



A quarterly online magazine published for Master Gardeners in support of the educational mission of UF/IFAS Extension Service.

## These Butterfly Cousins Add Charm to Pinellas County Gardens

By Ellen Mahany, Master Gardener

How wonderful that two of the most common butterflies in Central Florida, the Gulf Fritillary and the Zebra Longwing, require the same larval plants and favor the same nectar plants, so the gardener can have two-for-one, so to speak. Year round, these charming cousins of the Brush-foot family lay multiple generations of eggs on Corky Stem (*Passiflora subarosa*) and Purple Passionflower vines (*Passiflora incarnata*). Among the wide variety of nectar plants they seek out are purple Lantana (*Lantana montevidensis*), other species of Verbena (*Verbena officinalis*), and non-dwarf red Penta (*Pentas lanceolata*). In appearance and behavior, each of these long-winged butterflies is irresistible, but their differing needs for sun and shade must be satisfied to lure them to our gardens.

The Gulf Fritillary is a typical butterfly with its nervous demeanor, life span of just a few weeks, and love of the sun. During fast flights, it searches for colorful nectar plants, while making quick stops to lay yellow eggs even on stray growths of larval vines. Because it is a bright-orange butterfly with black markings, it is sometimes confused with the Monarch butterfly. However, the Gulf Fritillary has hindwings generously decorated with silvery white patches. Its wingspan, 2.5 to 3 inches, is about half an inch shorter than that of the Zebra Longwing. The caterpillar is bright orange with black markings, while the chrysalis, a mottled white, brown and orange, resembles a comma-shaped, dead leaf. Its preference for uplands, scrubs, sandhills, coastal uplands,

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Gulf Fritillary amid *Bidens alba* and *Passiflora incarnata*. Photo Credit: Ellen Mahany.



Left: Fluttering Gulf Fritillary laying an egg on *Passiflora incarnata*.

Right: Gulf Fritillary chrysalis attached to latticed chair. Photo Credits: Ellen Mahany.



flatwoods, and weedy, disturbed areas, ensures its availability for gardens in a variety of ecosystems within our county.

In contrast to the Gulf Fritillary, the Zebra Longwing—boldly-striped, a black-and-yellow beauty with elongated wings—is distinct from any other butterfly species. A need for shade limits its ecosystems to woodlands, hammocks, forest edges and adjacent, open, disturbed areas. At the Florida Botanical Gardens, it frequents the native plant garden to lay pale yellow eggs on passionflower vine (*Passiflora incarnata*) leaves in the shady arbor. There they mutate to black-spiked, white caterpillars, then to well-camouflaged chrysalides in varying brown shades. The adults make relaxed flights to sip nectar from nearby brightly-colored native flowers. Unlike other butterfly species, the Zebra Longwing consumes pollen as well nectar, enabling it to survive for several months, much longer than the usual life expectancy of just a few weeks for other species. Two favorite sources for this nutritional combination are Lantana and Shepherd’s Needle (*Bidens alba*). An endearing feature of this species is that adults form small communal roosts at night, returning to the same locations to sleep together.

Year round, the Gulf Fritillary, bright and beautiful, and the Zebra longwing, so deserving of its title of state butterfly, can both find a home in our butterfly gardens, a great two-for-one opportunity.



Zebra Long Wing butterflies mating at Florida Botanical Gardens. Photo Credit. Ellen Mahany.

## Build Your Own Plant: How Grafting Works

### By Shane Palmer, Master Gardener

Grafting is a method of propagation that involves removing a piece of one plant and attaching it onto another plant in such a way that allows them to fuse and grow together as a single plant. Scion is the term for the removed or donor piece; rootstock is the term for the receiver plant to which the scion attaches. One can graft multiple scions onto a single rootstock.

Grafting is an ancient technology practiced for thousands of years to improve crop quality and yields. Grafting isn't just stuck in the past, however. It is still an important technique used today on a wide variety of plants (fruits, vegetables, and ornamentals, both woody and herbaceous) for many reasons.

