# Earth Day 2022

A resource for Tampa Bay residents from the *Tampa Bay Times* and UF/IFAS Extension

Tampa Bay Times NIE
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# Introduction

Each Sunday in the *Tampa Bay Times* Homes section, UF/IFAS county Extension agents offer their expertise on topics including gardening, landscaping, natural resources, wildlife and much more to *Times* readers.

This special educational publication collects some of our favorite columns from 2020-2021 and pairs them with Florida Standards-aligned activities for the classroom and the home.

## About UF/IFAS Extension

The University of Florida's Institute of Food and Agricultural Sciences (UF/IFAS) is a federal-state-county partnership dedicated to developing knowledge in agriculture, human and natural resources, and the life sciences.

UF/IFAS county Extension offices provide classes, demonstrations, educational materials and much more to the public. Florida presents unique challenges and opportunities for residents who enjoy gardening or want to maintain a beautiful landscape. Whether you hope to grow your own vegetables, adorn the yard with gorgeous ornamentals or simply keep your lawn neat and healthy, UF/IFAS Extension has resources that can help.

## Tampa Bay UF/IFAS Extension contacts


**Hernando**
16110 Aviation Loop Dr.
Brooksville, FL 34604
hernando@ifas.ufl.edu
352-754-4433
http://sfyl.ifas.ufl.edu/Hernando/

**Hillsborough**
5339 South CR-579
Seffner, FL 33584-3334
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813-744-5519
http://sfyl.ifas.ufl.edu/Hillsborough/

**Pasco**
36702 State Road 52
Dade City, FL 33525-5198
greich@pascocountyfl.net
352-518-0156
http://sfyl.ifas.ufl.edu/pasco/

**Pinellas**
12520 Ulmerton Road
Largo, FL 33774
gardenhelp@pinellascounty.org
727-582-2100
http://sfyl.ifas.ufl.edu/Pinellas/


# 9 Nine Principles of Florida-Friendly Landscaping™

### 1. Right Plant, Right Place
Achieving a healthy, low-maintenance home landscape starts with putting the right plant in the right place. Select plants that match a site's soil, light, water and climatic conditions.

### 2. Water efficiently
An efficient irrigation system conserves water and helps to ensure that fertilizer and other pollution doesn't flow into water bodies.

### 3. Fertilize appropriately
Proper fertilization enhances growth, increases flowering or fruiting, corrects nutritional deficiencies and enhances the plant's appearance. Improper fertilization can damage plants and the environment.

### 4. Mulch
Mulch helps retain soil moisture, protects plants and inhibits weed growth. It gives your landscape a neat, uniform appearance and is a great Florida-Friendly choice for hard-to-mow areas and shady spots.

### 5. Attract wildlife
Select plants with seeds, fruit, foliage, flowers or berries that provide food. Supply sources of water, such as a rain garden or bird bath.

### 6. Manage yard pests responsibly
To prevent disease and insect outbreaks, select pest-resistant plants and put them in suitable locations. When problems do arise, remove the affected leaves or plant parts, or pick the insects off by hand.

### 7. Recycle yard waste
Decomposing organic matter releases nutrients back to the soil in a form that plants can easily use. Using yard waste for composting is a sustainable way of creating organic fertilizer.

### 8. Reduce stormwater runoff
Fertilizers, pesticides, debris and eroded soil carried in stormwater can wreak havoc on our water quality. Florida-Friendly Landscaping™ seeks to retain and use as much of the rainfall and irrigation water that lands on our home landscapes as possible.

### 10. Protect the waterfront
Florida boasts more than 10,000 miles of rivers and streams, about 7,800 lakes, more than 700 freshwater springs, and the United States' second-longest coastline.

# About Earth Day

The first Earth Day took place on April 22, 1970, in reaction to the increasing pace of environmental disasters and a growing public awareness of the consequences of environmental damage. Earth Day is now a global event, with more than 1 billion people in 192 countries taking part annually.

The Earth Day 2022 theme is "Invest In Our Planet. What Will You Do?" Learn more at https://www.earthday.org/earth-day-2022/.

A Day For Awareness About The Environment

Times Wire Services

It's here — Earth Day.

It's a day when thousands of Americans — ranging from school children to college professors, from campus militants to suburban bird watchers — will hold demonstrations and teach-ins.

The Earth Day demonstrations — which will vary from quiet discussions to bizarre stunts — have one common denominator. They will protest the deterioration of the environment and demand action to improve and protect the world in which humans live.

"THE PROBLEM is here and now is the time to correct it — before it gets out of hand," said James McClellan, chairman of Earth Day activities at Southern State College in Magnolia, Ark.

Sponsors have estimated more than 2,000 communities will participate in the environmental campaign.

NURSING students at the University of Connecticut in Storrs plan to undam, drain and clean up Duck Pond, adjoining their school.

Tulsa University students planned a "pollution trail," guiding participants on a tour ranging from sewage treatment plants to an unspoiled section of land.

The New Party of Florida is sponsoring a "Dirty Orange Parade" in Miami, with floats emphasizing the pollution theme. One float, called "Old Smokies," depicts smokestacks across the country. Another "People Pollution," will show a small car crammed with people and carrying a banner reading, "We double every 35 years — food doesn't."

SEVERAL groups made the automobile their Earth Day target. Traffic bans were scheduled in many cities, including New York and Philadelphia. The University of Iowa in Des Moines planned a "Survival Parade of Nonmotorized Transportation."

Frederick Kent, a coordinator of Environmental Action Coalition (EAC), estimated that "from 1-million to 1.5-million" New Yorkers would participate in activities on Fifth Avenue, in Union Square and elsewhere.

"I think it will be the largest demonstration ever held in New York City and perhaps the largest held in the United States," he said.

STUDENTS at Northern Illi-

(See EARTH DAY, 11-A)

Earth Day Dawns

- Florida's Earth Day, 1-B.
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Petersburg Times

Cramer Says He's Still In

Premier Of Cambodia Asks Nixon For Help

A Day For Awareness About The Environment

## Going beyond the text:

## Earth Day

Read the *National Geographic Explorer* magazine article "Celebrate Earth" at https://www.nationalgeographic.org/activity/introduction-earth-day/#celebrate-earth.

Write down your answers to the following questions:

- When did the first Earth Day take place? Why?
- What did people do at the first Earth Day celebration?
- What laws did the government pass to protect our environment?
- What other countries celebrate Earth Day?
- What information did you learn from the article that was new to you?

As a class, brainstorm environmental problems that affect your daily lives (for example, littering, wasting electricity or wasting water) and write them on the board. Discuss: Is it possible to have a big impact on the environment by making small changes? Review The 9 Principles of Florida-Friendly Landscaping™ above and at https://ffl.ifas.ufl.edu/about-ffl/9-principles/. Brainstorm ways that you can use Florida-Friendly Landscaping™ to have a positive impact on your home, school or community's environment.

Working in small teams, create a public service announcement (PSA) informing people about Florida-Friendly Landscaping™ and how it can help the environment. You can create a video, image, radio announcement or infographic. Your PSA should include a call to action for what the public should do, or not do, as a result of this knowledge.

**Florida Standards:** SS.8.G.5.1; SC.912.L.17.17; SC.5.L.15.1; SP.PK12.VI.5.5; HE.912.C.1.3; SC.4.L.17.4; SC.1.L.14.1; SC.912.CS-CC.1.4; ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3

# Tampa Bay Earth Day 2022 Events

### HERNANDO

**WellCome OM Center's 3rd Annual Earth Day Celebration**
Saturday, April 23, 2022, 9 a.m. – 2 p.m.
WellCome OM Integral Healing and Education Center,
4242 Lake in the Woods Dr., Spring Hill
https://www.eventbrite.com/e/250313152377
**natalya@wellcomeomcenter.com | 352-600-4242 ext. 4002**

### HILLSBOROUGH

**EcoFest**
Saturday, April 23, 2022, 10 a.m. – 3 p.m.
MOSI, 4801 E Fowler Ave., Tampa
http://www.learninggate.org/ecofest
**ecofest@learninggate.org | 813-948-4190**


### PASCO

**Earth Day 2022 Celebration**
Saturday, April 23, 2022, 9 a.m. – 1 p.m.
Crews Lake Wilderness Park, 16739 Crews Lake Dr., Spring Hill
**lkelley@covanta.com | 727-856-2917 ext. 201**

- **UF/IFAS Ask-A-Master Gardener**
  9 a.m. – 1 p.m. Have your plant, gardening, lawn and more questions answered. Feel free to bring a sample or a good picture! jmoll@pascocountyfl.net
- **UF/IFAS Rainwater Harvesting Workshop** 10-11 a.m.
  welmore@pascocountyfl.net
- **UF/IFAS Compost Happens Workshop** 12-1 p.m.
  welmore@pascocountyfl.net

### PINELLAS

**Earth Day 4-H Youth Summit 2021 – Restore our Earth Teach-In**
Friday, April 22, 2022, 8 a.m. - ?
**shernandez2@pinellascounty.org**

**"Trash to Art" Demos and Earth Friendly Sidewalk Market**
Friday, April 22, 2022, 12 – 5 p.m.
St. Pete ArtWorks, 2604 Central Ave., St. Petersburg
**stpeteartworks@gmail.com | 727-485-8655**

**Green Thumb Festival**
Saturday-Sunday, April 23-24, 2022, 9 a.m. – 4 p.m.
Walter Fuller Park, 7891 26th Ave. N, St. Petersburg
http://www.stpeteparksrec.org/greenthumb/
**Greenthumb@Stpete.Org | 727-893-7441**

To find more Earth Day events near you, visit https://www.earthday.org/earth-day-2022/.

# Rainwater harvesting:

## Now's a good time to get ready, set and capture

**BY LYNN BARBER**
Florida-Friendly Landscaping™ agent, UF/IFAS Extension Hillsborough County

If you haven't attended a rainwater harvesting workshop at your University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) Extension office, you should. It's that time of year again when the rains commence, and we can most certainly take advantage of the season. Rainwater harvesting is a great way to capture and utilize this free resource.

Many UF/IFAS Extension offices offer rainwater harvesting workshops, where participants learn how to safely and correctly set up their rain barrel, connect more than one barrel and install overflow accommodations. Instructions regarding safety considerations, maintenance and painting barrels are also presented. Some counties charge for these workshops, so check with your county to determine whether there is a fee.

Rain barrels and cisterns are devices that collect rainwater used mainly for landscape irrigation. These devices reduce stormwater runoff and erosion because they catch and contain it. Rain barrels and cisterns decrease the amount of potable water used for landscape irrigation because you use the water you capture to irrigate your plants, wash your car and clean your gardening tools. If you add water-soluble fertilizer to your rain barrel, you can feed and water your plants at the same time. However, don't use rainwater containing fertilizer to wash your car or clean your gardening tools.

