UF IFAS Extension UNIVERSITY of FLORIDA

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SOLUTIONS

A New Leaf

YARD & GARDEN NEWSLETTER

UF/IFAS Extension Duval County

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In this Issue

Extension Update by Larry Figart

"For man, autumn is a time of harvest, of gathering together. For nature, it is a time of sowing, of scattering abroad."
-Edwin Way Teale

The excitement continues at the Duval County Extension Office. We are now fully staffed! We are proud to welcome George Richardson as the new Commercial Horticulture Agent. George has a degree in Entomology from the University of Florida and will be working with commercial landscape personnel, nurseries, and pesticide applicators. Welcome George…

It is also a great time to be gardening. It's time to plant our cool season vegetables like collards, broccoli, lettuce, cabbage and chard. Fall is also the best time to plant trees. Planting trees now gives them some time to get established before the spring dry season. We should also be getting ready for our lawns to go dormant for the winter with the last fertilizer application in September.

What's That? (answer on last page)



This growth is commonly found on trees and woody shrubs. Photos credit: L. Figart, UF/IFAS Duval County

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Around the Yard by Tonya Ashworth

Water Smarter

Did you know that up to 60% of our public freshwater supply is used for landscape irrigation? This is a shocking number in light of the demands we place on our Floridan aquifer, which supplies 86% of Florida's drinking water. In fact, we are tapping into the aquifer to the tune of nearly 8 billion gallons per day. Fortunately, Florida gets over 50" of rain each year, and the water that doesn't run off or go to surface water can eventually percolate back into the ground to replenish the aquifer. However, there are threats to our water supply. Population growth both in the amount of people that need fresh water to drink, and the increase of rain impervious surface in the form of new rooftops, driveways, and streets are a primary concern. Research has shown that 47% more water is used with in-ground irrigation than with hose and sprinklers where water is applied manually. The reason is that people have "set it and forget it" attitude towards their irrigation timers. But we can't afford to forget it anymore. Our water is too precious.

Smart irrigation controllers are here to the rescue. They can allow you to "set it and forget it" without wasting water due to over-irrigation. What is a smart irrigation controller? Essentially, it is a controller that receives sensor feedback and adjusts the irrigation frequency or duration accordingly. These smart controllers are of two general types: soil moisture controllers and evapotranspiration controllers.

Soil moisture sensor
Photo credit: UF/IFAS Resource Efficient Communities

With **soil moisture controllers**, sensors are buried in the soil at root-zone depth and measure the moisture content of the soil. Some perform similarly to a rain sensor, which you are already required by law to have if your system was installed after 1991. They are called bypass systems. If your irrigation timer is set to start watering, and the soil is still adequately moist, the sensor stops the irrigation from turning on for that pre-set irrigation application. An "on-demand" soil moisture sensor has more control over when the irrigation timer starts and stops. Instead of just skipping a pre-scheduled irrigation event, it constantly monitors the moisture content of the soil and turns the water on and off as needed. This is truly a "set it and forget it" method.

Evapotranspiration controllers, or ET Controllers, do not require any sensors to be buried. Evapotranspiration comes from two words, evaporation and transpiration. We all know that evaporation is the process of water turning to vapor and going into the atmosphere. Transpiration is the process by which plants transpire, or release water from tiny openings called stomata on the undersides of their leaves. The hotter it is or the higher the wind speed, the faster they lose moisture from transpiration. So, evapotranspiration controllers use weather data that takes into account rainfall, temperature, humidity, wind speed and other factors to determine when to turn the irrigation on. There are 3 different ways that these controllers get this information to decide when to water your lawn. The first way is signal based. The controller is sent a wireless signal to tell it what the current meteorological conditions are in the area. This data can come from a publicly available source or a local weather station. The drawback is that in Florida, our rainfall can be very spotty, and the rainfall you get on your lawn is often different than the rainfall across town. There are also Historical ET controllers. These use pre-programmed water-use curves for turfgrass based on what the conditions are historically and are often paired with a temperature sensor on-site. The last type uses weather sensors to get real-time data in your yard and calculate the ET rate continuously.