#### Benefits of grafting:

- 1) It's a faster alternative to traditional plant breeding when growers want to combine multiple desirable traits into a single plant, and quickly propagate such plants on a large scale.
- 2) Some plants, such as certain fruit trees, are difficult to root as cuttings and are vegetatively propagated more easily as grafts.
- 3) Certain rootstocks can provide resistance to root-borne pests, diseases, or environmental stresses. An example is grafting stone fruit trees like peaches and plums onto rootstocks resistant to a Florida-specific, root-knot nematode.
- 4) Certain rootstocks can induce dwarfing or more vigorous growth in the scion tissue, which growers can use to produce plants of a certain size or higher production value (Figure 1).
- 5) Grafting can create fun novelties that produce multiple kinds of fruit or different colored flowers on a single plant (for example, creating an orange-lemon-lime tree or a rose bush with both red flowers and white flowers). Performed on succulents, grafting can produce visually striking living sculptures (Figure 2).



Left: Figure 1. Dwarf citrus tree produced by grafting onto a dwarfing rootstock. Source: [http://gardeningolutions.ifas.ufl.edu/images/plants/fruit/citrus\\_tecup.jpg](http://gardeningolutions.ifas.ufl.edu/images/plants/fruit/citrus_tecup.jpg)

Right: Figure 2. Ornamental cactus. The red tops have been grafted onto the green bases. Source: <https://conference.ifas.ufl.edu/gardener12/Onsite%20Presentations/Tuesday/Concurrent%20Session%204/C-4/Leymaster%20-%20Amazing%20World%20of%20Succulents.pdf>



### Graft Compatibility

The more closely related two plants are, the more likely they are to be biologically compatible for grafting. Incompatible grafts may fail to "take" or to stop growing. Grafts between plants of the same variety or cultivar are generally always compatible, as are grafts between different varieties or cultivars of the same species. Grafts between different species that are within the same genus are also possible, but not always. Grafts between different genera within the same plant family are usually not compatible.

### Grafting Techniques

There are several different methods of grafting. The timing and method depends on season, personal preference and the type of plant you'd like to graft. In general, you cut and press together the scion and rootstock in a way that allows the living tissue layers underneath the bark to align and fuse together over time (Figure 3 and 4). The scion must also contain at least one bud or other type of meristem tissue, from which new growth can sprout.

For woody plants such as fruit trees, bud grafting or "budding" is a common and easy method. You slice a single dormant bud from a stem and attach it to the stem of another plant. In addition, you can graft whole stems together.

Vegetable grafting is a relatively new practice in the United States, but has a history of extensive use in Asia to improve crop performance and fruit quality. The most commonly grafted herbaceous vegetables are tomato, melon, and watermelon. Often, grafting involves young plants (Figure 5).



Above: Figure 3. Living cambium layer beneath bark. Image Credit UF/IFAS Pinellas County. Source: <http://nwdistrict.ifas.ufl.edu/hort/wp-content/blogs.dir/9/files/2014/01/green-cambium.jpg>

Below: Figure 4. Red circled area shows the healed graft union on a tomato plant. Source: <http://hos.ufl.edu/sites/default/files/faculty/gdliu/Zhao.pdf>



Figure 5. Grafted tomato plant with a grafting clip on its stem where the scion and rootstock were joined. Source: <http://nwdistrict.ifas.ufl.edu/phag/files/2015/02/Freeman-figure-2.jpg>



For more information on grafting and step-by-step instructions, refer to these publications:

**IFAS Publications:**

Grafting and Budding Fruit Trees:

[http://irrecenvhort.ifas.ufl.edu/Propagation/modules/module4/williamson\\_outline.pdf](http://irrecenvhort.ifas.ufl.edu/Propagation/modules/module4/williamson_outline.pdf)

Grafting Vegetable Transplants:

[https://conference.ifas.ufl.edu/smallfarms13/Presentations/Sat.%20Aug%203--Session%201%20Presentations-handouts/sat%2011am%20grafting%20veg/\(Sat\)%2011%20am%20Ozores-Hampton-%20Grafting%20Veg-%20handout2.pdf](https://conference.ifas.ufl.edu/smallfarms13/Presentations/Sat.%20Aug%203--Session%201%20Presentations-handouts/sat%2011am%20grafting%20veg/(Sat)%2011%20am%20Ozores-Hampton-%20Grafting%20Veg-%20handout2.pdf)

Techniques for Melon Grafting: <http://edis.ifas.ufl.edu/hs1257>

Rootstocks for Florida Stone Fruit: <http://edis.ifas.ufl.edu/hs366>

**Non-IFAS publications:**

*Plant Propagation* by Alan R. Toogood, published by the American Horticultural Society.

