

# The Master Gardening Bench



The Manatee County Master Gardener Newsletter

October 2018 - Volume 17 – Issue 10

All articles are researched utilizing UF/IFAS Extension and/or other educational sources unless otherwise noted.

## Feed Your Palms, Feed Your Landscape

By Amy Stripe, Master Gardener 2008

Of the most common nutrients that landscapes require, palms need all six...

Turfgrass usually exhibits nitrogen (N) and iron (Fe) deficiencies and thus requires high numbers of both elements.

Broadleaf ornamentals and trees are most often deficient in magnesium (Mg), iron (Fe), nitrogen (N), potassium (K) and manganese (Mn).

Guess what? Palms may show deficiencies in all the above, plus boron (B).

By applying a balanced fertilizer containing these macro (N, K, Mg) and micro (B, Mn, Fe) nutrients throughout your landscape, you should have all deficiencies licked.

Except... specialized palm fertilizers containing the correct analysis and elements derived from the proper sources can be too pricey for application on large areas of turfgrass, for example.

Complex topic, indeed! For information, rush to:

<http://edis.ifas.ufl.edu/ep516>

[http://edis.ifas.ufl.edu/topic\\_palm\\_nutrition](http://edis.ifas.ufl.edu/topic_palm_nutrition)

Or call the Extension Master Gardener Plant Diagnostic Clinic at (941) 722-4524 and ask for a Master Gardener.

## Note

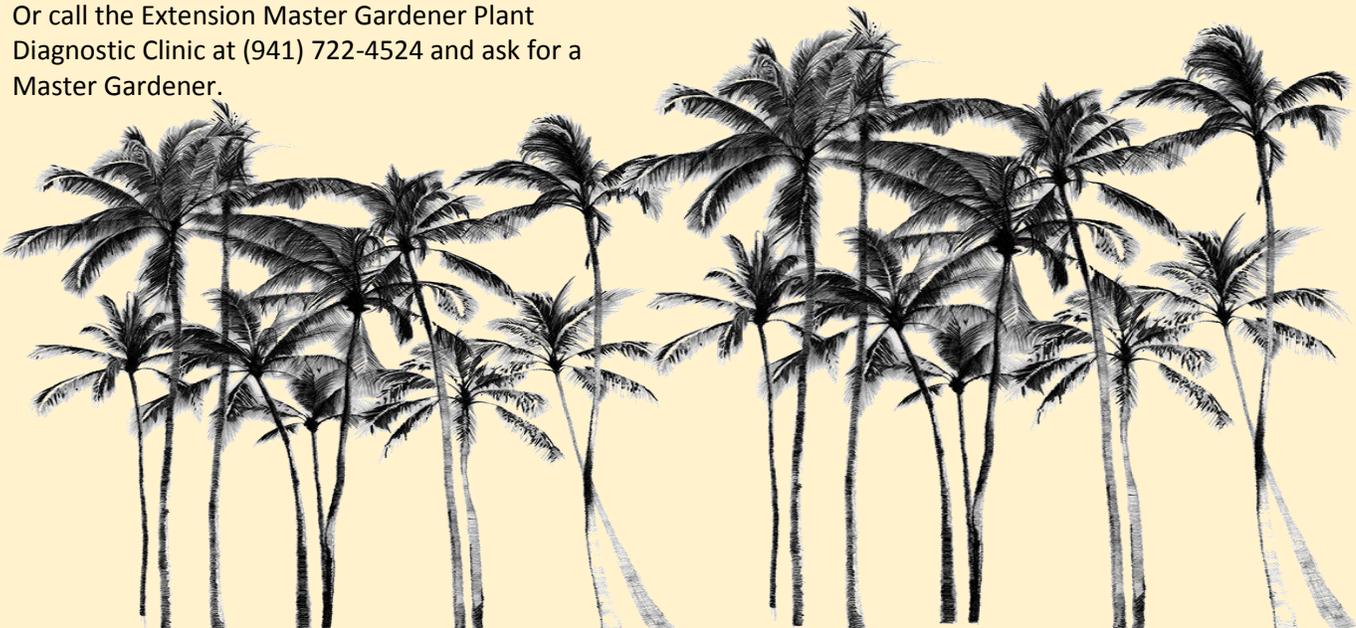
### Editor's

This issue of "The Master Gardening Bench" is largely devoted to the topic of plant nutrition and fertilization. Manatee County's ban on inorganic (or synthetic) nitrogen (N) fertilizers ended on September 30th.