At UF/IFAS Extension Hillsborough County, a 275-gallon cistern is used in the Bette S. Walker Discovery Garden in our courtyard. This cistern waters the bog garden, which contains carnivorous plants that prefer chemical-free water.

Rainwater harvesting is important because one inch of rain on a 1,000 square foot roof yields 623 gallons of water. Florida's annual precipitation average is 54.57 inches. Each of us could harvest more than 34,000 gallons.

That's why participants are taught how to make their own rain barrel, because one is definitely not enough. Past workshop attendees have said that since attending this training, they have purchased additional rain barrels from a feed store. Also, they love the conservation aspects of rainwater harvesting and are glad to do their part in decreasing stormwater runoff and erosion. Most wish they had more barrels.

Attend a rainwater harvesting workshop at your local Extension office and learn another water conservation method. Follow your homeowner association architectural control or landscape committee procedures before you incorporate changes in your landscape. To register for rainwater harvesting workshops in Hillsborough County, please go to: https://sfyl.ifas.ufl.edu/hillsborough/upcoming-events/. The next class is Sat., May 15, 9 – 10 a.m. We provide one rain barrel per household, which has been drilled and spigoted. As always, remember to reduce, reuse, recycle and repeat. Each of us can make an environmental difference.

***Contact Lynn Barber at labarber@ufl.edu.***

# The big squeeze is on Florida's water:

## Adopting conservation strategies for outdoor water use

**BY DON RAINEY**
Regional Specialized Agent Water Resources UF/IFAS Extension Southwest District

Higher populated cities in Florida either already are imposing — or may soon impose — stricter outdoor water use. Changes in water allocation should be a concern and an opportunity. Impacts associated with land-use changes present an equally demanding challenge for water managers. According to Florida 2070 (www.1000friendsofflorida.org), population trends indicate that an additional 15 million people will be living in the state by 2070.

It is vital that homeowners judicially apply irrigation water from freshwater sources such as surface and well supplies to safeguard our natural resources for future generations. As we enter the spring dry season — typically April and May for our area — homeowners should consciously consider a landscape plant selection or irrigation system retrofit strategy that permanently reduces year-round outdoor water use in the lawn and landscape.

Why in the spring? The spring typically ushers in a combination of higher winds and temperatures, low humidity and less frequent rain that results in prolonged drier

In order to conserve water during Florida's Spring dry season (April and May), homeowners should install a rainfall-shutoff sensor, which is required by Florida law, on sprinkler systems and one or more soil moisture sensor irrigation controllers. Consult your local water utility department, a UF/IFAS Extension Agent, or landscape irrigation contractor for more information about possible rebates and installing these irrigation control devices.

conditions. These drier conditions put a "big squeeze" on water supplies for outdoor use. Take advantage of the dry season to determine expected irrigation water needs based on existing plant health and how plants respond to drought. The dry season provides insight into your landscape water allocation needs and confirms a right-plant, right-place design, or otherwise.

Homeowners should adopt horticultural and innovative water-use practices in the landscape to avoid the routine irrigation of established plants. Ideally, established landscape plants such as shrubs, trees, and palms should be visually monitored and watered only during severe drought times. You may see plant drought stress symptoms by the leaf wilting, yellowing or drop or a lack of plant vigor. The Florida-Friendly Landscaping™ plant establishment guidance encourages plant health resiliency, resulting in optimal plant growth, aesthetics and longevity.

Consider plant selection requirements and your landscape maintenance needs as Florida transitions to more people in smaller places and shrinking seasonal water availability. The UF/IFAS Extension Service recommends homeowners take a Florida-Friendly Landscaping™ approach, "right-plant, right-place." This approach not only provides a match to your tropical, native savannah, hammock, or backdoor garden interest but incorporates water-wise conservation goals. Contact your local UF/IFAS County Extension Office for more information and guidance.

Current research and industry experience suggest that a "by-pass" irrigation control method is a more efficient and effective way for homeowners to manage irrigation, but to get there, you need to install technology beyond the visual cues previously mentioned. For example, here are two recommended irrigation devices to add to your system: One required by Florida law, a rainfall-shutoff sensor, and the optional installation of one or more soil moisture sensor irrigation controllers.

Consult your local water utility department, local UF/IFAS Extension Agent, or landscape irrigation contractor for more information about possible rebates and installing these irrigation control devices.

Today, Floridians have more economical choices than ever to address how they want to conserve water in the landscape and adhere to water restrictions. Take the time during the dry season to evaluate your irrigation management practices and the plants you are growing. Take advantage of local irrigation water conservation rebates to upgrade your technology and investigate Florida-friendly plant replacement options that will complement your future conservation strategy.

Conserving Florida's water resources is essential to our economic, social, and environmental way of life.

***Contact Don Rainey at drainey@ufl.edu.***

# Going beyond the text:

## Water conservation

Although more than 70 percent of Earth's surface is covered with water, less than 1 percent of this water is available for human consumption.

While the population of the United States has doubled over the past 50 years, our thirst for water has tripled, according to the U.S. Environmental Protection Agency.

Florida's many springs, rivers and lakes can make it seem as though water is abundant in our state. However, all these surface waters are sustained by our groundwater resources, mainly the Floridian Aquifer. Although west-central Florida receives an average of 53 inches of rainfall a year, only 2 to 40 percent of that will percolate down into the ground to help recharge the aquifer. If we use water faster than the aquifer can be recharged through rainfall, we deplete our water resources.

An average household uses about 300 gallons of water per day. Use the worksheet below to estimate the amount of water that your household typically uses in one day.

1. In column two, record the average number of times that members of your household perform the activity each day.
2. Multiply the number in column two by the number of gallons of water in column three to find out how much water your household uses for that activity daily. Record the answer in column four.
3. Add up the numbers in column four to find out how many total gallons of water your household uses in one day.

How many total gallons of water does your household use per day? What activity uses the most water? What activity uses the least?

Use the *Tampa Bay Times* articles "Rainwater harvesting: Now's a good time to get ready, set and capture," and "The big squeeze is on Florida's water: Adopting conservation strategies for outdoor water use," by Lynn Barber and Don Rainey, as well as the UF/IFAS (http://sfyl.ifas.ufl.edu/), SWFWMD (https://www.swfwmd.state.fl.us/) and U.S. Environmental Protection Agency (https://www.epa.gov/) websites to research ways that your household can reduce its use of water.

Write a letter to the editor about how your household plans to reduce its water use. Use the letters in the opinion section of the *Tampa Bay Times* and at https://www.tampabay.com/opinion/letters/ as models.

| Activity | Number of times activity performed each in household | Average gallons of water used each time | Total gallons used per day |
|---|---|---|---|
| *Example* | *5* | *x 2 gallons* | *10* |
| **Flushing toilet** | | **x 4 gallons** | |
| **Showering** | | **x 30 gallons** | |
| **Taking a bath** | | **x 45 gallons** | |
| **Brushing teeth** | | **x 1 gallon** | |
| **Washing hands** | | **x 1 gallon** | |
| **Washing dishes by hand** | | **x 30 gallons** | |
| **Dishwasher (per load)** | | **x 12 gallons** | |
| **Washing machine (per load)** | | **x 43 gallons** | |
| **Washing car** | | **x 30 gallons** | |
| **Watering lawn/ garden (30 min.)** | | **x 15 gallons** | |
| **TOTAL** | | | |

*Adapted from: "Water Conservation," PBS Learning Media*
*Additional sources: Southwest Florida Water Management District, U.S. Environmental Protection Agency*

Florida Standards: SC.412.N.1.1; SC.412.N.1.2; SC.4.L.17.4; SC.4.L.16.2; ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3

# Homeowners struggling with turf:

**BY DR. WHITNEY ELMORE**
Director of UF/IFAS Extension Pasco County

## "I should have called you first"

If you have the facts, growing turfgrass is relatively easy. St. Augustinegrass and bahiagrass are best adapted to our area, and they require full sun. St. Augustinegrass tolerates five to six hours of filtered sunlight (30% max dappled shade), but it struggles with less. Bahiagrass prefers eight hours of full sun; no shade. Consider shade-loving plants in shady spots, not turf. Water, fertilizer and pesticides will not help shaded turf. This is an example of using the wrong plant in the wrong place.

Both grasses should be mowed between 3 and 4 inches high. They should be watered with deep, infrequent irrigation, which promotes deep rooting and healthier plants.

In the dry season, it's common to see symptoms of drought in St. Augustinegrass. Rolled leaf blades, bluish-purple color or foot printing are symptoms of drought. With frequent rain in the summer, healthy turf is unlikely to need supplemental irrigation. Too much water could cause more harm than good. Monitor turf for drought stress and irrigate between 6 p.m. and 8 a.m. with ¾ inch of water per application.

Most counties have water restrictions that limit homeowners to one irrigation event per week. Make the most of it and irrigate appropriately. Bahiagrass is exceptionally drought tolerant. Drought-stressed bahiagrass goes dormant, then greens up quickly with summer rains or irrigation. Again, grass only needs ¾ inch of water per irrigation when it's healthy. Shaded grasses require less water and fertilizer, so more is not better in these cases.

Depending on the system, 10 minutes of irrigation might mean 1/10 of an inch to 2 or more inches of water was applied. Easily calibrate the system by using three tuna cans randomly placed in each irrigation zone, and run the zone for 10 minutes. Using a ruler, measure the amount of water in the cans and take the average of the three. If the amount is more (or less) than the ¾ inch recommended, adjust the timing on that zone. Test each zone, fix broken heads and correct those hitting anything other than turf. Calibrate twice a year to save time and money.

Establish St Augustinegrass, any time of year, using sod. Seed is not an option with this grass. Waiting until the summer rains are frequent can be helpful for establishment. Use the following 30-day sod establishment irrigation routine developed by UF /IFAS, pictured below.

After 30 days, sod will be established (it resists when you tug it), so begin irrigating with ¾ inch of water weekly. Even with irrigation restrictions, it is acceptable to use this routine for the first 30 days. It's critical that the irrigation system is reset on day 31 to accommodate the restrictions. A functional rain-shutoff device must be in use so irrigation doesn't run during or after a heavy rain event. That's the law.

Bahiagrass can be established through seed or sod with Argentine, best for lawns. Seed at 5 to 10 pounds per 1,000 square feet, and use the same watering schedule. Bahiagrass sod is much quicker than seed and better for small areas. Bahiagrass seed works best with large acreage and/or no irrigation. Bahiagrass thins out over time, so reseeding may be necessary. Weeds can be an issue since bahiagrass grows upright allowing light to hit the ground.

Wait at least 30 days after establishment, for either grass, before fertilizing. Only fertilize turfgrasses when they are actively growing from mid-March through mid-October. Dormant turfgrasses don't take up the nutrients. Fertilizers become pollutants when plants don't use them. Fertilize with one to four pounds of nitrogen per 1,000 square feet (total/year) spread out across two to four applications. The more fertilizer used,

the more maintenance required. Both grasses can be maintained and look beautiful with minimal fertilization.