I know what you are thinking. These systems would take the guess work out of irrigation for you, but probably cost an arm and a leg. Well, not necessarily. These controllers cost $150 to $200 from a big box store or an online irrigation parts retailer. They interface with your smart phone using apps and would make a great gift for the tech savvy person who either micro-manages their turf or wants the easiest way to manage their turf. Eventually, the cost savings in your water bill would make up for the cost of installation if you are an over-waterer. Why not give your yard an upgrade and do something good for the environment all at the same time.

Out on a Limb by Larry Figart

Mangroves Moving North

When I graduated as a forester 37 years ago, the northern range of mangrove trees in coastal waters was about the Merritt Island area roughly 100 miles south of here. However, with climate change reducing the number of extreme cold events, it is now possible to find both red and black mangrove in isolated pockets of coastal Duval County. With their expansion northward, perhaps it is prudent to learn a little more about these very important coastal trees.

Red mangrove *Rhizophora mangle* with propagules monitored in the Timucuan Ecological and Historic Preserve
Photo credit: William Vervaeke, NPS

In Florida, mangrove trees are very important to the storm resiliency of coastal areas. They are salt tolerant and will grow along the shore holding onto sediments and stabilizing the coast protecting the shorelines, and the communities nearby from storms and hurricanes. Mangrove forests are also important by serving as nurseries for many commercial and sport fisheries. Mangroves are also protected by the State of Florida. In 1996, Florida passed the Mangrove Trimming and Preservation Act. This Act regulates the trimming and alteration of mangroves while also banning the use of herbicides and other chemicals used to defoliate mangroves.

There are three species of true mangroves that are found in Florida. They are the red mangrove (*Rhizophora mangle*), the white mangrove (*Laguncularia racemose*), and the black mangrove (*Avicennia germinans*). In Duval County, the black mangrove is the most common as it is the most cold tolerant. However, there are several documented red mangrove trees located in the Timucuan Ecological and Historic Preserve. Mangrove trees can be distinguished from many other coastal shrubs by the fact that their leaves are opposite from each other on the stem. This is called an opposite leaf arrangement.

Black mangrove *Avicennia germinans*
Photo credit: L. Figart, UF/IFAS

Perhaps the most interesting trait among mangroves is that they have different adaptations that allow them to grow in and along salt water. The red mangrove with its massive aerial roots looking as they are walking in the water can remove the salt from the water in the roots before it enters the plant. Often you can see salt crystals forming on the aerial roots of red mangrove for this reason. Both the white and black mangrove has glands that can excrete the excess salt. The excreted salt grains are easily visible on the of the leaves of the black mangrove. It is said that black mangrove leaves were an important source of salt for indigenous people.

Another unique adaptation of mangroves is the fact that their seeds germinate and start growing while still attached to the parent plant. This is called vivipary. The small developing plants called propagules drop from the tree and continue to develop in the water. This allows them to already be further developed once they land on a favorable shoreline. Red mangrove propagules are long and skinny and look a lot like a red and green string bean. White mangrove propagules look very similar to sunflower seeds, while black mangrove propagules look like large lima beans. I have noticed both red and black mangrove propagules while walking on local north Florida beaches.

While they are new to the area, mangroves have always been an important part of Florida's natural ecosystems and will increasingly be important in the northeast Florida area as they expand. To find out more about mangroves go to: https://gardeningsolutions.ifas.ufl.edu/plants/trees-and-shrubs/trees/mangroves.html

In Focus: Summer Rains Bring Autumn….Snails?

by Beth Marlowe

If it feels like it's been raining more than usual these last couple of months… you're right! Rainfall totals for July and August were 9.95 inches and 10.4 inches respectively. Though not record totals, both are well above the average precipitation for those months over the period 2000-2022, according to NOAA online weather data. As I write this in early September, we are on track for another wet month. Extra wet, humid and hot weather creates many gardening challenges. A relatively new one was brought to my attention this year by a backyard gardener. Her challenge? Exotic snails. Thousands of them!

After sending pictures to UF/IFAS Entomology and Nematology Department https://entnemdept.ufl.edu, we found out they are an exotic species from the West Indies called *Bulimulus sporadicus*. They may have arrived in Florida at multiple points and were first found in Duval County in 2009. Based on colony identification, they seem to be spreading along railroad lines. The snails proliferate in rainy, humid weather, and seem to like climbing vertical surfaces. They reportedly feed on decaying organic matter rather than live plants, but the snails eating our gardener's strawberries sure seem to be enjoying them.

