*) would be better, as it runs along the ground. Plants can be started early in the spring from seeds, cuttings or clump divisions. It is attractive enough to use as a border for a flower garden. It is drought tolerant and can take sandy soil and lots of sunlight
Mint (*Mentha* spp.)		There are many forms of mint that can quickly spread throughout the landscape. Above and below-ground barriers need to be erected to keep it from taking over. Shady, moist conditions are best. Two of the most popular mints are **spearmint** (*Mentha spicata*) and **peppermint** (*M. piperita*). They have pointed leaves with slightly notched margins. The flowers are small, whitish, bluish, or violet.
Oregano (*Origanum vulgare)*		Another herb of the mint family, is also called wild marjoram. Oregano is fairly drought tolerant; it needs full sun, and well-drained soil. It loves to be used! Pinching it back helps to obtain a lower and bushier posture.
Parsley (*Petroselinum crispum*)		Parsley is a great success in our gardens. This biennial has a 2-year life cycle and is best planted in the fall or late winter. Parsley grows best in extremely rich and moist but well-drained soil. It flourishes in full sunlight, but will also grow in partial shade. Seeds are sown about ¼" deep, or set seedlings about 6" apart. Parsley is also a butterfly caterpillar favorite.
Creeping Rosemary (*Rosmarinus officianlis* 'Prostratus'),		Is an excellent ground cover if grown in full sun. It is drought tolerant and evergreen. It can be propagated though cuttings or division of established plants.
Thyme *(Thymus vulgaris* L.)		Is low-growing and bushy and can be planted as a ground cover in mounds. It thrives in well-drained soil with full sun. You can keep it as close as 2" in height.

Well-drained soil/Sun
Chamomile
Horehound
Marjoram
Oregano
Rosemary (Creeping)
Thyme

Moist/Shade
Chervil
Lemon Balm
Mint
Parsley

TALKING TREES

BY JOY DERKSEN, MASTER GARDENER 2004

After watching the live oaks (*Quercus virginiana*) this year putting out loads of acorns, it does not come as such a surprise to find out that trees have ways of communicating with each other. How do the oak trees decide to have a "mast year" during which tremendous numbers of acorns are produced?

During this time there are so many acorns that predators cannot possibly eat them all. Some can turn into seedlings. This is an advantage to all the trees that cooperate in the acorn lottery. How do the oaks communicate and agree on this plan? Trees have a variety of communication methods.

A tree being attacked by a caterpillar sends out a signal to its roots. In about an hour the tree roots send up a defensive compound to spoil the pest's meal. The leaves are also triggered to release scent pheromones that will attract those beneficial insects that will eat that specific caterpillar.

Other trees then notice these compounds being given off and they prepare their own defenses against this particular muncher. Acacia (*Acacia* spp) leaves in Africa can send off signals when being eaten by antelopes; and, within a five to ten minutes other nearby acacia have ramped up the bitter tannins in their leaves to make themselves inedible. Leaving messages to be delivered through the air is fast, but depends on the wind carrying the signals. So air is not the only way trees can communicate with other trees.

It turns out that trees are also interconnected underground by vast networks of mycelia---the root-like appendages of mushrooms. Fungi do not have green chlorophyll and cannot make their own food. The mycelia attach to the tree roots around them and get their nutrients from the tree. The fungi have a friendly (or symbiotic) relationship with the trees. In exchange for food, the fungi deliver chemical messages to other trees in their network. It can also deliver excess nutrients to other trees in need.

Through extensive experiments in the lab and in the forests over the past 30 years, it has been discovered that mother trees recognize their own seedlings and send extra nutrients to these particular seedlings.

By using radioactive isotopes, scientists have discovered trees sharing excess nutrients with nearby trees that cannot make their own due to leaf drop. In turn, these trees share their nutrients when they are once again in good shape. Perhaps this is how oak trees decide to flower in the same year. But the fact remains that trees do share their own form of "internet" when it comes to spreading information rapidly!

If you would like to learn more about this interesting topic, here are a few resources.

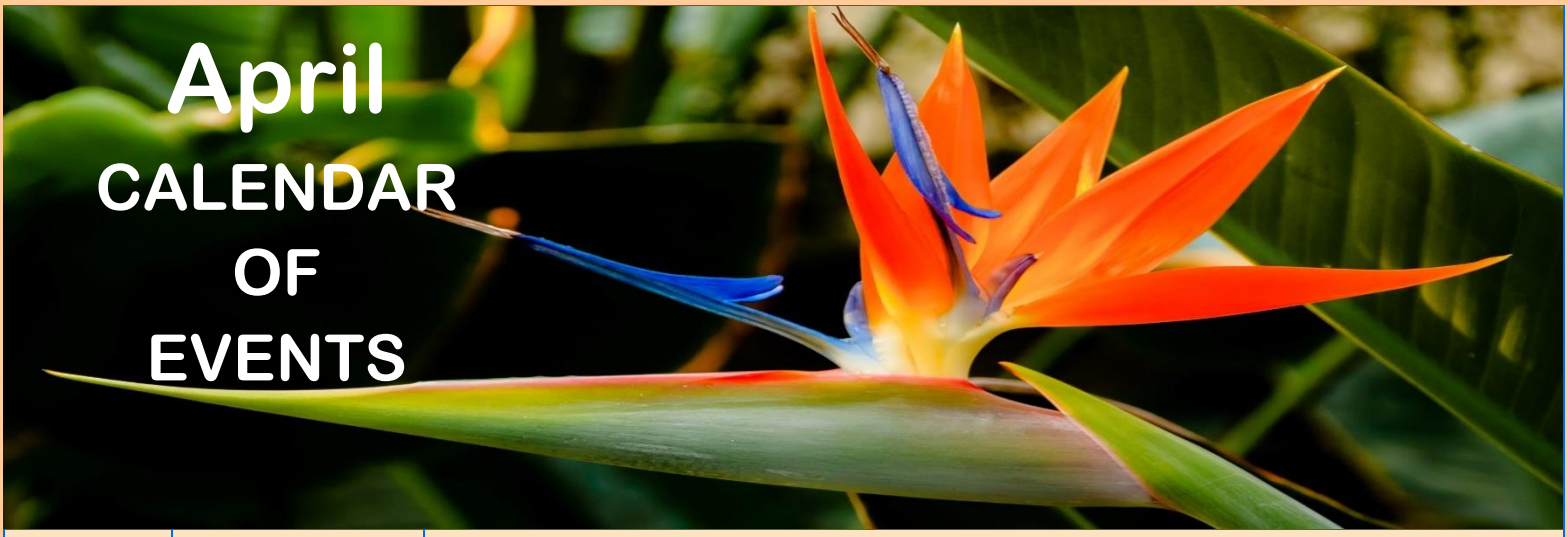
A book: The Hidden Life of Trees by Peter Wohlleben. English translation in 2016. Greystone Books. (available at Manatee County Library)