Growing turfgrass doesn't have to waste your time, your money or your sanity. Call your local University of Florida/IFAS Extension Office for more information.

*Whitney Elmore is the director of UF/IFAS Extension Pasco County. Contact her at wcelmore@ufl.edu.*

## 30-DAY SOD ESTABLISHMENT IRRIGATION ROUTINE

| Day | # of Cycles | Run Time (fixed spray) | Run Time (rotors) | Time of Day |
|---|---|---|---|---|
| Day 1 | 3 times/day | 6 minutes | 18 minutes | Upon Installation |
| My start date | *Water 3 times on the first day at 6 hour intervals. 1st application occurs immediately following sod installation* | | | |
| Days 2 - 10 | 2 times/day | 8 minutes | 24 minutes | Before 8 a.m. and after 6 p.m. |
| My day 10 | *Increase run time as indicated Water 2 times per day in the morning and the evening at 12 hour intervals* | | | |
| Days 11 - 15 | 1 time/day | 16 minutes | 48 minutes | Before 8 a.m. and after 6 p.m. |
| My day 15 | *Increase run time as indicated Water 2 times per day in the morning and the evening at 12 hour intervals* | | | |
| Days 16 - 30 | 1 time/day | 20 minutes | 60 minutes | Before 8 a.m. and after 6 p.m. |
| My day 30 | *Increase run time as indicated Water 1 time per day in the morning or evening* | | | |
| Day 31 | *Water up to twice weekly, by address, before 8 a.m. or after 6 p.m.* | | | |

# In Praise of the Sabal Palm

**BY THERESA BADUREK**
Theresa Badurek is the Urban Horticulture Agent for the University of Florida/IFAS Extension in Pinellas County.

Pollinators and native plants get a lot of attention – and it's well deserved. They are both critical to our environment and our food supply. Many species come to my mind when I think of pollinators and native plants. I'd like to expand on one plant in particular that is native, supports tons of pollinators and is absolutely gorgeous in the landscape: the sabal palm, Sabal palmetto. Some of you may know this as the cabbage palm or the palmetto, and you may also know that it's our state tree. This palm is our best adapted palm but does not get the attention it deserves. Here's why we should all admire the sabal palm: Sabal palmetto has a long useful history. Sabal palms have provided for Floridians for many generations. Native cultures and early Florida settlers used every part of this palm. Heart of palm is delicious, although eating the growing bud of the palm means the palm is dead. Early Floridians ate the fruit, made medicine, fire tools, housing materials (in the 1930s the Civilian Conservation Corps used sabal palm trunks to construct park buildings), mats, fibers, ropes, fish nets, baskets, traps and more. All of these useful items were made from the sabal palm – like an early big-box store but without the fluorescent lights.

The sabal palm is our state tree, but did you know that it's not a tree? How Florida. It's true. While sabal palms are arborescent ("tree-like"), they aren't trees. Palms are another plant altogether, more closely related to bamboo and grasses from a categorical standpoint.

However, it was designated our state tree in 1953 and is featured on the state seal and flag. What an over-achiever.

Pollinators and wildlife love this plant, too. The beautiful, long pendant white flower clusters draw thousands of pollinators when blooming. Standing under a flowering sabal palm one can hear the lively buzzing. Birds enjoy the fruit, and unpruned fronds make excellent cover for wildlife like bats (free pest control) and other critters. Wait, it's also a hotel and restaurant?

Perhaps one of its best features is its low-maintenance beauty. The sabal palm is highly adaptable to many soil types and moisture levels, making it ideal for almost any location with enough sun. They require no pruning, although people constantly think they need to be pruned. In fact, unpruned sabal palms are healthier and more hurricane resistant, so let the winds

howl. Additionally, they are slow growing and long-lived; they can live over 100 years. Placed just right, their curved fan-like fronds provide a fair amount of shade, especially if you plant with the sun direction.

I can't think of a better palm for Florida yards. If you don't have one yet – consider planting one.

As always, consider your location and choose the right plant for the right place. Native plants will outdo exotic plants if you keep this in mind. Plant some sabal palms, hang a hammock, and enjoy your Florida yard.

*Contact Theresa Badurek at tbadurek@pinellascounty.org.*

## Going beyond the text:

### Choosing a tree

Choosing the right tree is important to having a healthy, thriving tree that works with your landscape. Careful planning is necessary before you plant to make sure that your tree will grow well and stay healthy. There are several factors to consider:

**1.** USDA Plant Hardiness Zone: The U.S. Department of Agriculture has divided the United States and Canada into 11 areas based on the average annual minimum temperature. Choosing a tree that is recommended for your Hardiness Zone helps to ensure its survival. The USDA has designated four zones in Florida: 8, 9, 10 and 11. Visit https://planthardiness.ars.usda.gov/ for an interactive zone map by ZIP code.

**2.** The Right Tree in the Right Place: These guidelines from the Arbor Day Foundation help you to choose a suitable tree by taking into account factors including height, canopy spread, shape, growth rate, fruit, and soil, sun, and moisture requirements. Visit https://www.arborday.org/trees/index-choosing.cfm for more information and an interactive wizard.

Use the *Tampa Bay Times* articles "In praise of the Sabal Palm," and "Tips to get your trees through this hurricane season," by Theresa Badurek and Rob Northrup, as well as the UF/IFAS (http://sfyl.ifas.ufl.edu/) and Arbor Day Foundation (https://www.arborday.org/) websites to research trees that would be good selections for a location of your choice (home, school etc.). Choose one species to plant, and prepare a presentation outlining why you chose that particular tree. You can make a poster or create a PowerPoint or Prezi presentation.

**Florida Standards:** SC.412.N.1.1; SC.412.N.1.2; SC.4.L.17.4; SC.4.L.16.2; ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3

# Tips to get your trees through this hurricane season

**BY ROB NORTHROP**
Extension forester,
UF/IFAS Extension
Hillsborough County

Hurricane-force winds can severely damage trees. Trees harmed by high winds can become hazardous and pose risks to personal safety and property.

While recognizing the primary importance of protecting our loved ones — before, during and after hurricanes — it is also important to remember that trees provide many benefits that support our health and well-being. They provide shade and reduce energy used for air conditioning. They reduce the extreme summer temperatures in cities caused by concrete and pavement, and they increase property values.

There are opportunities to better prepare for this hurricane season. A University of Florida study of tree damage from 10 hurricanes teaches us valuable lessons. Using these lessons, we can better prepare for the next hurricane and, over time, establish trees around our homes and businesses that are healthier and more resistant to storm damage.

The higher the wind speed of a hurricane, the more likely trees are to be damaged. But other factors influence tree damage:

- A slower moving storm will mean more water accumulating in the soil, reducing the ability of the tree to remain upright.
- Soil depth, depth to the water table and soil composition.
- Tree species, age, health and structure.
- Tree canopy density and composition.

Here are some tips to best deal with your trees during hurricane season:

- UF/IFAS field trials have proven that properly pruning the tree's canopy can reduce damage. To conduct the pruning, consider hiring an arborist certified by the International Society of Arboriculture. You can try this website: https://www.treesaregood.org/findanarborist
- Slower-moving storms with a lot of precipitation will mean more water accumulating in the soil and loosening the grip of the roots on the soil. Trees in shallow soils are more prone to blow over than trees rooted more deeply.
- Short lived, over-mature trees should be removed and replaced by new wind-resistant trees. Consider life span when managing trees for wind resistance.
- Remove hazardous trees before the wind does. Have an arborist certified by the International Society of Arboriculture inspect your trees for signs of disease and decay in trees and determine if the tree is dangerous.
- Consider removing tree species that don't survive hurricanes well, especially if they are in decline and could endanger lives and property.
- Be careful not to damage or cut main support roots during construction. Be aware that when the tree roots are cut, the anchoring system of the tree may be harmed and compromised.

When a tree fails, or is removed, plant a new tree in its place:

- Plant tree species that have been shown to be more wind resistant.
- Plant trees in groups as opposed to individually, they are more resistant to wind damage in groups.
- Give trees enough rooting space based on their mature size: small trees need at least 10 feet by 10 feet, medium trees 20 feet by 20 feet, and large trees 30 feet by 30 feet.

Become familiar with the recommended wind resistant tree species in your region of Florida. Here's a UF/IFAS publication that might help: "Wind and Trees: Lessons from Hurricanes," available on the UF/IFAS Extension publication website, known as EDIS: https://edis.ifas.ufl.edu/publication/FR173.

*Contact Rob Northrop at northrop@ufl.edu.*

# A Better Way to Water

There are four types of microirrigation: microspray, bubblers, dripper emitters and drip tubing. A bubble to drip emitter is shown above.

**BY LYNN BARBER**
Florida-Friendly Landscaping™ agent, UF/IFAS Extension Hillsborough County

## Microirrigation conserves water in the landscape

Water is among our most valued resources. It is required for survival and is non-renewable at our current rate of consumption. The Florida 2070/Water 2070 Project estimates that we will see an increase of 15 million residents by the year 2070. This will result in an increasing demand on water supply for growth. That said, water conservation is even more important today than in the past.

There are several ways to conserve water in the landscape, one of which is microirrigation. It is a system that provides small amounts of water compared to an inground irrigation system, is easy to install, connects to an outdoor spigot/hose bib and provides 30 gallons per hour or less. There are four types of microirrigation: microspray, bubblers, dripper emitters and drip tubing.

The advantages of using a microirrigation system include:

- Water is applied in gallons per hour vs. gallons per minute from an in-ground irrigation system.
- Evaporation and erosion are decreased.
- Design, installation and use are simple.
- Products are interchangeable among vendors.
- Used as "nurse system" to establish new plantings.

Maintenance is minimal. A monthly walk through your landscape beds will allow you to make adjustments or repairs as needed that could be due to lawnmowers, weed eaters or garden critters, such as armadillos leveling spray stakes.

Attend a microirrigation workshop at your local Extension office and learn another water conservation method. To register for an upcoming microirrigation workshop in Hillsborough County, please contact me at labarber@ufl.edu.

For assistance with horticultural questions, call: 813-744-5519 and visit us on Facebook for our Florida-Friendly Landscaping™ news. Hope to see you at a workshop soon. As always, remember to reduce, reuse, recycle and repeat. Each of us can make an environmental difference.

*Contact Barber at labarber@ufl.edu for more information about how to find the Florida-Friendly Landscaping™ Facebook page, as well as the calendar of events at UF/IFAS Extension Hillsborough County and accessing the Florida 2070/Water 2070 Project.*

## Going beyond the text:

### Stormwater site inventory

As you learned from the *Tampa Bay Times* article "It's not just a stormwater pond" by Don Rainey, stormwater runoff is water that originates as rainfall and flows over the land. It can pick up sediment, pollutants and debris as it moves. The water quality of rivers, streams, lakes and ponds is impacted by contaminated stormwater runoff.