(left) single snail, (center) bucket of snails picked off wall and garden plants by homeowner,
(right) snails feasting on a strawberry, Photos credit: Rebecca Manley

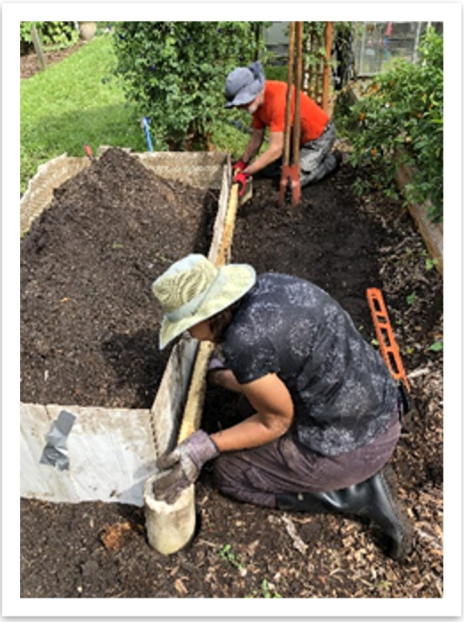
So, what's a gardener to do about these unwanted critters? First, reach out to our office for help identifying the snails you have in your yard. Some snails are actually beneficial, preying on pest snails. If you do have a pest species, hand picking may be sufficient if there are only a few. Minimizing environmental conditions that favor snails is also important in discouraging them. Reducing irrigation; and eliminating mulch, ground cover, wood, and stones can deny them the moist, sheltering environment they need. You can also create traps for them by placing a board, unglazed flowerpot or saucer in a shady location as a refuge for them and then collecting any caught in the refuge and destroying them. Chemical control is not generally recommended. It is not always effective, and chemicals used can be toxic to other animals. Salt is toxic to snails, but it can also damage your plants and even your soil. For more information on snails and slugs, see UF IFAS's Gardening Solutions website or the publication Terrestrial Snails Affecting Plants in Florida. We can't stop the rain, but we can still manage most snail problems with a little education.

Growing in the Garden

Written by and photos credit: Beth Marlowe

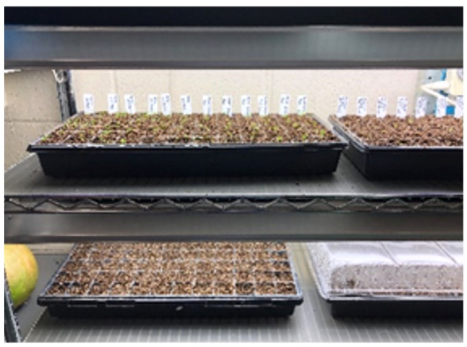
Finally Fall!

As the days become shorter through September and October, we enter my favorite gardening time in northeast Florida. It seems like everything in the garden is rejoicing that the excessive heat and humidity of summer has passed. And rather than putting the garden to bed for the winter, we can start a whole new group of crops and enjoy being out in the garden with them.



September gives us hints of the relief to come, but it's still a very transitional month in our urban demonstration garden. Outside, we are still harvesting the hot datil peppers, sweet potatoes and the last of the okra. We are pulling up spent basils and eggplants and we are weeding, weeding, weeding! We're are making sure that we maintain flowers for our pollinators and saving seeds where we can do so easily. We are uncovering some of the beds we solarized over the summer. After harvesting the last of our warm season crops, we are rebuilding raised beds that won't be able to limp through another season and checking irrigation lines for leaks and clogged emitters.

In September, we are also keeping an eye on the National Hurricane Center forecasts. We know that September through early October is the peak of the Atlantic hurricane season, and we are always thinking about what we can do to prepare the garden for potential storms. We trim tree branches, we make sure everyone knows where the main power and water shut-offs for the garden are located, and we plan for taking down and storing trellises and vertical growing systems that could blow over.