Inorganic fertilizers are those that can be rapidly taken up by plants, or if not, wash away into our watershed in heavy rainfall, creating algae blooms. Organic fertilizers (compost, animal manures, etc.) break down slowly and are not banned by the county ordinance.

Fertilization in Florida landscapes is a highly complex subject. With this issue, we hope to shed a little light on this complexity and provide information for homeowners to make the right fertilizer decisions.

A. S. & J. D.





Dear MG:

My husband and I were on Clark Road stopped at a light when I saw this odd palm. I wondered whether it was nutrient deprived, had a disease, or just a bad haircut ....or any combo of the 3! Had to take a picture of it.

A. L., Bradenton



The condition of this Phoenix variety palm is none of the three you cited but one of the "normal abnormalities" of palms that we see. In fact, the University of Florida even has a publication explaining these "abnormalities." This condition is the result of heavy fruit, the branches of which have grown between the fronds and lain on the fronds underneath. In this case, the fruit branches have been pruned away, leaving the space between the fronds. For as odd as it looks, there is no harm done to the palm.

Here is the publication I mentioned:  
<http://edis.ifas.ufl.edu/ep344>

Master Gardener Karen Holleran answers your email questions and looks at photos for identification of problems at [ManateeMG@gmail.com](mailto:ManateeMG@gmail.com). Or visit our Plant Diagnostic Clinic Monday through Friday (closed Wednesdays) from 9:00 A.M. to 4:00 P.M. at 1303 17th St. W., Palmetto, FL. Or call us with questions at 941-722-4524 and ask for a Master Gardener.



## WHAT'S THIS – WASP OR MOTH?

By Norma Kisida, Master Gardener 2012

Wandering through my garden recently, this striking insect resting on an American beautyberry (*Callicarpa americana*) bush caught my eye. A little research indicated that it was a scarlet-bodied hawk moth (*Cosmosoma myrodora*), a native insect that is found throughout Florida and the coastal regions of most southern states. The bright coloration is a defense mechanism against predators.

An interesting reproductive fact is that the adult male feeds on dog fennel (*Eupatorium capillifolium*) to obtain defensive compounds which, in an elaborate courtship ritual, are then passed on to the female. These compounds are then passed on by the female to the eggs to help protect them from predators.

In our area, the host plant for the caterpillars is a native plant in the Asteraceae family-climbing hempvine/hempweed (*Mykania scandens*). This vine is also the host plant for the little metalmark butterfly (*Calephelis virginiensis*). This low growing perennial flowering vine is protected in part of its range and considered a serious pest in others. There is a look-alike non-native vine (*M. micranthia*), also known as mile-a-minute. It is very invasive and difficult to distinguish from the native except by the flowers. Fortunately, this highly invasive vine has only been documented in South Florida.

Scouring the untended woody areas in my garden, I was rewarded by finding several hempvines. So far, no caterpillars or pupae, but I will be watching closely.

For more information: Featured Creatures - Scarlet-bodied wasp moth:  
[http://entnemdept.ufl.edu/creatures/BFLY/MOTH2/scarlet\\_bodied\\_wasp\\_moth.html](http://entnemdept.ufl.edu/creatures/BFLY/MOTH2/scarlet_bodied_wasp_moth.html).

# Fertilizers: The Label is the Law

By Jim Haupt, Master Gardener 2016



In Florida, plant growers from homeowners to agricultural producers use fertilizers. Careful application and management is critical to Florida's crop production. According to Frederick M. Fishel at the University of Florida Agronomy Department in Gainesville, "American agricultural producers are providing more food and fiber on less land than ever in history."

For the homeowner, a healthy lawn and a beautiful landscape are important considerations that can add value to their homes. All plants, including turf, must have nutrients for optimal growth, and they can receive them through the soil or supplemental fertilizers.

However, too much fertilizer can harm plants, promote disease, and invite unwanted pests. Unless applied correctly, fertilizers can also potentially harm humans and cause enormous damage to our environment.