[https://books.google.com/books/about/Plant\\_Propagation.html?id=quUWMeSBy\\_kC](https://books.google.com/books/about/Plant_Propagation.html?id=quUWMeSBy_kC)

Propagating Plants by Grafting and Budding:

<http://extension.oregonstate.edu/deschutes/sites/default/files/propagation.pdf>

Cactus Grafting:

<http://www.uky.edu/Ag/Horticulture/Geneve/teaching/plantpropwebpages/grafts/graftingcactus.pdf>

## Groundcovers—Life after Turfgrass

By Debi Ford – Master Gardener

Some property owners consider a lawn of soft, green grass a status symbol. Yet, to achieve the perfect lawn requires irrigation, resisting pest invasion, and ongoing maintenance. Is there a better approach to the landscape?

Yes and the answer is groundcovers! It may not present the soft, downy grassy appearance of turf, but a landscape that replaces some or all of the turfgrass can bring freedom from the problems associated with a traditional lawn. It also fulfills many of the nine principles of Florida-Friendly™ Landscaping.

Groundcovers are simply plants that sprawl over the ground in much the same way as turfgrass, but without the maintenance hassles. That’s not to say groundcovers are maintenance-free. There is no such thing. However, they do significantly reduce your workload.

Groundcover plants fall into two main categories, herbaceous or woody. They can be clumping or spreading, can take a variety of lighting and moisture conditions, and be low-growing or tall. You can use them to create accent areas in a landscape or to replace turfgrass entirely.



Examples of groundcovers in the landscape. All Photos: UF/IFAS.

You will have the best chance of success if you follow a few simple rules.

1. Right Plant, Right Place—choose the correct type of plant for your chosen area.
2. Plan plant placement ahead of time on paper so that you have a clear idea of what the final appearance will be. Be sure to locate irrigation and utility lines and design and plant accordingly.
3. Determine if you need to amend your soil before you plant by having a soil test. You can contact the UF/IFAS soil lab at: <http://soilslab.ifas.ufl.edu/ESTL%20Tests.asp>
4. Rake the planting area to remove stones, rocks, and other debris. This is a good time to add organic material to improve soil texture.
5. Once you've planted your final plant, be sure to give the area adequate water so your plants get off to a good start.
6. Apply an organic mulch to conserve moisture and help prevent weeds.
7. The use of pre-emergent herbicides will help control any weeds that do invade the bed. Follow all directions on the label and apply at the correct time.
8. Depending on the type of ground cover, your maintenance might only be using a trimmer/edger to control the spread into the landscape, sidewalks, or driveways.

Some popular groundcovers for our zone are:

- Asiatic Jasmine (*Trachelospermum asiaticum*)
- Beach Sunflower (*Helianthus debilis*)
- Ornamental Peanut (*Arachis glabrata*)
- Sunshine Mimosa (*Mimosa strigillosa*)

With proper planning and planting, you can sit back and enjoy your new groundcover landscape for years to come.



Left: Beach sunflower (*Helianthus debilis*).  
Right: Sunshine Mimosa (*Mimosa strigillosa*). Photo Credit: UF/IFAS.

## Raise it Up: A Guide to Raised-Bed Gardening

By Debi Ford – Master Gardener

Raised-bed gardening is a solution to many issues gardeners encounter. While our sandy soil in Pinellas County is great for drainage from our tropical rains, it's not so good for growing plants. In addition, ground level beds can be inaccessible to some with mobility issues.

Gardening with a raised bed is not much different from in-ground planting and, in fact, can still be ground level. This method does allow a greater control over soil conditions as you can fill your bed with your own soil mix. You can also raise the bed to avoid wet or soggy conditions at ground level.

You can enclose raised beds with a variety of materials—anything from cinder blocks and bricks to synthetic lumber. Make sure to plan your garden so that it's not more than four feet wide to allow easy access for harvesting and maintenance. Space available and your individual preference are the only limits on length.