Landscape architecture is the design of outdoor spaces such as parks, gardens and streetscapes. One of the first things a landscape architect has to do in the design process is to complete a site inventory. A site inventory involves identifying, observing and recording different features on the site such as structures, stormwater flow, vegetation, sun and shade patterns, wildlife habitat and elevation changes.


In this activity, you will conduct a site inventory of a location of your choice, such as your yard at home or your school grounds.

Draw a basic map of your site using the symbols on the Site Inventory Symbols key. Include structures, roads, paths and driveways, vegetation, sunny and shady areas, and ponds and streams. You may use a satellite map to help you represent the layout accurately.

Next, add stormwater elements to your map. Stormwater elements include downspouts, storm drains, areas of ponding (where water builds up due to poor drainage), impervious surfaces (surfaces that do not allow water to filter through, such as asphalt or concrete), and stormwater flow paths (the paths that stormwater takes when travelling across the landscape).

Once your map is finished, answer the following questions:

- What were some of the observations you made?
- Were there any areas of the property that you think are underutilized? How would you change them?
- Did you observe any drainage issues in the form of puddles, erosion or standing water anywhere on the site?
- If you were a landscape architect and you were told to re-design the site to improve stormwater flow, how would you design it? (Write or draw your answer).

*Adapted from: "Site Inventory," Stormwater Management Lesson Plans for Grades 3-12, University of Maryland Department of Plant Science and Landscape Architecture*

**Florida Standards: SC.412.N.1.1; SC.412.N.1.2; SC.4.L.17.4; SC.4.L.16.2; ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3**

# Ornamental grasses enhance curb appeal with low maintenance

**BY LYNN BARBER**
Florida-Friendly Landscaping™ agent, UF/IFAS Extension Hillsborough County

Ornamental grasses are a great addition to any landscape. They add texture, color, form and interest. As with all types of plants, consider the site conditions of your landscape, which include sun, shade, mature size (height and spread) for placement purposes, soil pH, soil moisture and soil texture. The following ornamental grasses thrive in central Florida:

• **Muhly grass,** *Muhlenbergia capillaris,* a native plant, reaches a height of three to four feet and spread of two to three feet. It prefers full sun, can tolerate extreme drought and flooding, has moderate salt tolerance and works well in wetland sites and beachfront landscapes. Muhly grass has narrow foliage and produces pink/purple fall flowers. It is used as a border, as an accent, in mass plantings and as cut flowers.

• **Fakahatchee grass,** *Tripsacum dactyloides,* another native, reaches a height and spread of four to six feet. It prefers full sun, does well in partial shade/partial sun and tolerates flooding and standing water. Fakahatchee grass produces cream/yellow/orange/red flowers from spring through summer and is a larval food plant for the Byssus Skipper butterfly. This ornamental grass also requires minimal maintenance, which consists of pruning once a year, late winter or early spring (February and March in central Florida) before you see new shoot growth.

• **Purple fountain grass,** *Pennisetum setaceum* 'Rubrum', can reach a height of four to six feet and spread of two to four feet and prefers full sun. It has moderate drought tolerance and needs well-drained soil moisture. Purple fountain grass has narrow purple leaves with purple-pink or copper flowers in summer and fall. This is an excellent ornamental grass when used in mass plantings, containers, as an accent, border or cut flowers. It can reseed into surrounding areas which could be a good or bad thing, depending on your location and preference.

• **Elliott's lovegrass,** *Eragrostis elliottii,* has a height and spread of one to three feet and is a fast-growing native. This grass prefers well- to medium-drained soil and has high drought tolerance. It prefers full sun and does well in partial sun or shade. Elliott's lovegrass produces year-round tan flowers, which are abundant in the fall.

Photo by Lynn Barber

***Fakahatchee Grass***

Photo courtesy of UF

***Muhly Grass***

Photo courtesy of UF

***Purple Fountain Grass***

All are easy to divide, share with your friends and neighbors or create more color in your own landscape. Once established, irrigation may not be needed at all.

For assistance with horticultural questions, contact your local UF/IFAS Extension office. In Hillsborough County, call us at 813-744-5519 or visit our calendar of events at our website. Remember to reuse, reduce, recycle and repeat.

*Contact Lynn Barber at labarber@ufl.edu.*

## Going beyond the text:

### Interviewing like a reporter

In this activity, you will plan, conduct and document an interview with an individual who gardens in your community.

You can interview a family member, neighbor or someone who participates in a community garden (read the *Tampa Bay Times* article "It's a perfect time to join a community garden" by Lynn Barber and Kitty Wallace to find a community garden near your home or school).

First, get the permission of and arrange a time to meet with the person you want to interview. Plan a visit, phone call or online meeting that takes no longer than about an hour.

Next, conduct some background research on your topic and interviewee.

Before the interview, develop a list of 7-10 questions. Asking the right kinds of questions will result in more meaningful responses. Keep questions short, and ask open-ended, not yes/no, questions. Write down new questions as you think of them during the interview.

Some example questions might include:

•When were you born?

•Where were you born?

•Where did you grow up?

•What brought you to Florida? (if they did not grow up in Florida)

•How long have you been involved with gardening?

•What got you interested in it?

•How did you learn it?

•Why is gardening important to you?

•What advice would you like to give young people interested in starting a garden or joining a community garden?

Finally, decide how you want to document the interview (handwritten notes, photographs, and/or audio/video recording). If you plan to take photographs, think about the different things you may want to take pictures of. For example, you may want to take a portrait of the person, some pictures of the person working in the garden or some photos of plants being grown. Be sure to ask for permission before recording or taking photographs.

After the interview, write everything down you can remember about the person you interviewed and what was happening around you. At home, expand your notes by following up on things you learned in your interview with more research.

Write up your interview as though it was going to appear in the *Tampa Bay Times.*

*Sources: New Hampshire State Council on the Arts, ReadWriteThink, The Washington Post Newspaper In Education Program, "Interviewing 101"*

**Florida Standards: ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3**

# It's a perfect time to join a community garden

**BY KITTY WALLACE**
Co-founder of the Coalition of Community Gardens

**AND LYNN BARBER**
Florida-Friendly LandcapingTM Agent, UF/IFAS Extension Hillsborough County

1Body Ministries Community Garden in the university area

Photos courtesy of The Coalition of Community Gardens

Sheryl Zenel harvests carrots in the Mustard Seed Community Garden at Lutz Community Church.

No doubt you realize that some have concerns about where our vegetables and fruits are grown, whether pesticides were used, if they were grown locally, and more. You probably have considered growing your own vegetables and may not know how to get started.

This is the perfect time to join a community garden. There are over 35 community gardens in West Central Florida. You can locate a garden near you at the following link: Coalition of Community Gardens, www.communitygardenstb.org. Click "About Us" and see the community gardens, listed by county.

There are many benefits of community gardening. In addition to growing healthy food for yourself and your family, participating in a community garden adds to the quality of life by providing the following opportunities: exercise, getting to know your neighbors, intergenerational interaction, making cross-cultural connections, involving children in learning where their food comes from, neighborhood beautification and reducing crime.

Many community gardens donate produce to soup kitchens and food pantries.

If you do not find a garden near you, consider organizing a group of neighbors to establish your own community garden. Visit an established community garden (or two). It may be helpful to engage your civic association as a partner in this effort. Gather information about how to start a community garden from the University of Florida/ IFAS Extension Community Gardens or the American Community Gardening Association publication, Start a Community Garden.

Tributes from members of local community gardens tell it all. From Paul, "My gardening time at the community garden has saved my sanity during some tough times." From Joyce, "I have learned so much and now I am teaching others." From Barb, "after joining our community garden, it takes me twice as long to get my grocery shopping done, because I keep running into fellow gardeners." From Lena, "We have seen the growth in our community as a result of our community garden."

Refer to the UF/IFAS publication, which suggests vegetables to plant in September (there are many!), along with month-to-month guidelines.. Take a look and make a plan. Happy gardening!

**Hernando County**
- OM Grown Community Garden, Spring Hill

**Hillsborough County**
- 1Body Ministries Community Garden
- Apollo Beach Community Food Forest and Garden
- Faith Lutheran GIFT Center Garden
- Forest Hills Presbyterian Church Community Garden
- Healthy 22nd Street Community Garden
- HOPE Community Garden
- Meacham Urban Farm
- Mustard Seed Garden at Lutz Community Church
- New St. Paul AME Church Community Garden
- Plant City Commons Community Garden
- Progress Village Community Garden
- Robles Park Village Community Garden
- Seeds of Faith Community Garden at Bay Life Church
- Seminole Heights Community Garden
- Seffner Community Garden
- Sulphur Springs Community Garden
- Sustainable Living Project
- Sweetwater Organic Community Farm
- Tampa Bay Community Garden at St. Mary's Ethiopian Church
- Tampa Heights Community Garden
- Temple Terrace Community Gardens
- University Area Community Garden/Harvest Hope Garden
- Vincentian Faith & Grace Garden
- VISTA Gardens, Carrollwood
- Waters Avenue Church Community Garden
- Wellswood Community Garden
- Ybor Street Community Garden

**Pasco County**
- Farmden & Community Garden, Dade City
- Friendship Farms & Fare, New Port Richey
- Grand Gardens,New Port Richey
- Watson Park Community Garden, Dade City

**Pinellas County**
- 15th Street Agrihood
- Bartlett Park Community Garden
- Azalea Community Garden
- Beacon Food Forest
- Clearwater Community Garden
- Cops 'n Kids Community Garden, Tarpon Springs
- DayStar Community Garden
- Dunedin Community Garden
- Eckerd College Student Garden
- Edgemore Community Garden
- Euclid Heights Community Garden
- Garden of Ridvan, Clearwater
- Jordan Park Community Garden
- Miss Jo's Garden
- Oakdale Community Garden
- Old Northeast Community Garden
- Oldsmar Organic Community Garden
- Old Southeast Community Garden
- Palmetto Park Community Garden
- Pioneer Settlement Garden
- PAL of St. Petersburg
- Safety Harbor Community Garden at Folly Farms
- St. Pete Youth Farm
- SPEER YMCA
- Sustainable Family Services
- USFSP Bayboro Food Forest
- Woodlawn Community Garden
- WunderFarms Community Garden

Flowers grow in flower gardens. Vegetables grow in vegetable gardens. Communities grow in community gardens.