All Environmental Protection Agency (EPA) approved fertilizers must bear a label that provides the consumer with safety information, directions for application, and a listing of the nutrients included in the bag. Companies spend millions of dollars each year affixing labels to the products they sell. It is our job as consumers to read and understand the information presented in the label.

The label provides a breakdown of everything contained in a bag of fertilizer. The **guaranteed analysis, N-P-K**, as shown in Figure 1, indicates 14% nitrogen, 0% phosphorous, and 26% potassium (14-0-26) in this product. The label also identifies minor elements or micronutrients that plants need in smaller quantities. These include boron, chlorine, copper, iron, manganese, and zinc.

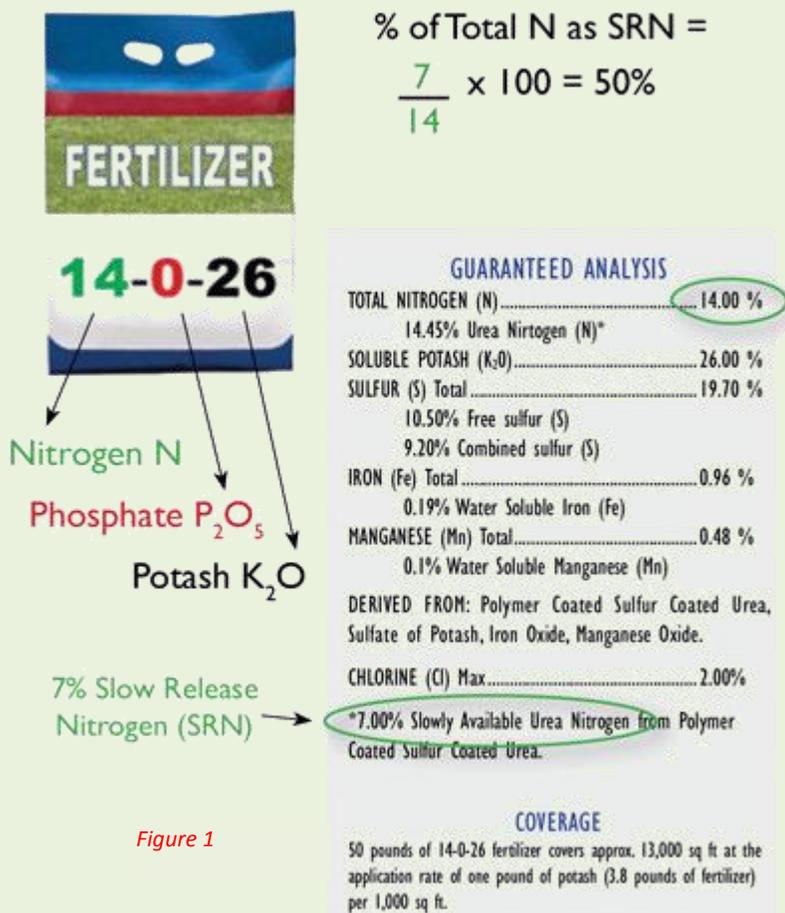


Figure 1

Manatee County has fertilizer restrictions from **June 1 through September 30**. Nitrogen moves somewhat freely in the soil and during the rains in the summer, will easily wash away. While shopping, read labels entirely to find a “summer-safe” fertilizer. The homeowner must be cautioned that many fertilizers on the market do not necessarily adhere to our local fertilizer ordinance.

At times of the year outside of the restrictions, granular fertilizer products must contain 50% slow-release nitrogen (SRN), which should be indicated on the label. For more information on Manatee County Fertilizer Ordinance do a google search “Manatee County Fertilizer Ordinance.”

Because Florida soils usually contain phosphorus, Manatee County does not permit its application at any time unless a soil test indicates a deficiency. Phosphorous (P) leaching into water systems can trigger algae blooms.

Application of the correct fertilizer is a better solution for providing plant nutrients than attempting to spot treat for specific deficiencies. An over-application of just one nutrient may create a deficiency of others.

Soil pH will affect the ability of plants to take up certain nutrients. So, have your soil tested for pH and do select fertilizers formulated for your specific kind of plants.



