



A Pond in a Container?

By Joy Derksen, Master Gardener 2004



Many people would like to have a pond, but they do not have enough space for a traditional in-ground pond. Fortunately, it is possible to make your own small pond in an attractive pot or half barrel. Water gardens in containers are relatively easy to build and maintain.

The first thing you will need is the container for your garden. Be sure your container can hold water---ceramic, plastic, sealed cement, or porcelain. Wooden whiskey or wine barrels will need a plastic liner to prevent chemical seepage from the wood. Be mindful that every gallon of water weighs about eight pounds. If you have a large container, decide where the container will be before you assemble the garden and be sure the location can take the weight.

Next you will need a few plants. Most experts suggest that you combine varieties of plants:

Marginal plants that grow in the shallows around the edge of a pond. (Blue and yellow flag iris, lizard's tail, dwarf papyrus, purple pickerelweed)

Rooted Floating Leaved plants whose roots sit on the bottom of the container and leaves float on the surface. (Miniature water lilies and lotus and floating hearts)

Floating plants that float on the surface of the water. They do not need soil and they grow by extracting nutrients from the water. These plants control algae by shading the surface of the water and removing extra nutrients that algae would use to grow. (Duckweed)

Submerged plants that grow completely under water and help purify the pond by absorbing carbon dioxide and giving off oxygen. They also soak up excess nutrients which again keeps algae under control. (Eel grass, parrots feet, hornwort---plants that you see in aquariums)

A pond with a square meter of pond surface should have one Rooted Floating plant, three submerged plants and one to two marginal plants. Smaller containers will need fewer plants. Plants not bought from a pond store need to be repotted into heavy clay soil. Use a black plastic container lined with newspaper. Black plastic becomes less visible once under water. Do not use potting soil with fertilizer or vermiculite. The fertilizer will cause algal growth and the light elements in potting soil will float. Top the soil with about 1/2 inch of small pebbles, but leave the plant's crown uncovered. You can elevate your plant with stacked bricks. Then gently add water. You're done.

Two problems in a water garden are algae and mosquitoes. You can add gambusia, mollies, or guppies to the pond; they will eat mosquito larvae. You can use a Pond Dunk that contains *Bacillus thuringiensis israelensis* which will eliminate larvae. Algae should not be a problem with proper plant selection. You can always remove the water and refill your garden with fresh water.

A wildly popular workshop is back!

Container Water Gardening ~ April 30th ~ 10:00 a.m. - Noon

"Container water gardening "- think about it - water: soothing; container: small space; gardening: the best hobby around! The workshop covers everything: ideas, plant selection, building instructions. You walk away with the know-how and materials (plants and FISH!) to build your own.

Your to-do's: Bring a container or 5-gallon bucket. Register before April 22 and pay the \$30 fee in advance to guarantee your spot. (Cash or check only; checks payable to Friends of Extension.)

Register online [here](#) or call (941) 722-4524 and ask for the Master Gardeners.





Adult tropical sod webworm.

Tropical sod webworm egg cluster laid on grass leaf sheath.

Tropical sod webworm larval instars, pre-pupae, and pupa (L to R).

Pupa found in cocoon in St. Augustinegrass thatch.



Photo by, James Kerrigan UF



Photo by Nastaran Tofanpazi, UF



Photo by, James Kerrigan UF



Photo by Steven Arthurs, UF

Tropical Sod Webworms

By Lisa Hickey, Urban Horticulture Extension Agent

Along with preparing for the tropical hurricane season, May is the month to prepare for the tropical sod webworm. So why an article in April about this insect? Scouting for this insect should begin in April. If the population goes unchecked, by the month of May, your lawn will show the results of this pest! During drought periods, the damage from drought and the webworm may be difficult to decipher. Scouting is not labor intensive but does require you to get down on your hands and knees to see their damage up close.

Scouting for tropical sod webworm requires the investigation of areas in the lawn that are patchy and brown or dead. The original area may have looked like dog urine damage, a small circular area of yellow or dead grass. The height of the grass is usually shorter in the damaged area since the fifth larval stage of webworms feeds heavily on the grass blades of all our warm-season grasses.