Raised beds can also be elevated containers that allow greater access and save you constant bending and kneeling. Elevated planters are an ideal solution for the apartment or condo/townhouse gardener who has a balcony or terrace. There are many premade soil kits available on the market for both ground level and raised containers gardens. Look for soil depth of at least 12 inches.



Left: Example of an elevated raised bed ideal for individuals in wheel chairs or for those who cannot bend over. Photo Credit: Terry DeValle, UF/IFAS.

Right: Raised beds can be elaborate and esthetically pleasing. Photo Credit: Aline Clement, UF/IFAS Extension Duval County Master Gardener.

When planning your raised-bed garden, the nine principles of Florida-Friendly Landscaping™ will be your best guide. Your site should have the appropriate sun exposure for the plants you want to grow as well as access to irrigation. Drip irrigation systems are an efficient way to water. Some containers also come with water reservoirs. These make irrigating easy and allow the plants to absorb moisture as they need it directly from their roots.

You'll want to provide a good start to your plants by selecting the right growing medium. Pre-bagged mixes are readily available or you can mix your own. For more information on making your own potting mix, check out

[http://solutionsforyourlife.ufl.edu/hot\\_topics/lawn\\_and\\_garden/homemade\\_potting\\_mix.shtml](http://solutionsforyourlife.ufl.edu/hot_topics/lawn_and_garden/homemade_potting_mix.shtml)

If you're starting your garden from seeds, you'll want to incorporate some slow-release fertilizer in your potting mix. If you're starting with transplants, the grower has most likely already done this. If your raised bed is going to be at ground level, make sure to prepare the area by removing sod and any rocks/debris before you put your edging material in place. Set your drip irrigation system in place then fill with your growing medium and fit in your plants. If you're using a soaker hose to irrigate your beds, put that in place last, after you've planted your transplants.

You're now set to enjoy gardening at a new level!

For more information, check out "Solutions" at the University of Florida Institute of Food and Agricultural Sciences <http://solutionsforyourlife.com/>



Photo Credit: UF/IFAS.

## Florida Friendly and Beautiful By Maridell Hahn, Master Gardener

In January of this year, Master Gardeners formed a committee to review the Florida Yards and Neighborhood (FYN) Yard Recognition program in our county.

FYN Yard Recognition, created in 1994, recognizes homeowners who are incorporating the nine principles of Florida Friendly Landscaping in their own yards—low-cost, low-maintenance, attractive landscapes that add value to communities, conserve water and natural resources, and reduce the chance of polluting the water supply. The program proved so successful that the states of South Carolina and Tennessee used our FYN Program as a model to design their own programs.

Since our first meeting in January, we have assigned two volunteer MG's to the north, central and south areas of the county who visit yards and, using an approved checklist, evaluate lawns for either silver or gold recognition. Upon certification, the homeowner receives a yard sign recognizing their landscape as Florida Friendly.

In April of this year, Cat Stillwagon and myself, Maridell Hahn, evaluated three landscapes in mid county and presented each of these homeowners with Florida Friendly Yard Recognition signs. Each of these landscapes was different from each other but each incorporated the principles of a Florida Friendly landscape in their own unique fashion.



Photo Credit: UF/IFAS.

Linda Culhane on Ashbury Drive in Clearwater has a tropical look to her yard and incorporates many native plants. As you walk around her yard, you get the feeling of being in a peaceful tropical forest. She received a Silver level Recognition.

Sally McConnell's home is on the water on 48th Ave N in St Pete. Her design for her waterfront landscape uses native plants. It's a lovely example of how a native plant landscape can enhance a waterfront property. Sally earned a Gold level Recognition.

Ray and Carol Marshall's property on Cimarron Cr S in Largo was our third stop of the day. They have an impeccably maintained, large yard. It incorporates fruits and vegetables, as well as a large variety of plants that are appropriate for and thrive in our county. We were pleased to award them a Silver level recognition.