“Fertilize Appropriately,” one of the nine principles of Florida-Friendly Landscaping™, emphasizes the application of fertilizer only when it becomes necessary and during times of active growth. Reading and understanding the label will lessen the chance of exceeding recommended rates, weakening plants, stifling root growth, wasting money, and harming our precious environment. After all, ***the label is the law.***

For more information, visit:

<http://gardeningolutions.ifas.ufl.edu/care/fertilizer/types-of-fertilizers.html>,

<http://edis.ifas.ufl.edu/SS/170> , or

<http://nwdistrict.ifas.ufl.edu/hort/2014/09/16/when-fertilizing-read-the-label>.



# PLANT NUTRIENTS

BY JOHN DAWSON, MASTER GARDENER 2007

Have you ever read the contents of a bag of fertilizer and wonder what all those chemicals are for? Is there a difference between plant food and fertilizer? Why do plants need these?

People as well as plants need food to stay alive. We eat our food (some of which may be plants) but plants produce their food through photosynthesis. We need vitamins and minerals from food to stay healthy; but if we don't get what we need from what we eat, we supplement our diets by taking vitamins and minerals.

Plants get their nutrients from the soil, air and water.

For a plant to stay healthy, it also may need you to supplement their nutrient needs with fertilizer. I always tell folks to think of fertilizer as a plant dietary supplement, not food. If you compare the contents of fertilizer with a human multivitamin, you will find that we have a lot of common mineral needs (see labels below). I won't speak for us humans, but here is what plants use all those chemicals for:

## Major (Macro) Nutrients

<b>N</b> Nitrogen	Nitrogen is critical in the production of new leaves and stems.
<b>P</b> Phosphorous	Phosphorous is used to produce roots, flowers and fruit and aids in the thickening of plant stems. As a rule, P is abundant in our Florida soil and our plants will not need this supplement.
<b>K</b> Potassium (Potash)	From the Latin name for potash ( <i>kalium</i> ). Potassium helps plants in overall hardiness to heat, cold, and aids in protection from insects and disease. K also is instrumental in root growth and water uptake, and fruit formation.
<b>Mg</b> Magnesium	Necessary in the production of chlorophyll. Remember, no chlorophyll, no food.

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Minor (Micro) Nutrients	
<b>B</b> Boron	Affects almost all major plant growth processes, including integrity of cell walls.
<b>Ca</b> Calcium	Found as a constituent of cell walls and necessary in both cell growth and cell division. It also helps the plant take up nitrates and set fruit.
<b>Cu</b> Copper	From the Latin word <i>cuprom</i> , brightens colors of leaves and blooms. Also helps in production of sugar (food).
<b>Fe</b> Iron	Derived from the Latin word <i>ferrum</i> . Prevents and corrects yellowing of leaves by boosting chlorophyll (the green in leaves) production. Often used to green up lawns.
<b>Mn</b> Manganese	Helps speed up processing of nitrogen, thus promoting more growth.
<b>Mo</b> Molybdenum	Part of the active protein that converts nitrate (nitrogen) into a usable form of N for the plant.
<b>S</b> Sulphur	Part of plant proteins important for structure and function. Necessary in chlorophyll production used in photosynthesis
<b>Zn</b> Zinc	Vital in the production of seeds and helping to protect against cold weather. Also helps plant utilize other micro-nutrients.

### Human Multivitamin with Minerals

#### Supplement Facts

Serving Size 1 Tablet

Each Tablet Contains	% Daily Value	Each Tablet Contains	% Daily Value
Vitamin A (29% as Beta Carotene) 3500 IU	70%	Magnesium 100 mg	25%
Vitamin C 90 mg	150%	Zinc 11 mg	73%
Vitamin D <sub>3</sub> 400 IU	100%	Selenium 55 mcg	79%
Vitamin E 30 IU	100%	Copper 0.9 mg	45%
Vitamin K 25 mcg	31%	Manganese 2.3 mg	115%
Thiamin (Vit. B <sub>1</sub> ) 1.5 mg	100%	Chromium (as Chromium Picolinate) 35 mcg	29%
Riboflavin (Vit. B <sub>2</sub> ) 1.7 mg	100%	Molybdenum 45 mcg	60%
Niacin 20 mg	100%	Chloride 72 mg	2%
Vitamin B <sub>6</sub> 2 mg	100%	Potassium 80 mg	2%
Folate (Folic Acid) 500 mcg	125%	Silicon 2 mg	**
Vitamin B <sub>12</sub> 6 mcg	100%	Lycopene 300 mcg	**
Biotin 30 mcg	10%	Lutein (Flower) 250 mcg	**
Pantothenic Acid 10 mg	100%	Boron 150 mcg	**
Calcium 200 mg	20%	Vanadium 10 mcg	**
Iron 18 mg	100%	Nickel 5 mcg	**
Phosphorus 109 mg	11%		
Iodine 150 mcg	100%		

\*\*Daily Value not established.