To scout a large damaged area, you may want to test two separate areas, one square yard section each, to compare your results. Apply a two-gallon mixture of non-degreaser type dish soap and water (most references indicate 2 tablespoons of soap to two gallons of water). Slowly pour the mixture over the test plot and watch for the webworms to come to the top of the leaves. Dr. Paul Heller, Penn State University, says that 10 to 12 webworms per square yard warrants treatment.

Tropical sod webworm have six life stages before they become an adult moth. The brown moth is $\frac{3}{4}$ inch long and feeds on nectar plants. It does not cause lawn damage. The female lays a cluster of eggs on the top of the leaf blades during dusk. As you walk through your lawn near dusk, watch for small flying moths as an indicator if you have lawn damage as described above. During the day, the moths take respite in

nearby shrubs.

Webworm larvae are cream colored with dark spots on each body segment. They grow to be about $\frac{1}{2}$ inch in length in the 5th stage of life. They are night feeders. Oh, did I forget to mention that you will be on your hands and knees to scout during the evening hours? What will the neighbors think? In its first few stages of life, the webworm scrapes only the top layer of the leaf blade, leaving behind the cellulose fiber, creating a “window” on the blade. As the worm ages, more of the leaf is consumed. Frass (worm poop) can be observed in the feeding area but usually only detected as the webworms get larger.

During the day, sod webworms hide in the thatch layer. Excess fertilization contributes to thatch buildup and a higher potential of webworm infestation. The sod webworms will form their cocoon in the thatch material.

There are many control measures from biological (beneficial nematodes) to chemicals (too many to list). Cultural controls measures we can control: over watering, incorrect mower bed height, over fertilization, and host plant selection. There are several cultivars of St. Augustinegrass (SAG) and zoysiagrasses that have been bred to resist tropical sod webworms. Check out SAG ‘Amerishade’, ‘Floratine’, ‘FX-10’, ‘Captiva’ and ‘Winchester’ as listed on the University of Florida’s Featured Creature publication. Zoysia resistant cultivars are ‘Cavalier’, DALZ850 1 and JZ-1.

Your planning schedule should be to scout in April and May watching for early signs of infestation; go over your cultural practices and make sure they are appropriate for the lawn type you have; use biological controls if possible, and if you lost the battle by August and September, visit your local extension office for suggestions for chemical controls.



WHAT IS A LASAGNA GARDEN?

For the "Do It Yourself" or the "Easy Does It" gardener, this is a great way to make garden beds! A lasagna garden is also referred to as sheet composting or sheet mulching. A person wanting an easy care garden layers materials "sheet-by-sheet" (this is the layering effect, like making lasagna!) until a raised area for gardening is created. Once the materials are decomposed you have a place to plant a garden. This approach requires no shovel or digging.

HOW TO MAKE A LASAGNA GARDEN AND WHY DOES THIS WORK?

Two Master Gardener Trainees from the Class of 2015, myself and Dr. K., used two wood pallets to make a frame (see title photograph). Begin by placing layers of newspaper (6-10 layers thick and only black ink) or cardboard (from flattened boxes) and thoroughly wetting this layer. Newspaper and/or cardboard shuts off the sunlight to the grass and weeds and stops their growth.

Worms are attracted to the moisture and they will begin helping the layers to decompose. The next layer is about 2-3 inches of compost mixed with manure. Compost starts the "cooking" process. If you don't have your own compost pile and easy access to manure (from cows, chickens, or other grass-eating animals), these can be bought at most garden shops. This is a nitrogen (or green) layer. Manure heats the mixture up, cooking the leaves. Earthworms love the manure and aerate the soil, leaving behind nutrient-rich wastes.

The next layer is an inch deep carbon (or brown) layer, such as leaves (at last, a place for all those oak leaves) straw, bark, pine needles, torn up newspaper, or sawdust. We added straw and dead banana and oak leaves to ours. These smother weeds and rot into rich compost.

Then, another carbon layer. Keep alternating until you reach at least 18 inches or more. The last layer must be a

carbon layer to discourage insects from laying eggs in decomposing kitchen waste. Cover the final layer with burlap or a top-dressing of bark, newspaper, or leaves. Water it well.