We hope that some of our Master Gardeners may be interested in having their own yards evaluated through this program. In addition, maybe you know of a friend's yard or someone else in your neighborhood who you believe may be interested in this program. If you would like to receive recognition for all of your hard work in the form of a Florida Friendly Yard Recognition sign, please contact Brian Niemann at 727.582.2100. He will assign a team to visit and evaluate your property. If your yard doesn't meet the program requirements on our first visit, we can offer suggestions to create a more Florida Friendly landscape. Our goal is to provide a positive, educational and enjoyable experience for the homeowner, with our focus being on the educational aspects, rather than the recognition itself.



Photo Credit: Dianne L. Fecteau.

## Summer Lawn Diseases

By Jane Morse, UF/IFAS Extension Agent, Pinellas County

Chinch bugs may be the best-known lawn pest in St. Augustinegrass, but there are diseases that are pests too. Humid, sticky, muggy and wet—the dog days of summer in Florida—are the conditions that cause fungus to thrive and infect lawns.

How you manage your lawn makes a difference in its health. It is important to water in the early morning to reduce the incidence of disease. In addition, make sure you are watering your grass properly. Only water when you see signs of wilt. Only apply ½ to ¾ inch of irrigation. Extra watering is usually **not** necessary in the summer when we receive most of our rain.

Mow frequently enough to remove only 1/3 of the leaf blade. For most types of St. Augustinegrass, this means mowing at a height of 3.5 to 4 inches. For dwarf varieties (Seville, Delmar, Captiva), proper mowing height is 2.5 inches.

St. Augustinegrass is susceptible to three major fungal attacks during the wet season—Gray Leaf Spot disease, Phythium Root Rot and Take-all Root Rot.



**Gray Leaf Spot** can slow growth, thin established lawns and kill large areas of the lawn during hot, humid and wet weather usually from May through September. The easiest way to spot the disease is to look for an oblong leaf blemish that has a dark edge with a center that is a gray color. Reduce disease occurrence by only watering in the early morning hours just before sunrise. The longer the leaf blades stay wet the more likely they are to become infected. If we are getting rain every

few days then there is probably no need to apply more water.

It is important to minimize stress and avoid excessive flushes of lush rapid growth during the rainy season. Applying Atrazine to the grass is stressful so timing is important. Once temperatures get above 85 degrees F avoid applying this herbicide. Consider spot-treating problem areas and make mowing is at the proper height.

**Phythium Root Rot** can appear any time of year, but it is always associated with wet soil conditions. Excessive watering, abundant rainfall or poor drainage conditions can all promote this disease. Since the roots are affected, the symptoms on the leaves are due to what is happening to the root system. There is a general decline in lawn quality. Small or large areas become yellow, light green, or brown in color and become thin. The lawn will seldom die from

this root rot. Roots will appear thin with few root hairs and will be discolored, but not black and rotted.

To prevent the disease, improve drainage and reduce watering the lawn, especially before periods of high rainfall. Avoid watering schedules that keep the soil wet. During periods of high rainfall mow grass at the proper height and mow frequently enough to remove only one-third of the leaf blade per mowing. Apply a fertilizer that has an equal amount of nitrogen (N) and potassium (K).



**Take-all Root Rot** is naturally present on the roots of warm-season grasses. The trigger for disease development is abundant rainfall or excessive watering and stressed grass. This disease normally occurs during the summer and early fall months, especially during periods of prolonged rainfall. Since this is a root disease, the early symptoms are only visible on the roots. If the grass is only slightly stressed you may never see the above ground symptoms of this disease. Irregular, yellow

or light green patches ranging in diameter from a few inches to a few feet will be the first above ground symptoms. Once you do see above ground symptoms on the grass, the roots have been under attack for 2-3 weeks or longer and they will be thin and off-white in color with isolated black lesions. As the disease progresses, the roots will become short, black and rotted. The grass stolons or rhizomes (runners) may have black lesions and may even begin to rot. Entire plants will die and can lead to large dead patches. This disease can easily be mistaken for chinch bug damage, so the first step in any pest management program is to identify the pest (weed, insect or disease).