### Plant Fertilizer

#### Guaranteed Analysis:

Total Nitrogen (N) .....	X%	
X% Ammoniacal Nitrogen .....		} Please note that the sum of the guaranteed forms of nitrogen must equal the total nitrogen guarantee.
X% Nitrate Nitrogen .....		
X% Water Soluble Nitrogen .....		
X% Water Insoluble Nitrogen .....		
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> ) .....	X% (or, Available Phosphate (P <sub>2</sub> O <sub>5</sub> ))	
Soluble Potash (K <sub>2</sub> O) .....	X%	
Calcium (Ca) .....	X%	
Magnesium (Mg) .....	X%	
Sulfur (S) .....	X%	
Boron (B) .....	X%	
Chlorine (Cl) .....	X%	
Cobalt (Co) .....	X%	
Copper (Cu) .....	X%	
X% Chelated Copper (If guaranteed. Give chelating agent)		
Iron (Fe) .....	X%	
X% Chelated Iron (If guaranteed)		
Manganese (Mn) .....	X%	
X% Chelated Manganese (If guaranteed. Give chelating agent)		
Molybdenum (Mo) .....	X%	
Sodium (Na) .....	X%	
Zinc (Zn) .....	X%	
X% Chelated Zinc (If guaranteed)		



# Effect on Nutrition in the Landscape

By Amy Stripe. Master Gardener 2008

Several Master Gardeners and customers observed this summer that ixoras (*Ixora* spp.) were producing unusually prolific blooms. This led us down an investigative path. Ixoras are acid-loving plants. In many sites, they have been planted very close to foundations where the soils are alkaline, usually due to backfill material. This causes ixoras to become chlorotic (yellowing leaves) and have less than optimal amount of blooms.

We had a very wet May this year: about six inches fell whilst the norm is less than two inches. Rainwater carries many nutrients as well as acidic properties. There is no University of Florida science to support our connection between acidic, nutritional rainfall and the massive ixora bloom rate. But here are some observations about the properties of Florida rainwater (from scientists!):

Rainwater is an important source of inorganic nitrogen (because, unlike organic sources of nitrogen, such as manure or compost, it doesn't have to break down to be immediately available to plants.)

Almost 80% of our atmosphere is comprised of molecular nitrogen (N<sub>2</sub>). Nitrogen is a key nutrient for all living things. But N<sub>2</sub> is stable and requires energy to be converted to chemical compounds (such as nitrates and ammoniums) that can be taken up by plants. Thunderstorms, specifically lightening, can provide that needed boost of energy.

Summer rains have lower pH (more acidic) by 0.2-0.3 units than winter rains. And nutrient concentration in rainwater is higher during summertime convection rains than in winter's frontal rains.

Further, carbon dioxide reacts with water in our atmosphere (including seawater) to create carbonic acid. Big industrial cities can have rainwater with a pH as low as 4.2. Our average local seawater pH is 8.2. If

you mix seawater (alkaline) evaporation in our atmosphere with carbonic acid in the atmosphere (acid), you get a local rainwater pH somewhere between the two numbers, depending on the mix. What happens when the rainwater mixes with irrigation water?

City water (with or without softeners) and reclaimed water may have different pH levels. Mix those with your rainwater and your ixoras may be sucking up water with even another pH! Possibly this summer's weather put together the "perfect storm" your ixoras loved.

Another consideration is the drenching factor. More water entering the ground will dilute the effect of salts and lime that can leach out from your foundation. So if the volume of water (rain plus irrigation) removes the salts and lime faster than your foundation can leach them out, your soil in that area will become more acidic.

Red tide may contribute to overall acidification of the water; it has been with us since last October. National Oceanic and Atmospheric Administration (NOAA) suggests red tide may cause increased acidification of our local seawater, along with the water acidification factors that contribute to the algal blooms. Our local rainfall will have that mix of carbonic acid along with the evaporation of the local acidified seawater that would create a more acid rain than we would normally expect.