For those who are not in a rush to complete their garden, it is good to let it cook, simmering for nutrient enhancement. For those who want to plant right away, amend the pile with about 4 inches of compost or planting soil. You can plant in that layer. The plants will get nutrients as the lasagna decomposes. We decided that we were not in hurry and our recipe needed to sit and simmer over the fall and winter. We will be planting in the spring. Can't wait to see how it turns out!

BENEFITS OF LASAGNA GARDENING

We chose this method because of the benefits to the soil and to us:

- Improved soil: Florida's soils are not generally nutrient-rich. Organic matter improves existing soil by what we add to the lasagna pile. Beneficial earthworms and bacteria are attracted to our garden.
- We need less water: This method improves moisture retention and we save on fertilizer.
- This type of gardening opens a whole new world to people unable to physically dig. There are no age or health limits for this type of gardening.

For more information, visit:

http://solutionsforyourlife.ufl.edu/hot_topics/sustainable_living/no_dig_garden.shtml ,

<http://extension.oregonstate.edu/gardening/create-vegetable-beds-lasagna-mulching>, or

<http://greenthumbs.cedwvu.org/factsheets/lasagna.php>

And in the library:

Lasagna Gardening: A New Layering System for Bountiful Gardens: No Digging, No Tilling, No Weeding, No Kidding by Patricia Lanza.

Evolution of a Florida-Friendly Rose Garden

by Ross Peterson, Manatee County Florida-Friendly Landscaping™ Coordinator

Nearly two years have passed since we have stopped to smell the roses here at the Extension Service thanks in large part to a generous donation of “green” from Philip Paul, Vice District Director of the Deep South District of the American Rose Society (ARS). Phil donated a variety of fifteen rose shrubs to the Manatee County Master Gardener Program in July 2014 with the intent we would start a rose demonstration garden for the county.

Initially, the potted roses were placed in the Master Gardeners' Educational Gardens and watered by hand. Our objective was to keep the foliage as dry as possible to minimize black spot and other diseases. The roses were relocated in 2015.

In early 2015 the Rose Committee (consisting of Master Gardener volunteers and yours truly) discussed the long-range plan for the rose gardens. This included offering educational workshops on growing roses using the principles of Florida-Friendly Landscaping™ to guide us. We knew we would have to expand our current inventory of roses as well as acquire more space to showcase the roses. Grant money was sought to move the project forward.

Hooray! Arriving the first week of April, a landscape beautification grant of \$750 was awarded for the rose project. Identifying the future site for the rose beds was the next step. The committee decided a cappuccino colored, castle wall block would be the retention wall hardscape to create an attractive border for the roses.

Our only source of irrigation in the area is reclaimed water, which adds soluble salts and nutrients to the growing medium. Soluble salts can potentially burn

root hairs, thereby reducing water and nutrient uptake by the plants. The electrical conductivity of the water was tested and the results were in the 0.78 – 1.56 dS/m range, which means our water resource is low in salts. Micro-bubblers irrigation heads were installed in the pots. Shutoff valves for each pot allow selective irrigation to pots that had different irrigation requirements.

The soil pH test results were no surprise. The pH was over 7.0 indicating a high alkalinity soil. To supplement the sandy soil, we added 1.5 yards of topsoil and 1.5 yards of potting soil to the new growing space. Around this same time, Phil was attending an ARS symposium in Georgia. This was all part of the plan to expand our current rose inventory and expand we did! Phil purchased fifteen more roses that included large flowered climbers, hybrid teas, and shrub type roses.

As 2015 ended, we were experiencing unusually warm temperatures, a perfect time to plant roses! The first round of planting consisted of nine roses and was completed by the middle of December.

In order to increase the organic matter of the soil, we amended the potting holes with Fafard 3B, peat based, soilless mix. We top-dressed each planting with one cup of sulfate potash magnesia 0-0-21 fertilizer. This fertilizer blend helps during the establishment period by supplying potassium, magnesium, and sulfur. Adhering to Manatee County's fertilizer ordinance, we did not use any fertilizers that contained phosphate. For good measure Phil added some Superthrive® vitamin solution to each rose. Future applications of fertilizer will include an 8-0-12. This fertilizer blend is formulated for palm and tropical ornamentals

and it contains a good minor element package. Both the nitrogen and potassium sources are polymer coated for a slowly available source of nutrients.