*Contact Kitty at: kittwal@aol.com and Lynn at: barberL@ufl.edu.*

# It's not just a stormwater pond

**BY DON RAINEY**
Regional Specialized Agent Water Resources
UF/IFAS Extension Southwest District

Florida is unique in how water moves above and below the ground. Due to the state's naturally sandy soils and underground Karst topography –often resembling swiss cheese – water can rapidly move from the surface to below-ground rivers and return to the surface, via springs. That process might take weeks, or it might take years.

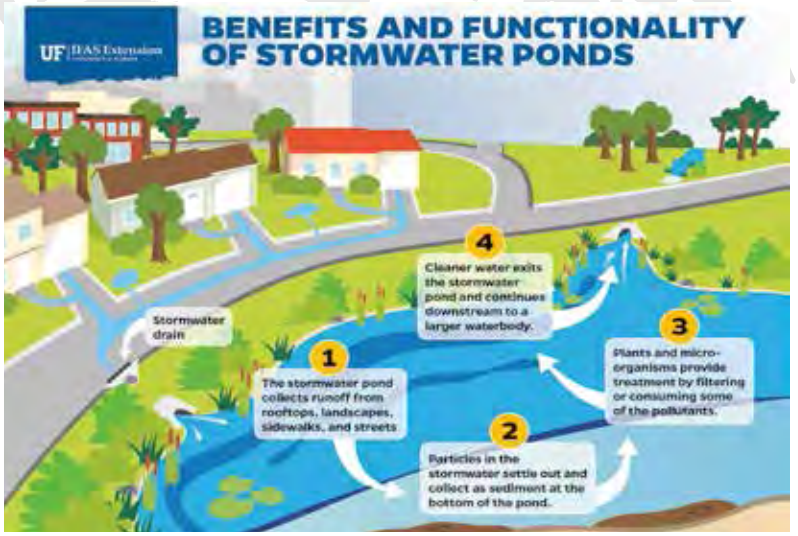
Over the years, land-use changes in Florida have impaired this relationship and natural function. As growth and development have increased, it has limited the ability of our natural resources to filter, store, and transport water. Engineered stormwater conveyances play a critical role in protecting these natural systems.

In neighborhoods and communities across Florida, the ubiquitous stormwater "pond" is a highly misunderstood landscape fixture. Often, it is a source of conflict regarding overgrown vegetation, nuisance reptiles, and lost golf balls. However, stormwater ponds and lakes serve a beneficial function. These water features are individually unique and provide a level of service to limit negative impacts on water quality from stormwater runoff. Think of these pond systems as the water custodian for the community.

Beyond flood mitigation, stormwater ponds assist in the capture and collection of some contaminants in runoff before it interfaces with fresh and groundwater supplies. Stormwater ponds typically provide favorable plant habitat and soil conditions to facilitate the uptake of excess nutrients, immobilize heavy metals and break down pesticides and hydrocarbons. When these features are designed and maintained correctly, they become an on-site "water keeper."

So how does stormwater find its way to the pond or lake? Simply put, stormwater is the excess rain that forms ponds or flows above ground, across lawns, and into streets. Stormwater runoff begins with the interception of rainfall from rooftop gutters, landscapes, driveways, sidewalks, and streets. Stormwater drainage systems direct stormwater runoff away from your home and off the streets.

Eventually, stormwater runoff arrives at a pond or more substantial body of water, where the once-ignored pond is now a community asset.




To this end, it is everyone's responsibility to prevent pollutants from entering ponds and lakes. Here are some ways you can do this.

Routinely inspect your irrigation system for overwatering events or broken sprinklers that often contribute to excessive runoff of sediment.

•Direct roof gutter down-spouts to the lawn or vegetative swale to slow the flow of stormwater runoff.

•Scoop the poop; pick up and dispose of solid pet waste.

Apply lawn and landscape fertilizers and pesticides appropriately and according to the directions on the label.

Wash the car on the lawn and not in the driveway to prevent runoff of chemical detergents that may further wash into a waterway.

Dispose of hazardous waste, such as paints, solvents, used motor oil, and antifreeze properly, return used or leftover products to your hazardous waste collection center or local recycler.

Protecting Florida's water quality is essential to our economic, social, and environmental way of life.

*Don Rainey is the regional specialized water agent for the UF/IFAS Extension Southwest District. Contact him at drainey@ufl.edu.*

# Identify weeds fast with new online tool by UF/IFAS

**BY TORY MOORE**
UF/IFAS Communications
University of Florida
Apopka, FL

Florida weeds run aplenty, especially in the summer. Getting rid of weeds starts with proper identification, and UF/IFAS experts developed an online tool that organizes weeds by flower color for fast identification.

The tool helps identify 130 of the most common weeds found in Florida.

"If you don't take the time to identify the weed first, often times you may treat it incorrectly," said Chris Marble, associate professor of environmental horticulture at the UF/IFAS Mid-Florida Research and Education Center. "Applying the wrong herbicide or applying incorrectly can cause irreversible damage to a landscape and sometimes only the weed you were trying to eliminate will remain."

This new online tool developed by Annette Chandler, a biological scientist at UF/IFAS MREC, helps users identify weeds in their landscape and develop a plan of attack with management recommendations from Marble.

To make best use of the resources, follow these steps:

- Visit the online identification tool and select the flower color of the weed in question.
- Once identified, select the accompanying video linked on the weed's landing page and watch for more information on the weed and management strategies.
- In some cases, there will be an Ask IFAS document with further information.

Photo courtesy of Annette Chandler

Herb-of-grace or water hyssop Bacopa monnieri is a native Florida aquatic weed. This species has detrimental effects on landscapes impacting native plants and animals as well as water quality, and degrades transitional areas of ponds, lakes and riverbanks. The online tool to identify this and more weeds can be found at: https://mrec.ifas.ufl.edu/research/weedsbyflowercolor/

"Florida's weed pressure is really high year-round," said Marble. "We don't get freezes very often to kill them off. In most places a summer annual is only going to be a problem five to six months out of the year. But here in Florida, it still germinates at my house in Winter Park in mid-December. It never really stops here. There is heavy weed pressure all the time."

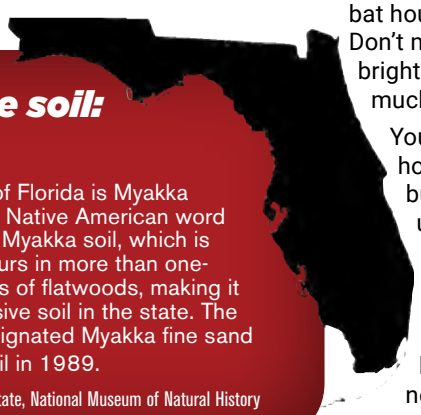
For more information on weed control, Ask IFAS or contact your local UF/IFAS Extension office.

# A few tidbits about bats you may not know

**BY LYNN BARBER**
Florida-Friendly Landscaping™ agent, UF/IFAS Extension Hillsborough County

One of my favorite times of the year is fall because it involves Halloween. What better creature than a bat to help us celebrate trick or treating by children decked out in scary outfits? And, attracting wildlife is the seventh principle of the Florida-Friendly Landscaping, so bats are important from that perspective also. Poor bats, they're so misunderstood. Unfortunately, this lack of bat facts is leading to their decline. Habitat destruction, harmful pesticides and nesting colony disturbances have led to the endangerment of three Florida bat species: the gray, Indiana and Mastiff.

Bats naturally control pests. They consume rootworms, cutworms, corn borer moths, potato beetles and grasshoppers. They play an important role in scientific research regarding hibernation and sonar. And, their excrement provides a nutrient-rich soil amendment for ground-dwelling cave life.



### Florida state soil: Myakka

The official state soil of Florida is Myakka fine sand. Myakka is a Native American word meaning "big waters." Myakka soil, which is unique to Florida, occurs in more than one-and-a-half million acres of flatwoods, making it the single most extensive soil in the state. The Florida legislature designated Myakka fine sand as the official state soil in 1989.

Sources: Florida Department of State, National Museum of Natural History

**More Bat Facts:**

• By day, bats take shelter in foliage, under tree bark, in caves, mines, buildings and rock crevices. Many assemble in nursery colonies in the spring, leaving in July and August to begin their trek to hibernation sites. Up to 300 bats per square foot can cluster to hibernate. If hibernation is interrupted too many times, a bat may not be able to survive the winter due to the decrease in fat reserves.

• Bats are the only mammals capable of true flight. By night, bats are uniquely equipped to catch flying insects, using their wings, skin around their tails and mouths. Bats find their food sources and travel by making ultrasonic sounds that echo off solid objects. This same technique is used by dolphins.

• Most Eastern bat species produce one bat baby per year, while other species produce two to four. Female colony bats create a nursery prior to giving birth. When the mothers all crowd together, the nursery temperature is higher than 100 degrees. Baby bats are furless and need a warm and humid place to survive. Colony-roosting bats have less colorful and thinner fur than solitary or foliage-roosting bats. Baby bats, like other mammals, feed on milk until they're able to secure food on their own.

Left: Grey long-eared bat
Plecotus austriacus

Bat Houses Site Selection: Bat houses keep bats warm, dry and safe while sleeping during the day. Bats prefer temperatures between 80 and 100 degrees. If the temperature is not comfortable, bats will not inhabit the house. If bats don't inhabit a bat house after three or more years, either change the exterior color of the bat house or its location. Don't move the house near bright lights or an area with much human activity.

You can install a bat house any time of year, but bats generally take up residency in early spring. If you install your bat house in the winter, it will be available when bats are seeking a new home. Bats are more attracted to houses mounted on the sides of buildings or poles than if tree-mounted because building-mounted bat houses provide more sun and less predator perch sites. Predators include owls, hawks and falcons.

Select the roost site near food and fresh water sources and a location where the sight orodor of the guano (excrement) won't be an issue. Shovel guano periodically for use in your landscape. Locate the bat house at last 20 feet from potential predator perch sites and at least 12 feet off the ground.

Provide a wildlife bat habitat (bat-i-tat) in your backyard which will give you and your family hours of educational entertainment and significantly fewer insects. Bats … they're not limited to our Halloween imaginations and experiences.

For additional information on the identification of Florida bats and how to build your own bat house, please access:

• Bats of Florida: http://edis.ifas.ufl.edu/pdffiles/UW/UW20300.pdf

University of Florida Bat House Photo by Douglas Green

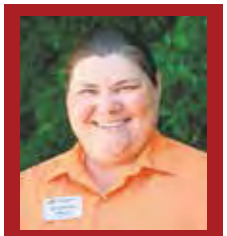
• Effective Bat Houses of Florida: http://edis.ifas.ufl.edu/pdffiles/UW/UW29000.pdf

For assistance with questions about the Florida-Friendly LandscapingTM program, call the UF/IFAS Extension Hillsborough County office, 813-744-5519, located in Seffner. More horticulture information is available at http://hillsborough.extension.ufl.edu and http://edis.ifas.ufl.edu.