This is where our science ends; but yours can begin by visiting:

<http://nepis.epa.gov>,  
<http://nadp.slh.wisc.edu/lib/brochures/nitrogen.pdf>,  
<https://coastalscience.noaa.gov/news/ocean-acidification-promotes-disruptive-and-harmful-algal-blooms-on-our-coasts/>.



# October

## CALENDAR OF EVENTS

Date	Time	Event
1 <sup>st</sup> Saturday	10:00 a.m.-1:00 p.m.	<b>Ask a Master Gardener</b> – Island Library – 5701 Marina Drive, Holmes Beach. Visit the Extension Master Gardener information table and get answers to your gardening questions.
2 <sup>nd</sup> & 4 <sup>th</sup> Saturday	10:00 a.m.-1:00 p.m.	<b>Ask a Master Gardener</b> – Rocky Bluff Library – 6750 US Highway 301 N., Ellenton. Visit the Extension Master Gardener information table and get answers to your gardening questions.
2 <sup>nd</sup> Saturday	10:00 a.m.-1:00 p.m.	<b>Ask a Master Gardener</b> – South Manatee Library – 6081 26 <sup>th</sup> Street West, Bradenton. Visit the Extension Master Gardener information table and get answers to your gardening questions.
Saturday October 13	9:00-11:00 a.m.	<b>Extension Master Gardener Plant ID Tour - Riverview Pointe Preserve</b> – DeSoto National Memorial – Stroll through Riverview Pointe Preserve to learn more about Florida’s native plants and inhabitants of a coastal habitat. Suitable for all ages. The hike begins in the parking area of the DeSoto National Memorial Park and enters into the Riverview Preserve at 8250 DeSoto Memorial Highway, Bradenton. To register call the Extension Master Gardeners at (941) 722-4524.
Friday October 19	5:30 p.m.-7:30 p.m.	<b>Common Vegetable Diseases</b> - This workshop is designed to educate the casual gardener about some of the most common vegetable diseases in Florida and in Manatee county. In this roughly two-hour class, participants will learn the basic biology of pathogenic organisms, how to identify common disease symptoms, and acquire some basic disease management skills. The workshop will provide a great benefit to the home gardener as our major planting season begins. <b>This workshop is not designed for professional landscapers or pesticide applicators.</b> Register online at <a href="https://veggiediseases.eventbrite.com">https://veggiediseases.eventbrite.com</a> or call Mack at (941) 722-4524.
Saturday October 20	10:00 a.m.-Noon	<b>Seed Saving and Propagation</b> - This workshop will cover the basics of seed saving, propagation, and why it is important. We will cover strategies for most of the commonly cultivated vegetables in Florida, varying germination techniques, varietal maintenance and isolation, and the positive impacts of saving seeds. Register on-line at <a href="https://seed_saving_and_propagation.eventbrite.com">https://seed_saving_and_propagation.eventbrite.com</a> or call the Extension Master Gardeners (941) 722-4524.
Tuesday October 23		<b>Monthly Guided Tours of the Master Gardener Educational Gardens</b> - 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 October 30	Noon-2:00 p.m.	<b>Drought Tolerant Plants 101 – Class location at the South County Library</b> - Learn how to choose beautiful drought tolerant plants for your landscape and know what to put back on the shelf! Valrie Massey, Horticulture Program Assistant, will discuss the difference between the good and the bad plant. This class satisfies the landscape educational class requirement for the Manatee County Outdoor Water Conservation Rebate Program. Register at <a href="https://drought-tolerant-plants101.eventbrite.com">https://drought-tolerant-plants101.eventbrite.com</a> or call (941) 722-4524.
		<b>University of Florida IFAS Extension - Manatee County</b> 1303 17 <sup>th</sup> St. W., Palmetto, FL 34221 Telephone: (941) 722-4524 Web site: <a href="http://manatee.ifas.ufl.edu">http://manatee.ifas.ufl.edu</a> E-mail: <a href="mailto:ManateeMG@gmail.com">ManateeMG@gmail.com</a>
		

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## 2018 Master Gardener Plant Fair

8AM to 1PM

1303 17<sup>th</sup> St. W. Palmetto

We've Got a Good Thing Growing!