On the Internet:

https://www.ted.com/talks/suzanne_simard_how_trees_talk_to_each_other,

http://e360.yale.edu/features/exploring_how_and_why_trees_talk_to_each_other,

http://www.newscientist.com/article/mg12717361.200-antelope-activate-the-acacias-alarm-system.html.



April CALENDAR OF EVENTS

Date	Time	Event
1st Saturday	10:00 a.m.-1:00 p.m.	**Ask a Master Gardener –** Island Library – 5701 Marina Drive, Holmes Beach. Visit the Extension Master Gardener information table and get answers to your gardening questions.
2nd & 4th Saturday	10:00 a.m.-1:00 p.m.	**Ask a Master Gardener –** Rocky Bluff Library – 6750 US Highway 301 N., Ellenton. Visit the Extension Master Gardener information table and get answers to your gardening questions.
2nd Saturday	10:00 a.m.-1:00 p.m.	**Ask a Master Gardener –** South Manatee Library – 6081 26th Street West, Bradenton. Visit the Extension Master Gardener information table and get answers to your gardening questions.
Saturday April 8	9:00-11:00 a.m.	**Extension Master Gardener Plant ID Tour – Emerson Point Preserve -** Stroll through Emerson Point Preserve to learn more about Florida's native plants and inhabitants of a coastal habitat. Suitable for all ages. Tour begins in tower parking area at 5801 17th Street West, Palmetto. Call the Extension Master Gardeners at (941) 722-4524 to register.
Saturday April 15	9:00-11:00 a.m.	**Extension Master Gardener Nature Tour – Rye Preserve -** Take a hike through upland habitats along Rye Branch and learn about Florida native plants, natural history, and early settlement of the area. Drinking water, sturdy shoes, and hiking sticks are recommended. Visitor Center open 9 a.m.-noon and 1:00-4:00 p.m. Call the Extension Master Gardeners (941) 722-4524 to register.
Tuesday April 18	10:00 a.m.	**Monthly Guided Tours of the Master Gardener Educational Gardens -** Join us for a guided tour lasting about one hour. The gardens illustrate a variety of garden styles and techniques, demonstrate Florida-Friendly Landscaping™ principles, educate residents about plants that perform well in Florida landscapes, and inspire garden visitors to follow recommended gardening practices at home. Register by calling the Extension Master Gardener Plant Diagnostic Clinic (941) 722-4524.
Tuesday April 18	10:00-11:00 a.m.	**Growing Roses in Florida** - Are you new to the area or to growing roses? You will receive information on how to plant and grow the right rose in the right place to brighten your garden all the way around. Register online at http://manatee.ifas.ufl.edu or call the Extension Master Gardeners (941) 722-4524.
Sunday April 23	9:00-11:00 a.m.	**Extension Master Gardener Plant ID Tour - Robinson Preserve –** Stroll through the Robinson Preserve's salt marshes to learn more about Florida's native plants and inhabitants of a coastal habitat. Suitable for all ages. Trail consists of shell paths with little shade. Good walking shoes, drinking water, hat, and sunscreen are recommended. Tour begins in parking area by main entrance at 1704 99th Street Northwest, Bradenton. To register call the Extension Master Gardeners (941) 722-4524.
Tuesday April 25	1:30-3:30 p.m.	**Landscape Tips for Water Conservation -** This class satisfies the landscape educational requirement for the Manatee County Outdoor Water Conservation Rebate Program. Topics will focus on Florida-Friendly Landscaping™ tips such as right plant vs right place, watering efficiently, and the benefits of mulch. Register online at http://manatee.ifas.ufl.edu or call Joann (941) 722-4524.
Wednesday April 26	10:00 a.m.-Noon	**Irrigation with Water Conservation in Mind -** This class satisfies the irrigation educational requirement for the Manatee County Outdoor Water Conservation Rebate Program. Topics will focus on how to adjust your in-ground sprinkler system to conserve water, how you can repair parts, and the benefits of installing smart irrigation devices. Register online at http://manatee.ifas.ufl.edu or call Joann (941) 722-4524.
Saturday April 29	9:00 a.m.-2:00 p.m.	**Worm Composting for Kids -** Do your kids love squiggly, wiggly worms? Want to learn more about going green and using a worm bin to recycle most of your kitchen scraps into nature's perfect compost? Visit our booth at the Bradenton Farmers Market downtown on Old Main Street during the Children's Book Fair Day! Go forth and compost!

UF IFAS Extension University of Florida

Florida Master Gardener

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Manatee County Florida