The roses have presented some challenges in the form of insect and disease issues. Several different types of insect pests have included aphids, scale, thrips, spider mites, Sri Lanka weevil, and - last but not least- a colony of fire ants that took up residency in one of our new rose pots this winter. Black spot, downy mildew and powdery mildew, depending on the time of the year, are the most common fungal pests.

Integrated Pest Management (IPM) is the perfect practice for Florida-Friendly Landscaping™ for responsible control of plant pests; the roses are scouted weekly for insects and diseases. Providing and exercising the proper cultural practices including adequate irrigation, sanitation, light levels, air circulation, pruning, and fertilization are the foundation of minimizing pest problems. Other important components of IPM include physical control of pests through removal of affected plant parts or rouging and the use of mulch on the beds.

Learning to recognize beneficial insects that prey on plant pests is another valuable IPM tool. I have been using different organic, low risk chemical applications with mixed results. A bio-fungicide with the active ingredient *Bacillus amyloliquifaciens* or in other words a beneficial bacterium has been tried. The product is labeled to control powdery mildew, black spot and downy mildew on roses. Another natural product we used contains Spinosad as the active ingredient, a natural substance derived from a soil bacterium. It is labeled for control of worms, spider mites, thrips and leaf feeding beetles without significantly impacting predatory beneficial insects.

A mixture of two tablespoons of vegetable oil and two tablespoons dish soap (do not use a dish soap that contains a degreaser), per gallon of water is an effective insecticidal soap and oil combination used to control aphids and other soft-bodied insects.

It disrupts air exchange and smothers the pest. For adequate pest control, it is imperative to thoroughly spray the leaves, top and bottom.

We have a few more roses to plant this month, pruning to accomplish, and another application of the 8-0-12 fertilizer before the end of May to sustain the plants through the fertilizer restrictive period of June 1st through September 30th. So if you have not stopped to smell the roses, please do and let us know what rose cultivars appeal to you.



Mapping Your Utilities

By John Dawson, Master Gardener 2007

Nothing is more frustrating (nor sometimes more important) than trying to find where your underground utilities are located. Most plan drawings or plat maps provided by your home builder do not show where your water line, sewer, or irrigation lines are located on your property.

Have you ever dug a hole to plant a new bush, just to hear that crunch sound of breaking a PVC pipe? If it was pressurized, a gusher was likely to erupt, leaving you to wonder how to shut it off. Being the smart homeowner that you are, you know where the shutoff valves are for your potable and irrigation water and how to turn the supply off. If you don't know how to shut things down or how to avoid damaging your utilities to begin with, keep reading!

Locating your underground pipes – The following is not magic, not divining or wishful manipulation. Your body simply acts as a magnetometer.

You will need an old metal coat hanger, kite string, nails, fishing sinker (or other weight) a long measuring tape, and a box. Cut the coat hanger into two L-shaped pieces as shown on page 7. Hold the short end of the L in each hand with the long ends pointing away from you. Note: all mapping should be done on a calm day as a strong wind will interfere with the operation. You may want to practice with a piece of PVC pipe laying on the surface of a driveway or on a part of your lawn that you do not expect underground pipes to be.

As you approach the pipe, you will notice that the long ends of the hanger will move parallel to the pipe. As you go beyond the pipe, the long ends will return back to the original position in front of you. If you place the sinker on a string and hang it down from your little finger like a plumb bob, you can see the width of your pipe.

It doesn't matter if the pipe is full of water or empty. The presence of the pipe is causing changes in the Earth's electromagnetic field in that area. Your body creates a field that aligns the rods with the deviation.

If you experience problems, wash your hands and do not use gloves. Start at the potable water supply valve box near the street, it should be in front of the backflow device (the "n" shaped pipes above ground). Remove the cover. Inside you will

see a meter and in front of the meter is the shutoff valve. There is a bar on the valve which is in line with the supply pipe. To turn the water off to your house or irrigation system (if not on reclaimed water), the bar needs to turn clockwise to be perpendicular with the pipe (you will need water pump pliers or a T bar).