*Contact Barber at labarber@ufl.edu.*

# Find out if you're fertilizing appropriately

## Soil tests can make your lawn more Florida-Friendly



**BY DR. WHITNEY ELMORE**
Director of UF/IFAS Extension Pasco County

Are your lawn and landscape Florida-Friendly? If you're fertilizing your lawn, landscape, and vegetable gardens without basic information about your soil, it's likely you're not "fertilizing appropriately," which is one of the Florida-Friendly Landscaping principles.

Soils in the Tampa Bay region are typically very sandy, with little organic matter or the ability to hold moisture and plant nutrients (i.e. fertilizer) in the root zone, where plants can access them. Instead, water from rain or irrigation, plus fertilizer tend to either run off across the surface or leach through the root zone too quickly for plant use.

Those lost nutrients — namely nitrogen and phosphorous — are one of the factors contributing to water pollution and algae blooms. A simple and inexpensive soil test, prior to purchasing that fertilizer, will provide the information you need to make the best decisions about fertilizing your lawn and landscape plants.

Soil tests, conducted by the UF/IFAS Extension Soil Test Laboratory (ESTL), can be conducted on landscape plants, vegetable gardens and lawns. University of Florida ESTL soil tests provide information about the relative acidity, or pH, of the soil, which is an important indicator of how readily available the plant nutrients are for plant use.

The ESTL can test the pH alone for $3 per sample or test the soil pH and soil fertility — the amounts of phosphorous, potassium, sulfur, copper, manganese and zinc — for $10 per sample. This test gives you the most information and helps you tailor your fertilizer applications more specifically.

For directions on how to take an adequate soil sample, make payment and the address for submissions, go to https://tinyurl.com/ESTL-site or simply call or stop by your local UF/IFAS Extension office.

Personnel at your county UF/IFAS Extension office can provide you with the form, explain the sampling process and provide soil submission packets. However, you can simply print the form at home and use a brown paper bag, in a small box, to mail your samples to the lab.

In most cases, you'll only need to mail one sample for a typical Florida lawn and vegetable garden. The lab will notify you of the results by email within a few days upon receipt of the submission.

Soil tests are quick and simple tools that will ensure you are providing the plants with correct amounts of the appropriate fertilizer. They do not provide information about contamination from herbicides, pesticides or toxic compounds, nor do they analyze the soil for the organisms that can cause plant disease or explain why plants have died.

Soil tests only provide soil fertility information to develop fertilizer management practices.

University of Florida Extension Soil Test Laboratory (ESTL) provides information about the relative acidity, or pH, of the soil, which is an important indicator of how readily available the plant nutrients are for plant use.

A soil test conducted every two to three years can help you make your landscape become more Florida-Friendly and help you create a beautiful landscape, or productive vegetable garden, without the guesswork. Call your local UF/IFAS Extension office for help determining the appropriate amounts and timing of fertilizers, and application practices that help protect our valuable water resources.

For more information, contact Whitney Elmore at wcelmore@ufl.edu.

# Palm roots – what's normal?

**BY NICOLE PINSON**
Urban Horticulture Agent, UF/IFAS Extension Hillsborough County

As you work in your garden or wander your landscape, be on the lookout for pests and potential problems. Start learning what's normal and what may seem abnormal. When in doubt, contact your local Extension office for help with gardening questions.

For example, one homeowner did everything right. She noticed these "funny-looking roots" growing out of the bottom of her royal palm.

Although she didn't think it looked normal, she wasn't sure what to do. Friends told her it was a disease called Ganoderma butt rot, and the palm was unhealthy. She contacted the UF/IFAS Extension Hillsborough County office and emailed digital photos to get information about what might be happening.

Ganoderma butt rot is a disease that may affect all palm species, but that is usually because of rot on the lower part of the trunk due to fungus. You may see symptoms such as yellowing leaves and possibly evidence of a conk – or mushroom – on the lower trunk.

Above: Photo sent in of one homeowner's "funny-looking roots" growing out of the bottom of her royal palm.

But this stately, royal palm is healthy. The roots are normal – those are called adventitious roots and part of the growth of the root initiation zone. Nothing needs to be done – and don't add soil to cover them up.

One of my favorite UF/IFAS publications is Normal "Abnormalities" in Palms. Figure 1 in this document shows a photo of a palm with similar roots. This is normal root growth.

At UF/IFAS Extension, we love getting questions and emails like this, especially when homeowners call or email before taking action or when no control is needed because the plants are healthy.

In this case, the homeowner kept the royal palm in the landscape (which is a well-established, mature specimen plant), and no pesticides were applied. Monitoring or "scouting" the landscape is easy, and it's the first step to identify potential problems – along with the interesting blooms, wildlife, leaves, bark, and insects you might find.

For additional information, contact pinsonn@hcflgov.net, 813-744-5519, Ext. 54145, or your local Extension office.

# Going beyond the text:

## Soil Analysis

As you learned in the *Tampa Bay Times* article "Find out if you're fertilizing appropriately" by Whitney Elmore, the makeup of soil affects how well plants will grow in a landscape.

In this activity, you will analyze the texture of your soil to determine its mineral content.

**Materials needed:**

- 1-quart glass jar, such as a Mason jar, with tight-fitting lid
- Masking tape
- Marker
- Digging tool, such as a trowel or large spoon
- Ruler
- Water

**Procedure:**

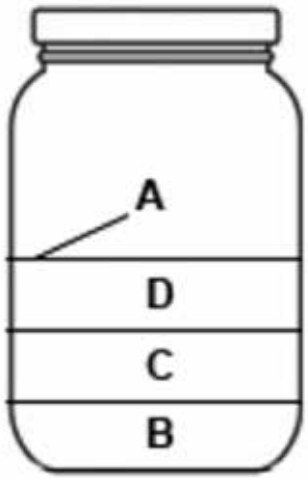
The mineral component of soil is made up of different size particles called sand, silt and clay. Sand particles are the largest, measuring 2.0 millimeters (mm)-0.05 mm in diameter. They are easily visible with the naked eye and feel gritty to the touch. Soils made entirely of sand particles allow water to move freely, creating well-drained, well-aerated and oftentimes drier areas. If soil is too sandy, water will drain through the soil too quickly for the plants' roots to absorb it, and there will be a deficiency of nutrients in the soil.

Silt particles measure 0.05 mm-0.002 mm in diameter. Only the largest of these particles are visible to the naked eye. They feel smooth, like talcum powder or flour, to the touch. With medium-sized particles come medium-sized spaces for water and air. Silty soils hold more water than sandy soils, but less than clay soils. Silty soil holds minerals well, making it an important part of productive soil.

Clay particles are the smallest at less than 0.002 mm in diameter. They are not discernible to the naked eye as individual particles. They feel gritty and hard when dry, but sticky and plastic when wet. With such fine textures, water is captured and held for long periods of time, creating very wet conditions that subject the soil (and plants) to damage. However, since the clay particles have a large surface area relative to their volume, they are highly reactive and able to attract and hold nutrients. A purely clay soil is not ideal for planting, but clay is an important part of the make-up of productive soil. If soil contains too much clay, water will be trapped in the soil, threatening some organisms such as earthworms that produce nutrients from organic matter and need air to live underground.

In this activity, you will mix soil and water in a jar and then let the soil sink to the bottom so that these different size particles form different layers. By measuring the layers, you will be able to calculate the percentage of sand, silt and clay in your soil. Follow these steps and record your measurements.

1. Using the masking tape and a marker, label your jar with the location from where you are taking your soil sample.
2. Using a trowel or large spoon, fill your jar about one-third full of soil from 2-3 inches below the surface.
3. Shake the jar gently to level the soil, then measure the soil's depth (A).
4. Fill the jar nearly full of water and then shake it well to mix the soil and water.
5. Place the jar on a flat surface and wait for the soil to settle.
6. The largest and heaviest particles, called sand, will settle in less than a minute. Measure the depth of sand in the jar (B).
7. The medium-sized particles, called silt, can take hours to settle. Wait a day and then measure the depth of the silt layer (C).




8. The smallest particles, called clay, take even longer to settle, but you can assume that the depth of the clay layer (D) will be equal to the total depth of the soil minus the depth of the sand and silt layers; that is, A - (B + C) = D.

   A. Soil Depth: _____
   D. Clay Layer: _____
   C. Silt Layer: _____
   B. Sand Layer: _____

9. Next, calculate the percentage of sand, silt and clay using these equations:

   (B ÷ A) x 100 = _____ percent sand

   (C ÷ A) x 100 = _____ percent silt

   100 - (percent sand + percent silt) = _____ percent clay

Most plants grow best in soil that is approximately 40 percent sand, 40 percent silt, and 20 percent clay. This type of soil is called loam and serves as a benchmark for soil texture analysis. When the proportions of sand, silt, and clay are significantly different from this balance, the soil may not function properly for plant growth. How does your soil compare to loam?

To find out more about your soil, send a sample to the University of Florida Extension Soil Test Laboratory (ESTL). Visit https://tinyurl.com/estl-site or contact your county Extension office.

*Adapted from: "Garden Lesson Plan: Soil," The Nature Conservancy Nature Lab*

Florida Standards: SC.212.E.6.3; SC.912.CS-CS.1.3; SC.212.CS-CP.1.3; MA.412.AR.1.1; MA.412.AR.1.2; MA.412.AR.2.2; MA.412.AR.2.4; MA.412.M.1.1

# Florida's Unwanted Plants

## UF/IFAS helps identify and root out invasive plants.

**BY LYNN BARBER**
Florida-Friendly Landscaping™ agent, UF/IFAS Extension Hillsborough County

Invasive plants can create havoc in your yard by displacing native vegetation. Their populations explode, with catastrophic effects. Those include displacing native and non-native adaptive plants and disrupting naturally balanced plant communities. When our native and non-native adaptive plants are destroyed and replaced by invasive species, we encounter significant consequences.

These include an aggressively hostile plant takeover, ecological problems such as habitat degradation or biodiversity loss, high management costs and significant impacts to recreational areas, which result in economic losses.

We want to reduce the number of invasive plants invading your yard. To help, UF/IFAS developed the Assessment of Non-native Plants in Florida's Natural Areas. This online resource, available at https://assessment.ifas.ufl.edu/, provides information about invasive plants and invasive plant potential around the state and those under caution in other areas.