Inside, we are planting and tending the seeds we will transplant into our garden beds in October. Sometimes we start the seeds indoors because the plants need cooler air temperatures or lower humidity. Examples are spinach, Chinese cabbage, lettuce and herbs like dill and parsley. Sometimes we start brassica family crops like collards, kale, cabbage and mustard indoors, because the soil in our beds is still too hot for their seeds to sprout reliably. Many of our fall seeds germinate best at soil temperatures between 50°F. and 86°F. In early September, the top half inch of soil in our raised beds where seeds would be, can be as high as 105°F during the middle of the day.

Finally, we are planning where we will put all our new fall crops. We want all our plants to be in the right places, and we also want to plant each bed with crops from different families than the last couple of seasons. Where we planted tomatoes in the spring (Solanaceae), we may plant a cowpea cover crop in the summer (Fabaceae). After we cut the cover crop back and let it break down on top of the bed, we may plant carrots (Apiaceae) and broccoli (Brassicaceae). Rotating crops this way can be challenging in a small garden, but it helps avoid buildup of pests and pathogens that prefer a specific family.

By late September or early October, our garden shines! Beds are planted, irrigation is adjusted, and our transplants and seedlings are taking off. If you would like to visit our demonstration garden to see what we are growing and how, join us for our first **Open House of the season on Saturday, Oct. 8 from 9:00-11:00 a.m**. Cost is $5.00, and everyone receives a transplant to take home. Pre-registration is required, and space is limited. You can register for this event and additional upcoming Urban Gardening classes through Eventbrite.

What to Plant in Sept and Oct

Annuals: Dianthus, Lobelia, Petunia, Phlox, Shasta daisy, Snapdragon, Flowering Kale and Cabbage

Bulbs: Amaryllis, Aztec lily, Calla, Grape hyacinth, Iris, Lachenalia (leopard lily), Narcissus, Snowflake, Watsonia, and Zephyr lily (rain lily). **In October** you can add Daffodil, Gladiolus, Kaffir lily, Marica (walking iris), Moraea, Society garlic, Spider lily, Anemone, Hyacinth, and Pineapple lily

Vegetables: Beets, Broccoli, Brussels Sprouts, Cabbage, Carrots, Cauliflower, Collards, Kale, Kohlrabi, Leeks, Lettuce, Mustard, Onions, Parsley, Radish, and Turnips

Herbs: Dill, Fennel, Oregano, and Sage

Upcoming Classes

Scan Code for current list of ALL Duval Extension Classes

Date, Time, Cost	Event & Registration	Location
September 28 2-3:30 pm $5.00	**Backyard Hen Training** This informational course is on caring for backyard hens and is a prerequisite to receive a Backyard Hen Permit from Duval County.	Extension Office 1010 N McDuff Ave.
October 4 6-7 pm free	**Pass Along Plants** A pass-along plant is a growing gift from a garden friend, relative or mentor. What was the last plant you passed along? Was there a story with it? Feel free to bring a cutting to share!	Maxville Library 8375 Maxville Blvd.
October 8 9-11:00 am $5.00	**Urban Garden Open House** visit our demonstration garden to see what we are growing and how, Everyone receives a transplant to take home.	Demonstration Garden 1032 Superior Street
October 19 10 am - 12 pm $60.00	**Make & Take Rain Barrel Workshop** Save some money on your water bill. Be Florida-Friendly and help save the rain! First ten people to register receive a free gift!	Extension Office 1010 N McDuff Ave.
October 22 10-11:30 am $10.00	**Grow Your Own Strawberries at Home** Learn how to grow strawberries in the home garden. The class fee includes 10 bare-root strawberry plants.	Online

What's That? Answer!

Written by and photo credit: L. Figart, UF/IFAS

All three images on the front are of lichen. Lichens are a very complex community of algae, fungi, and in some cases blue-green algae living in a beneficial relationship together. The algae, and blue-green algae make the food, while the fungus provides the structure. It is often described as a mutualistic relationship where all members benefit but there is evidence that the fungi needs the algae more than the algae needs the fungus as the algae, and blue-green algae can live as free living organisms. It is estimated that there are 13,000 to 30,000 lichen species.

A common misconception is that the lichens are damaging the tree. This is not the case. Lichens can be found on rocks, street signs, and metal structures. The image to the right is lichen on a street light pole. For more on lichens go to: https://edis.ifas.ufl.edu/publication/IN1296