If that gusher is still going, then you have a separate line from a pump or you are connected to reclaimed. If you have a pump, shut it off. If you have reclaimed water there is another valve box like the one for your potable water which may or may not be connected to a backflow device. The same valve procedure applies to your reclaimed water. Now with the gusher gone, time to repair the damage and map the rest of your underground utilities.

Mapping – To find your house water line, tie the free end of your kite string to the end of your backflow device. There should be another valve on your house wall where the pipe from the street enters your home. This valve should be used any time you need to shut the water off to your home.

The underground pipe is usually laid in straight lines, so take your kite string to a point in the lawn about six feet out from the pipe to your home. Using the locating tool, determine where the pipe runs. Use the kite string and nails to visualize above ground how the pipe runs. Use the tape to identify where the bends may be and place the measurements on your plat map along with lines indicating potable water lines.

Irrigation lines are a bit more intricate in that they branch off to various irrigation heads and to valve boxes. If you are lucky the valve boxes are visible and in one place (each zone will have a single valve and these need to be replaced from time to time). However if you are like me (the second owner), the irrigation installer had placed the eight valve boxes all over the place and when I needed to find them, the lawn had since overgrown every one of them.

I started by going to each irrigation head and working with the device located where the line from the head came to the main feeder line. By turning on the irrigation system one zone at a time, you can determine what heads are attached to which zone. The valve box and wiring run off the main feeder which then supplies water to the heads in that zone. Using the

continued on page 7

nails and kite string, work each head line back to the main feeder. Each zone valve box usually has a plastic cover lid.

I used a friend's metal detector to trace the string lines to the zone valve which has metal parts. Unfortunately, I also found a lot of buried soda cans and metal parts left over from my pool cage construction. You can also put a long nail in the end of a stick and poke it in the ground along the string line until you hit something solid, hopefully your valve box cover. Dig out the cover (it took less than a year for the grass to cover it again). You will want to map where all the valve boxes are located. Using fixed land marks, like a corner of the house or distance along the wall of your house, tie a nail to your string and put it at your valve box and take the other end to your landmark. Using the box with the small side against the wall (you can get fancy and use a carpenters square if you have one) place the end to where

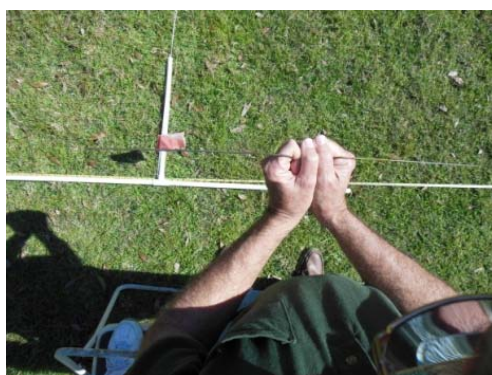
the string just touches the side of the box. You have just made a 90 degree angle with your landmark. Measure the distance from the end of the valve box to your landmark and the distance from your landmark to the box. Mark these down on your plat map.

The next time you need to find the valve box, perform the same measurements in reverse. Do the same for your sewer line. If your electric is in conduit you can find it too. Unfortunately cable TV and phone lines are usually run without conduit and your device will not work in finding them. With everything mapped out, you should easily locate all your underground pipes. If you are uncertain where everything is located and you plan to dig a deep hole, like planting a tree or big shrub, **please call 811 before digging**. They will ensure no public utilities will be harmed, but they will not locate your irrigation lines.

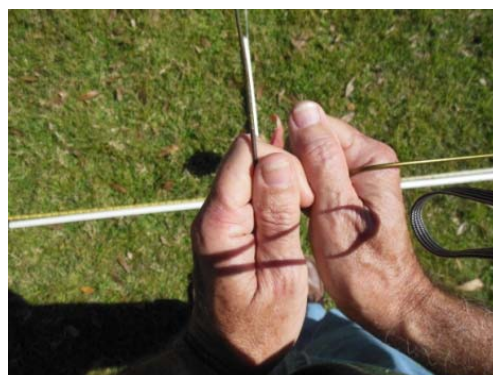
Locating your underground pipes:



Starting Position



Wires parallel with pipe.



Wires perpendicular to junction.



Box at corner forming 90°



Second 90° angle measured from house.



Valve cover found!