Here are five of many of the "worst offenders" among invasive plants:

- **Skunk vine**
*Paederia foetida,* Prohibited in North, Central and South Florida. It has a foul smell (thus the name) and is extremely difficult to control. This plant can well be an unfortunate 'gift' from and to your neighbors. Vines can reach a length of 30 feet.
- **Wax begonia**
*Begonia semperflorens,* Caution in North, Central and South Florida. Manage to prevent escape.
- **Lantana**
*Lantana Camara,* Shrub Verbena Invasive in North, Central and South Florida. It quickly invades disturbed sites and is toxic to livestock. There are non-invasive varieties. Look for those.
- **Air potato**
*Dioscorea bulbifera,* Prohibited in North, Central and South Florida. This extremely aggressive, twining vine grows over other plants, smothers many and covers trees. Air potato beetles are available in many counties for release. The US Department of Agriculture, Florida Department of Agriculture and University of Florida work together to rear and release these beetles. Releases are between May and October when these plants are growing actively.
- **Melaleuca**
*Melaleuca quinquenervia,* Prohibited in North, Central and South Florida. The only good thing about this tree is that the harvested byproduct is Melaleuca mulch, which has high termite resistance.

**Want to know if your plant is invasive?**

The UF/IFAS Assessment color codes the plants to tell you whether they're okay or not. Follow a "stoplight" system (like you're at an intersection) in which green = go, yellow = caution and red = stop.

The assessment uses science-based tools to evaluate the risk of invasion by non-native species, new species that might come here and novel agricultural and horticultural varieties. The assessment, in conjunction with the UF/IFAS Florida-Friendly Landscaping Guide to Plant Selection and Landscape Design, can provide you with the information you need to make appropriate plant selections.

*Lynn Barber is the Florida-Friendly Landscaping™ agent for UF/IFAS Extension Hillsborough County. Please contact her at labarber@ufl.edu.*

***Skunk Vine***

***Wax Begonia***

***Lantana***

***Air Potato***

***Melaleuca***

## Going beyond the text:

### Native, nonnative and invasive species

Native species are those found in Florida before European colonization began in the 16th century. Nonnative, or exotic, species are those that have been introduced outside of their native area by humans, either intentionally or by accident.

Invasive species are those that are able to spread into and dominate an area due to a lack of natural predators and disease. Invasive species cause ecological damage and harm native ecosystems by displacing and even causing the extinction of native species.

Research the most common invasive species in the Tampa Bay area using the *Tampa Bay Times* article "Florida's Unwanted Plants: UF/IFAS helps identify and root out invasive plants" by Lynn Barber, as well as the UF/IFAS (http://sfyl.ifas.ufl.edu/) and Florida Fish and Wildlife Conservation Commission (https://myfwc.com/) websites. Choose one invasive species and research its impact on local, regional and statewide ecosystems.

Using the articles in the *Tampa Bay Times* as a model, write a feature-style newspaper article about what you have discovered. Share this article and what you have learned with your class.

Sources: Florida Fish and Wildlife Conservation Commission, UF/IFAS Extension, U.S. Fish and Wildlife Service

Florida Standards: SC.412.N.1.1; SC.412.N.1.2; SC.4.L.17.4; SC.4.L.16.2; ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3

# What is that species?

**BY LARA MILLIGAN**
Natural Resources Agent,
UF/IFAS Extension
Pinellas County Water

Florida is home to thousands of different plant and animal species. Whether you're new to Florida or a Florida native, you might find yourself saying "Is that a _____ or a _____?" when trying to identify flora and fauna in your neighborhood.

During my eight-plus years with UF/IFAS Extension, I've noticed people commonly misidentify many species. My colleague, James Stevenson, and I decided to address this through a field guide titled, "This or That? A Beginner's Guide to Commonly Misidentified Animals & Plants in Florida."

Now, you might be wondering why it's such a big deal if you misidentify a plant or animal in your yard, and I'm here to tell you, it's not. But I'm also here to tell you it can be. There are several examples of invasive plants that look very similar to some of our native species. There are also several examples of venomous animals that look very similar to non-venomous animals.

It is important for us to do our part to keep invasive species out of our yards. To do that, we must ensure we properly identify the species. It's also very important for us to ensure we aren't putting ourselves in harm's way. For example, we need to be able to differentiate between venomous and non-venomous species. Let's look at two quick examples:

## Plants

For our invasive versus native comparison, we will feature the Brazilian peppertree Schinus terebinthifolia and winged sumac Rhus copallinum.

The Brazilian peppertree is considered one of the worst invasive plants in the state. This pest plant has taken over more than 700,000 acres. It grows in dense thickets, shading out other native plant species. Long story short, it's bad.

UF/IFAS Extension encourages the control, removal and replacement of this plant, but it's important we know we aren't removing a similar-looking native plant like winged sumac. They both produce beautiful red fruit and have compound leaves, but upon closer inspection, the fruit of winged sumac is covered in tiny hairs, the leaves contain more leaflets and its flowers appear earlier.

## Snakes

For our venomous versus non-venomous comparison, we will highlight the southern water snake Nerodia fasciata and the water moccasin Agkistrodon piscivorus.

Photo Javier Alejandro on Flickr

***Brazilian Peppertree***

Photo Lara Milligan

***Winged Sumac***

***Southern Water Snake***

***Water Moccasin***

The most commonly confused species comparison in the venomous versus non-venomous category is the southern water snake and the water moccasin, also known as the cottonmouth. While we encourage everyone to observe snakes from a safe and respectful distance, being able to quickly differentiate between these two species is important for safety. The main characteristic you want to look for on a water moccasin is the distinctive dark brown stripe that runs from its eye to the corner of its mouth. Southern water snakes lack this band, and instead have vertical lines that run along the lower jaw.

We have a wealth of resources available to help you become more confident in your identification of area plants and animals. You can purchase a copy of our field guide at: http://bit.ly/TorTfieldguide.

*Lara Milligan is the natural resources agent for UF/IFAS Extension Pinellas County. Please contact her at lara317@ufl.edu.*

## Going beyond the text:

### Creating a persuasive advertisement

Research the environmental, social and economic benefits of trees using the *Tampa Bay Times* article "Why should you care about trees?" by Lara Milligan as well as the UF/IFAS (http://sfyl.ifas.ufl.edu/) and Arbor Day Foundation (https://www.arborday.org/) websites. Write down the three benefits that you consider the most important.

Next, watch the video "Art of Rhetoric" at https://www.readwritethink.org/video/art-rhetoric.

Using the advertisements in the *Tampa Bay Times* as models, create a print or digital ad or flyer persuading Tampa Bay residents to plant trees. Be sure to use at least two of the persuasive strategies used by advertisers: pathos, logos and ethos. You can draw your ad by hand or use a tool such as ReadWriteThink's Printing Press (https://www.readwritethink.org/classroom-resources/student-interactives/printing-press). Share your ad with your class.

Florida Standards: SC.4.L.17.4; SC.412.N.1.1; SC.412.N.1.2; ELA.412.C.1.3; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3

# New app helps residents, farmers and ranchers identify toxic plants

**BY BRAD BUCK**
UF/IFAS Communications
University of Florida
Plant City

Some livestock, pets and even children occasionally nibble on poisonous plants, presenting a potential hazard to the animals and the kids. Now, a new, free app designed by UF/IFAS researchers and Extension faculty helps you identify toxic plants.

Not only is this the first app to identify strictly Florida plants, it's also the first to distinguish between toxic weeds.

"This app focuses on the most common and the most toxic plants in Florida, considering the plants and weeds that people, pets and livestock are most likely to encounter in landscapes and other places," said Chris Marble, an assistant professor of environmental horticulture at the UF/IFAS Mid-Florida Research and Education Center in Apopka, Florida.

As a mobile web app, you view this online, UF/IFAS researchers said. It can be used on computers and mobile devices to compare the photos of the plants to the plant in question. Access the app at https://ffl.ifas.ufl.edu/toxicplants.

The app features 166 plant species and 455 photos, so each plant has more than one photo. Not everyone knows plant species, so the images should come in handy for people who lack experience with flora, Marble said.

Additionally, he said, "Many plants change their appearance as they age, which is one of the reasons we included so many photos of each plant."

The app includes all sorts of plants – including invasives and weeds – such as those you'd find in landscapes, parks and farms.

"I think it's important that this app contains weeds, because so many of the reference sources that are online only cover toxic landscape or household plant species," said Brent Sellers, an agronomy professor and director of the UF/IFAS Range Cattle Research and Education Center (RCREC), in Ona, Florida. "There are plenty of print references on toxic plants for livestock, but this would be the first app that I'm aware of."

In addition to photos, the app ascribes general toxicity levels of "low," "medium," "high" and "very high."

For example, a plant such as oxalis can be toxic if consumed in very large quantities. Livestock might eat a lot of oxalis, for example. But the plant wouldn't cause much harm otherwise, Marble said. By contrast, something like the seed from a sago palm is extremely toxic to dogs.

In addition to Marble and Sellers, other UF/IFAS faculty who helped design the app are Sandra Wilson, a UF/IFAS professor of environmental horticulture; Esen Momol, director of the Florida Friendly Landscaping ™ program – along with her staff; and the UF/IFAS Office of Information Technology; all of whom are based in Gainesville, Florida.

*To find out more, contact Marble at marblesc@ufl.edu.*

Photo courtesy of UF/IFAS

A new, free app designed by UF/IFAS researchers and Extension faculty helps residents, farmers and ranchers identify Florida's toxic plants and weeds.

The seed from a sago palm (below) is extremely toxic to dogs. The new app has 166 plant species and 455 photos.

## 10 tips for landscaping for wildlife

**1.** Limit the amount of lawn by replacing some grass with ground cover plants or by creating islands of vegetation.

**2.** Increase vertical layering by planting a variety of vegetation in different sizes and heights.

**3.** Provide "snags" (dead trees) and brush piles for nesting and cover.

**4.** Provide water with a rain garden, fountain, birdbath or small pond.

**5.** Plant native vegetation that has nectar, fruit, flowers or seeds that birds and animals can eat.

**6.** Provide bird/bat houses to provide nesting and roosting shelter.

**7.** Remove invasive exotic plants that can replace native plants needed by native wildlife.

**8.** Manage pets – both cats and dogs can drastically impact wildlife.

**9.** Eliminate or reduce pesticide use to avoid harming beneficial insect species and the birds and other animals that eat them.

**10.** Expand the scale of habitat by encouraging your neighbors to join you in creating wildlife-friendly yards.

Sources: Florida Native Plant Society, University of Florida/IFAS Extension

Going beyond the text:

# Creating wildlife habitat with native plants

Wildlife needs food, water and cover to live. To create an ideal landscape for wildlife, plant native plants to provide a year-round food supply, offer water and provide cover to allow wildlife to breed, nest, hide, sleep and feed.

In this activity, you will evaluate a location of your choice, such as your back yard or your school garden, as a habitat for wildlife. Study sites should potentially provide habitat for at least 4 to 7 different species.

First, research native wildlife that are found or could be found at the study site. Identify the specific habitat needs of each animal: food, water, cover and places to raise young. Use websites such as the Florida Fish and Wildlife Conservation Commission (https://myfwc.com/wildlifehabitats/ ), UF/IFAS (https://wec.ifas.ufl.edu/extension/), the Great Florida Birding and Wildlife Trail (https://floridabirdingtrail.com/), Your Florida Backyard (https://www.nsis.org/wildlife/) and Visit Florida (https://www.visitflorida.com/things-to-do/outdoors-and-nature/wildlife/).