Once above ground symptoms are visible, this disease is very hard to control. Prevention is the key. The grass must be mowed at the correct height and mowed frequently enough so that only one-third of the leaf blade is removed each time it is mowed. Scalping is very stressful because it damages the growing point. Apply equal amounts of slow-release nitrogen and potassium. Avoid nitrate-nitrogen products. Apply micronutrients as a foliar (leaf) feeding. They should all be in the sulfate form. If the root system is badly damaged the roots will not be able to get their nutrients from the soil so frequent foliar feeding of all nutrients (N, P, K and micronutrients) in small amounts will be necessary (remember to follow local and county ordinances). Avoid using herbicides on St. Augustinegrass—to do so is a stressor. Learn how to manage the turfgrass to limit weeds to reduce or eliminate herbicide usage.

Using good cultural practices (proper watering, fertilizing and mowing) avoids most fungal problems. When disease problems do arise, it is best to hire a professional.

For more information, see this website: <http://hort.ufl.edu/yourfloridalawn/>.

For free diagnostic help bring us a square foot of the grass from the declining area with roots attached. Soil isn't necessary. Bring your sample to your local University of Florida Extension in Pinellas County, located at 12520 Ulmerton Road, Largo, next to the Florida Botanical Gardens. We are open from 8 a.m. to 5 p.m. Monday through Friday. To speak with a horticulturist, you can call 727-582-2110 on Mondays, Tuesdays or Thursdays from 9 a.m. to noon and 1 to 4 p.m. You can also visit our website at [www.pinellascountyextension.org](http://www.pinellascountyextension.org)



Photo Credit: UF/IFAS.

## Ten Invasive Edibles

By Theresa Badurek, Urban Horticulture Extension Agent and Master Gardener Coordinator

Master Gardeners know more than the average gardener about the threat of invasive exotic species in our precious and unique ecosystems. However, nobody could possibly know all of the invasive plants in a given region. To that end, I introduce you to ten edible invasive plants in Florida. Why edible invasives? Well, frankly, we don't talk about them much and the trend of growing your own food has led to the introduction, proliferation, and popularity of new exotic fruits. As Master Gardeners, people count on you to have this kind of "insider" knowledge. Many of these edible plants have excellent nutritional benefits and/or taste great, but spread into natural areas and disrupt our native habitats. Be informed and help others grow responsibly!

The following include known invasive exotics. Use caution when planting new popular exotics. Many of those will be the next invasive exotic and you don't want to be the one to help it achieve this status!

**1. Loquat: *Eriobotrya japonica* (caution in S and C FL)**

<https://assessment.ifas.ufl.edu/assessments/eriobotrya-japonica/>

**2. Surinam cherry: *Eugenia uniflora* (caution in C FL, invasive in S FL) (FLEPPC Cat. I)**

<https://assessment.ifas.ufl.edu/assessments/eugenia-uniflora/>



Left: Loquat. Photo Credit: UF/IFAS. Right: Surinam Cherry. Photo Credit: Ann Murraray, UF/IFAS.

3. Sapodilla: *Manilkara zapota* (invasive S and C FL) (FLEPPC Cat. I)  
<https://assessment.ifas.ufl.edu/assessments/manilkara-zapota/>
4. Moringa: *Moringa oleifera* (invasive N, C, and S FL)  
<https://assessment.ifas.ufl.edu/assessments/moringa-oleifera/>
5. Passionfruit: *Passiflora edulis* (caution in N, S, and C FL)  
<https://assessment.ifas.ufl.edu/assessments/passiflora-edulis/>
6. Strawberry guava: *Psidium cattleianum* (caution in C FL, invasive in S FL) (FLEPPC Cat. I)  
<https://assessment.ifas.ufl.edu/assessments/psidium-cattleianum/>
7. Guava: *Psidium guajava*, guava (caution in S and C FL) (FLEPPC Cat. I)  
<https://assessment.ifas.ufl.edu/assessments/psidium-guajava/>
8. Java plum (jambolan): *Syzygium cumini*, (invasive in S FL) (FLEPPC Cat. I)  
<https://assessment.ifas.ufl.edu/assessments/syzygium-cumini/>
9. Rose-apple: *Syzygium jambos*, (caution in S and C FL) (FLEPPC Cat. II)  
<https://assessment.ifas.ufl.edu/assessments/syzygium-jambos/>
10. Limeberry: *Triphasia trifolia*, (caution in S and C FL)  
<https://assessment.ifas.ufl.edu/assessments/triphasia-trifolia/>



Left: Sapodilla; Right: Moringa. Photo Credits: UF/IFAS.