April

CALENDAR OF EVENTS

Date	Time	Event
2 nd & 4 th Saturday	10:00 a.m.-1:00 p.m.	Ask a Master Gardener – Rocky Bluff Library – 6750 US Highway 301 N., Ellenton. Visit the Extension Master Gardener information table and get answers to your gardening questions.
Saturday April 2	10:00 a.m.-Noon	Termite Discovery 101 - Learn how to identify termites from other flying insects, particularly bees and ants; what are the prominent swarm seasons, what are some of the telltale signs of termite feeding, and how to determine if you may need to call an exterminator. For our northern visitors, you may find this workshop perfect timing for useful information to prepare your home for locking up and leaving Florida for the summer. Register online at http://manatee.ifas.ufl.edu or call the Extension Master Gardeners (941) 722-4524.
Saturday April 9	9:00-11:00 a.m.	Extension Master Gardener Plant ID Tour – DeSoto/Riverview Pointe Preserve - Stroll through DeSoto National Memorial and Riverview Pointe Preserve to learn more about Florida's native plants and inhabitants of a coastal habitat. Suitable for all ages. The hike begins in the parking area of the DeSoto National Memorial Park and enters into the Riverview Preserve at 8250 DeSoto Memorial Highway, Bradenton. Call the Extension Master Gardeners to register (941) 722-4524.
Saturday April 9	10:00-11:30 a.m.	Stormwater Pond Systems and Florida-Friendly Landscaping™ Learn why stormwater ponds are an important component of Florida's unique ecosystems and their relationship to Florida-Friendly Landscaping™. Register online at http://manatee.ifas.ufl.edu or call the Extension Master Gardeners (941) 722-4524.
Sunday April 17	9:00-11:00 a.m.	Extension Master Gardener Plant ID Tour – Robinson Preserve - Stroll through the Robinson Preserve's salt marshes to learn more about Florida's native plants and inhabitants of a coastal habitat. Suitable for all ages. Tour begins in parking area by main entrance at 1704 99 th Street Northwest, Bradenton. Call the Extension Master Gardeners at (941) 722-4524 to register.
Saturday April 20	9:00-10:30 a.m.	Worm Composting – Vermicomposting - Find out how to use worms to turn food scraps and other waste into compost. Now you can compost in an apartment, condo, or mobile home. Worms can be maintained indoors or out! Worm bins available for purchase at \$50 per bin (cash or check only). Register online at http://manatee.ifas.ufl.edu or call the Extension Master Gardeners.
Tuesday April 26	1:30-3:30 p.m.	Irrigation with Water Conservation in Mind - This class satisfies the landscape educational requirement for the Manatee County Outdoor Water Conservation Rebate Program. Topics will focus on how to adjust your in-ground sprinkler system to conserve water, how you can repair parts, and the benefits of installing smart irrigation devices. We will have a brief discussion on Florida-Friendly Landscaping™ tips. Register online at http://manatee.ifas.ufl.edu or call Joann (941) 722-4524.
Thursday April 28	1:30-3:30 p.m.	Landscape Tips for Water Conservation - This class satisfies the landscape educational requirement for the Manatee County Outdoor Water Conservation Rebate Program. Topics will focus on Florida-Friendly Landscaping™ tips such as right plant vs right place, watering efficiently, and the benefits of mulch. We will also discuss in-ground sprinkler systems and the benefit of installing a smart irrigation device. Register online at http://manatee.ifas.ufl.edu or call Joann (941) 722-4524.
Saturday April 30	10:00 a.m.-Noon	Container Water Gardening - Do you long for the beauty that water brings to an entryway or patio? Do you want a soothing garden that doesn't require lots of water and chemicals but you live in an apartment? This class covers everything about mini-water gardens, from ideas to plants to seeing one built. You will leave with the knowledge and ingredients (plants & fish) to build your own. Bring a container or 5-gallon bucket to take home the goodies. For container guidelines and a sneak peek of ideas, visit http://on.fb.me/1P937yz . Registration and advance payment by April 22 guarantees your spot in class (cash or check only, payable to Friends of Extension). Register online at http://manatee.ifas.ufl.edu or call the Extension Master Gardeners (941) 722-4524.

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