Next, choose four animals to focus on. Try to choose one mammal, one bird, one reptile and one invertebrate. Evaluate the habitat at the site for each of the animals you chose. Rate the habitat in terms of each component on a scale of 1 to 10, with 1=poor and 10=excellent.

### Food

1. Does this site provide food for this animal? Yes No
2. If yes, list foods found on this site: _____
3. Are foods limited to one or more seasons? Yes No
4. If yes, which seasons? Winter Spring Summer Fall

**Rate "Food" from 1 to 10:** _____

### Water

1. Does this site provide water for this animal? Yes No
2. If yes, list water sources found on this site: _____

**Rate "Water" from 1 to 10:** _____

### Cover

Animals require different types of cover. Consider the cover types that each animal requires, then decide if this site meets the needs for the animal.

- Breeding/nesting
- Nursery
- Roosting/resting
- Hibernating
- Protection
- Other

**Rate "Cover" from 1 to 10:** _____

### Places to raise young

1. Does the site provide adequate places to raise young?

**Rate "Places to Raise Young" from 1 to 10:** _____

### Human Compatibility

1. Are there human activities on this site? Yes No

If so, list: _____

_____

Are these activities compatible with this animal inhabiting this site? Yes No

**Rate "Human Compatibility" from 1 to 10:** _____

| Species | Food | Water | Cover | Places to raise young | Human Compatilbility Total |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

**Answer the following questions for each of your animals:**

- What is the total rating for this animal at this site?
- Based on this total habitat evaluation, could this animal live on this site? Why or why not?
- Does the animal live on this site to your knowledge? If not, why not?
- Can this site be easily improved for this animal? If yes, how?

**As a class, discuss:**

- Which animals had the highest total score? Lowest?
- Which components had the highest score? Lowest?
- For which animals would the habitat be the easiest to improve? Most difficult?
- Which habitat component is the easiest to improve? Hardest?
- Do different animals need different site enhancements?

*Adapted from: "Who Can Live Here?," National Wildlife Federation*

Florida Standards: SC.412.L.17.2; SC.412.L.17.4; ELA.412.C.1.3; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.F.1.3; ELA.412.F.1.4; ELA.412.R.2.2; ELA.412.R.2.3; ELA.5\412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.C.2.1

# Plant this, not that: a new guide to protect Florida

**BY TORY MOORE**
UF/IFAS Communications
University of Florida
Apopka, FL

Florida's climate makes a cozy environment for a variety of plant species. The downside is that invasive and potentially destructive species often try to call Florida home, too. A new guide developed by UF/IFAS Extension Seminole County outlines which plants to avoid and which plants to embrace in a Florida landscape.

The annual impact of invasive plants, animals and disease to Florida's agriculture industry is estimated at $179 million. To prevent contributing to the greater problem, homeowners, landscapers, small-scale nurseries and plant lovers should carefully select the plants they purchase and install.

"Invasive plants are never the right plants," said Tina McIntyre, UF/IFAS Extension Seminole County Florida-Friendly Landscaping™ agent. "Ornamental plants sometimes become invasive species in our natural lands and waterways. I spent the first ten years of my career in the field as a biologist and frequently saw this happen. Now, I educate homeowners, landscape professionals and the public about ways they can make a difference. This guide is one of those tools."

The small, portable guide is designed for on-the-go use in the field for professionals and homeowners.

Some plants are invasive and their sale in Florida is prohibited. However, many plants in Florida are invasive and still permitted for sale.

One common invasive plant is the golden rain tree, a branched tree that grows to be 20 to 30 feet tall. The tree is often selected for its bright yellow flowers, but the tree is an ecological threat and categorized as a Category 2 invasive in central and south Florida, according to the Florida Invasive Species Partnership. Category 2 invasive species are those that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category 1 species. But the potential is there.

"We want consumers to avoid plants that can be costly burdens to our economy, environment and society," said McIntyre. "For every invasive plant, there are several Florida-friendly or native alternatives that are a better choice."

Instead of the golden rain tree, experts recommend the sapphire shower, dahoon holly, pink trumpet tree or chaste tree as Florida-friendly alternatives that provide similar benefits without the invasive risk.

"We want people to think more critically about the plants they select for their landscapes," said Morgan Pinkerton, UF/IFAS Extension Seminole County agent in sustainable agriculture and food systems. "It is up to all of us to make more sustainable choices in the landscape, especially our professionals. Their choices can make impacts on an even larger scale. Avoiding invasive species, even those often still for sale, is an important step when we talk about long-term sustainability of our environment."

The guide is available for purchase at the UF/IFAS Extension by visiting https://bit.ly/AvoidInvasive. For more information on purchasing native plants, visit the Florida Association of Native Nurseries website at www.fann.org.

Partners of this project include funding from Seminole County Leisure Services, contributions from Rachel Gutner and Sandy Wilson, and review by Central Florida CISMA and Deah Lieurance.


Also plant: sapphire shower, dahoon holly, or the chaste tree are all Florida-friendly alternatives that provide similar benefits without the invasive risk.

# Why should you care about trees?

**BY LARA MILLIGAN**
Natural Resources Agent
UF/IFAS Extension
Pinellas County

For homeowners, trees can be your best friend — or they can pose challenges. I'm here to convince you that trees can be your best friend, but nurturing them to their fullest potential takes some work, like all friendships do. Perhaps you recently paid thousands of dollars to have someone remove a tree from your property, or you had to hire a tree crew to trim large branches from hanging over your roof to satisfy your homeowner's insurance. These often-costly, occasionally hair-pulling experiences might make you mad. But trees provide many benefits to us, our soils, our waters, our air, and our wildlife. Let's focus on benefits trees provide homes and you as a homeowner. Trees can:

1. Reduce energy costs.
2. Increase the value of your home.
3. Reduce flood risk.
4. Improve mental health.

Did you know that temperatures in shaded areas can be as much as 20 degrees cooler than unshaded places? Trees can also result in cooling savings by 27 to 42%, depending on tree species, health, location and season. So not only do trees save you from sweating, they can save you money on your electric bill. To get the most bang for your buck, it's best to plant trees on the south, east or west side of the house so that shade is cast on your home during the hottest times of the year. And I would be remiss if I didn't say there is a lot to consider before you plant a tree, and UF/IFAS Extension is here to help if you have questions.

Another benefit of more trees: Property values sometimes go up with the addition of trees. Several studies have shown an increase in property value, anywhere from 3 to 20 percent, simply due to the presence of healthy, mature trees on the property.

For flood risk, let's look at one of our more common tree species, the live oak. In one year, a mature live oak tree can intercept 36,205 gallons of stormwater runoff. Their massive tree canopy helps to intercept and hold rain on the leaves, branches and bark; the expansive root system sucks up tons of water; and a bonus—all of this helps reduce soil erosion.

Still not convinced trees are your best friend? Just take a look a one—it can improve your mental health. Five minutes of visual exposure to a setting with trees can result in significant changes to blood pressure and muscle tension, creating a less-stressed version of you. And dare I say, "take a deep breath" while you're at it, because that same live oak tree does a great job of intercepting air pollutants like ozone, nitrogen dioxide and sulfur dioxide.

If you want to learn more about the value and importance of trees, check out my "Naturally Florida" podcast episode, Trees and People: An Intro to Urban Forestry, or participate in one of many Florida Arbor Day events. Florida Arbor Day is celebrated on the third Friday in January every year, and many cities and counties will offer tree giveaways. I have a whole line-up of programs on Jan. 22 that you can find at www.brookercreekpreserve.org, and Pinellas County will be celebrating on Saturday, Jan. 22 from 10 a.m. to 2 p.m. at John S. Taylor Park in Largo.

*Contact Lara Milligan at lmilligan@co.pinellas.fl.us or lara317@ufl.edu.*

UF/IFAS Photo by Tyler Jones


A Florida home and yard. Studies have shown an increase in property value ranging from 3 to 20 percent due to the presence of healthy, mature trees on the property.

Photo by Lara Milligan

Seedling trees planted in pots for the tree giveaway from the Florida Arbor Day event.

UF/IFAS Photo by Tyler Jones

A Florida-friendly yard in Gainesville. Studies show five minutes of visual exposure to a setting with trees can result in significant changes to blood pressure and muscle tension, creating a less stressed version of you.

# HAPPY EARTH DAY

APRIL 22, 2022

## Teach with the Times and win

Educators, share 100 words about how you used this resource in your classroom for a chance to win a $15 gift card! Visit https://nieonline.com/tbtimes/info_for_teachers.cfm for more information and to enter.

## About NIE

The Tampa Bay Times Newspaper in Education program (NIE) is a cooperative effort between schools and the Times Publishing Co. to encourage the use of newspapers in print and electronic form as educational resources — a "living textbook." Our educational resources fall into the category of informational text, a type of nonfiction text. The primary purpose of informational text is to convey information about the natural or social world.

NIE serves educators, students and families by providing schools with class sets of the Pulitzer Prize-winning *Tampa Bay Times* plus award-winning original educational publications, teacher guides, lesson plans, educator workshops and many more resources — all at no cost to schools, teachers or families.

Each year, NIE provides more than 1 million print copies and 10 million digital editions of the *Times* to area classrooms free of charge thanks to our generous subscribers and individual, corporate and foundation sponsors. NIE teaching materials cover a variety of subjects and are aligned to the Florida Standards.

For more information about NIE, visit tampabay.com/nie, call 727-893-8138 or email ordernie@tampabay.com. Follow us on Twitter at twitter.com/TBTimesNIE. Find us on Facebook at facebook.com/TBTNIE.

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**Florida Standards**

This publication and its activities incorporate the following Florida Standards for elementary, middle and high school students.

Science: ELA.412.C.1.2; ELA.412.C.1.3; ELA.412.C.1.5; ELA.412.C.2.1; ELA.412.C.3.1; ELA.412.C.4.1; ELA.412.C.5.1; ELA.412.C.5.2; ELA.412.R.2.4; ELA.412.R.3.2; ELA.412.V.1.1; ELA.412.V.1.3; HE.912.C.1.3; MA.412.AR.1.1; MA.412.AR.1.2; MA.412.AR.2.2; MA.412.AR.2.4; MA.412.M.1.1; SC.212.E.6.3; SC.1.L.14.1; SC.912.CS-CS.1.3; SC.212.CS-CP.1.3; SC.912.CS-CC.1.4; SC.4.L.16.2; SC.412.N.1.1; SC.412.N.1.2; SC.4.L.17.4; SC.4.L.16.2; SC.912.L.17.17; SC.5.L.15.1; SP.PK12.VI.5.5; SS.8.G.5.1

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