## International Master Gardener's Conference

By Dianne L. Fecteau, Master Gardener

From July 10 to the 14<sup>th</sup>, I attended the International Master Gardener Conference in Portland, Oregon. 1,294 registrants had a choice of 48 presentations, 18 possible tours, and a film on many nights. Here is a summary of the sessions I attended.

It's somewhat startling to learn that there are 63,000 square miles of lawn in the United States. That's an area bigger than the size of Texas. It's more than any crop we grow for food. Lawns require significant amounts of water, fertilizer, and maintenance. Lucy Hardiman's presentation on "Full Frontal Gardens" addressed how we can begin to reduce the amount of lawn by planting front gardens. Besides being esthetically appealing and providing more wildlife habitat, they provide people walking on the sidewalk in front of your house, the experience of walking through a garden.



Left: A front garden. Right: Edible flowers. Photo Credits: UF/IFAS.

Do you ever eat the flowers growing in your garden? Dr. Danny Schrock, the Iowa State Master Gardener Coordinator, presented a workshop titled, "Eat Your Flowers." Many flowers are edible—begonias, geraniums, lavender, sunflower, violets and so many more. He classified different ones as sweet or savory and provided ideas for how to prepare them. One source he suggested for more information was <http://extension.colostate.edu/topic-areas/yard-garden/edible-flowers-7-237/>

Do you feel as though you spend too much time weeding your garden? Dr. Lee Reich, author and lecturer, presented "Weedless Gardening." After acknowledging that we can never eliminate all weeds, he shared ideas for reducing weeds in our gardens. First, avoid tilling. Minimizing soil disturbance keeps weed seeds buried and dormant. In addition, it saves labor. Second, he suggests designating separate and permanent areas for traffic and for plants. This not only contributes to good garden design; it helps avoid soil compaction and thus the need to till. Covering the ground with weed-free, organic material helps smother weed seedlings. Where regular watering is necessary, he suggests drip irrigation. It promotes feeder roots and avoids wasting water on weeds between plants. Dr. Reich said that weeding is part of weedless gardening—we need to do it on a regular basis. Finally, he shared a recipe for an organic herbicide: Mix a gallon of vinegar, two tablespoons of Canola oil, and one tablespoon of Ivory detergent.

Wednesday opened with a general session by Dr. John Marzluff, Professor of Environmental and Forest Sciences at the University of Washington. His book is "Subirdia" and is about supporting birds in our yards. He spoke about the need to foster a variety of habitats. Varying plant height, using native vegetation as a replacement for borders or a small patch of lawn, keeping cats indoors, making your windows visible, and providing food and nesting boxes will go a long way towards helping birds maintain their populations.

How do you prune and renovate the overgrown garden? Christine Pfeiffer discussed the four "D's" that come into play with pruning—Deadwood, Damaged, Diseased, and Dysfunctional. The first three have to do with the health of the plant; the last one is about human preference. It should be the last thing you address. It's important to avoid the temptation to dive in and begin hacking. Instead, step back and take a good look at the plant type and condition as well as your objectives. She talked about a "pruning budget," that is determining how much of the plant one will take away. If a plant is already under stress, it can't afford to lose much to pruning. She discussed how different cuts produce different results and the need to understand how the plant is going to grow after you complete the pruning.

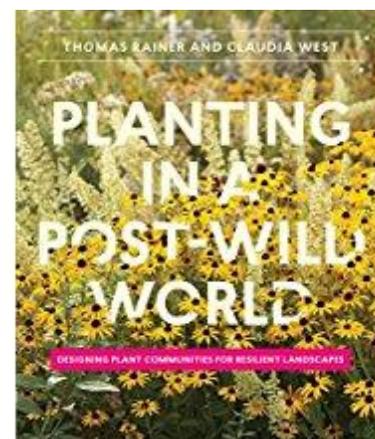


Photo Credit: UF/IFAS.

Our trees have many ways of telling us they are unhappy. Meredith Seaver, a Horticulture Assistant at Utah State University/Utah County Cooperative Extension, spoke on the topic, "If Trees Could Talk." The well-being of your tree depends first on tree selection. Never ask a tree to be something it is not. You can't fight genetics—bigness, broadness, tallness. Trashy trees will produce trash—twigs, fruits, seed pods. Understand the goals for the tree you are planting. Are you looking for shade? Privacy? After selecting the tree, you need to consider planting practices, watering habits, pest management choices and general tree care decisions.

Dan Hinkley, a plant collector, garden designer (he designed the famous Heronswood Garden in Washington), author, and lecturer, spoke on "The Forgotten Elements of Good Design: Texture, Movement, and Fragrance." Texture—bold, strappy, rounded, or fluid—involves both plants and hardscape. Movement involves both plants and nature as well as how our eyes move through a garden. Be aware of shadow and projection or falling leaves in autumn. Fragrance is powerful. It can evoke memories. Use it in determining your positioning of plants. For example, you might place a very fragrant plant outside your front door. He also gave a talk on his life in gardening. Dan's website is <http://danieljhinkley.com/>

Have you ever studied how plants fit together in nature? In one of my favorite presentations, "Where Ecology Meets Horticulture: Designing Plant Communities," Thomas Rainer, the author of the recent book, "Planting in a Post-Wild World," discussed how using information from how plants grow in the wild, can help us achieve more sustainable and resilient gardens. His objectives are beauty, low maintenance, and ecological functionality.



He drew four contrasts between plants in the wild and how we tend to garden. First, many plants grow in communities. Yet, when we garden, we tend to arrange plants, ignoring their natural social networks. Second, we often try to change the site to eliminate stress whereas in the wild, the plants adapt to the stresses of their habitat. Third, we use mulch as groundcover. In the wild, a groundcover layer comes in as "green mulch" and bare soil is usually temporary. Finally, nature tends to provide layers of plants. There is a structural layer (trees and shrubs), a seasonal layer that often provides color, and a groundcover layer. The groundcover layer is important functionally but not so important esthetically.

Plants have varying degrees of sociability. The German researchers, Richard Hansen and Friedrich Stahl, provide a plant sociability level rating of one to five. A level one plant usually thrives alone. For example,

*Panicum virgatum* (commonly known as Switch grass) is usually by itself in a meadow. A level two or three plant may exist in small clusters. High-sociability plants spread into large colonies. An example of a level four plant is *Tiarella cordifolia*. *Carex pensylvanica* (Sedge) is a level five plant. Understanding the sociability level can help you in deciding how to arrange plants in your garden. Plants of lower sociability (levels one and two) are set individually or in small clusters; plants of higher levels (three to five) are set in groups of 10 to 20-plus, arranged loosely around the others.

Finally, he addressed the issue that some neighborhoods are reluctant to allow native plants and natural groupings for fear of poor esthetics. Rainer believes that one problem is that native gardeners do not use enough color in their gardens. He also maintains that when you keep the edges looking good, people enjoy looking at a variety of plants within those edges.

I've been absorbed in his book and it makes for fascinating reading. His website is

<https://www.thomasrainer.com/>

The next International Master Gardener Conference will be June 17-21, 2019 in Valley Forge, PA.

## Send your Articles and Photos

**The next Issue of *The Dirt* is October 2017. The Deadline for articles is September 29th.** Share your passion for gardening with your fellow Master Gardeners by writing an article for *The Dirt*. Include images where possible. However, if you include images they must fall under one of the following guidelines:

- your own
- UF/IFAS image
- open access image, as in wiki-commons, where all rights are open and the photographer is credited
- used with the express permission of the photographer

When you do send images, please do not embed them within the article. Include them separately. Please send all files as Word files. I cannot edit .pdf files.

I would like to start a photographer's gallery within the newsletter so if you take photographs of plants or trees, send them in with a description, even without an accompanying article, and I'll publish them with the description as well as a credit to you, the photographer.

Send your articles, images, and your photos to Dianne Fecteau at [dianne@kendiacorp.com](mailto:dianne@kendiacorp.com). My phone number is 727.366.1392.

All articles are subject to editing. In addition, Theresa Badurek, Urban Horticulture Extension Agent and Master Gardener Coordinator, reviews and approves all articles prior to publication.

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