

THE

GARDEN BENCH

UF IFAS Extension

FLORIDA
MASTER
GARDENER
VOLUNTEER

Manatee
County

The Manatee County Master Gardener Newsletter

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COMPANION PLANTS

By Kathy Oliver, Program Assistant, Residential Horticulture

"A good companion shortens the longest road" - Turkish Proverb.

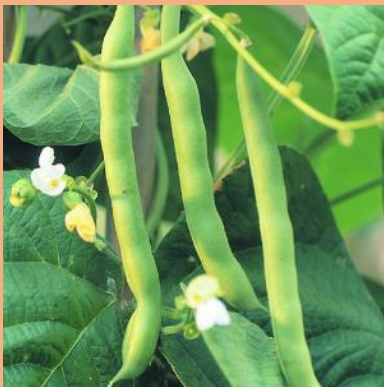
In this time of social distancing, turn to your garden for companions. Companion planting - combining plants to achieve specific benefits - is a deep-rooted practice of traditional and organic gardening. Not only do these groupings save space and diversify the diet, they can be helpful to the plants themselves. A good example is the "three sisters" of Native American plantings - beans, corn and squash. The upright corn stalks provide natural trellises for beans and the beans make nitrogen available to the other plants. Low-growing squash acts as mulch, shading the ground and keeping weeds at bay. The prickly vines also help to repel predators while the mixture of plants serves to confuse insect pests.

While some aspects of companion planting have yet to be proven scientifically, there is no doubt that a diversified garden is a good thing. Inter-planting makes it more difficult for pests to key in on their host plants either by disrupting visual cues or by masking chemical odors emitted by plants. Mixed species plantings attract beneficial insects by providing shelter, food and nesting/egg-laying sites. Researchers at the Rodale Institute found that lady beetles are especially fond of tansy and yarrow for egg laying.

Herbs are often used as companion plants with vegetables. They are minimalist in their needs, rarely competing with crops for nutrients, water, or space. It is said that vegetable/herb combinations for recipes also work in the garden. So, basil enhances the flavor of tomatoes, dill helps cabbage, and savory improves beans. The best benefit may come in energy savings: fewer steps required for harvesting the evening meal!

The aromatic qualities of herbs may serve to deter pests, though I take some recommendations with a grain of salt. Cilantro and mint are often cited as repellants to aphids but in my experience the opposite is true. More promising are nasturtiums to repel whiteflies and catnip to keep away damaging beetles. Chives, onion and garlic are often planted with cabbage, beets, tomato, and lettuce to ward off caterpillars and aphids but according to traditional wisdom, should not be used among beans or peas.

Marigolds are a staple plant of many gardens for good reason. The flowers feed and shelter beneficial insects and the plants themselves are proven nematode and disease repellants. The roots produce chemicals against these pests, and for added benefit, the plants can be turned under to decompose in the soil.





What's This?

By Gretchen Lindelof, Master Gardener Volunteer 2017

These are neither plants nor mosses! They are lichen, organisms that are fungi and algae living in a symbiotic form to the benefit of both. Algae partner with fungi to provide nutrients while the fungi provide protection. Algae can either be green or blue/green (cyanobacteria) or in some cases, both.

Worldwide there are over 18,000 different species of lichen. The three most common types are foliose, fruticose, and crustose. They live on many substrates, the most common of which are rocks, trees, and soil. When living on trees they do not harm the host.

Lichens serve many purposes in nature. Some animals have adapted to eat certain lichen species as a winter diet. Because of the sensitivity of some lichen species to pollution, they are indicators of air quality. They can fix nitrogen, meaning they absorb nitrogen from the air along with pollutants. When attached to rocks they release chemicals that break down minerals and begin the process of soil formation. Lichens are used in many household items such as toothpaste, deodorant, dye, perfume and some paints. Research is ongoing as to their antibiotic properties.

Because of their sensitivity to pollution they are usually not found in city areas but in undisturbed natural areas. Keep your eyes peeled and see how many you can find.

<https://www.fs.fed.us/wildflowers/beauty/lichens/>,

<https://edis.ifas.ufl.edu/hs1305>,

<https://edis.ifas.ufl.edu/ep485#FIGURE%205>.

Petrichor: The Smell of Rain

By Sally Herb, Master Gardener Volunteer
2018



It's been hot all day. As the rain begins, a wonderful earthy aroma makes you smile. There's a name for that smell: *petrichor*. You know rain has no odor so where does it come from?

The word *petrichor* is derived from the Greek “petra” (stone) and “ichor” (the fluid that flows instead of blood in the veins of the Greek gods.). And it is all about chemistry. Research has shown that the aroma is caused by any or all of three things: bacteria, oils from plants, and ozone.

Chemicals are produced by soil dwelling bacteria called actinobacteria. These tiny microorganisms found in most soils decompose organic matter into simple chemical compounds that become plant nutrients. A byproduct of this process is geosmin, producer of the earthy smell that is the primary contributor to the *petrichor* scent. Some scientists believe geosmin is related to the terpenes that create a plant's scent. Falling rain causes geosmin to be released into the air. Since the 1960s, it has even been used as a perfume ingredient. Humans are particularly sensitive and attracted to this odor. Our noses can detect just a few parts of geosmin per trillion air molecules!

A lot of plants secrete oils, especially during dry spells. Many plants have tiny leaf hairs that produce a plants pleasant smell. The aroma is released as the rain damages these hairs.

Lastly, lightening splits oxygen and nitrogen molecules. They recombine to form nitric oxide that interacts with other chemicals to form ozone. Ozone has a sharp scent that is most often associated with thunderstorms.

As the rain falls on dry ground and splatters, each drop releases tiny wind-borne aerosols. Combine any or all of these odors and you have *petrichor*, a scent you've come to recognize with rain all your life but have never known its name.

Gardening for Climate Action

By Maureen Hirthler, Master Gardener Volunteer Trainee 2019

Fifty years ago, on April 22, 1970, twenty million Americans joined together to protest the damage to the environment caused by pollution of the air, water, and land. As a day of both protest and action, Earth Day at 50 remains so important that the United Nations chose it for the signing of the Paris Agreement on climate change. Today, Earth Day is the planet's largest civic event.

For gardeners, climate change has a profound effect on the predictability of growing seasons for plants, birds, and pollinators.

If you're looking for ideas about what you can do for Earth Day, be aware that many previously planned events have been cancelled due to CDC recommendations that gatherings of 10 or more people be curtailed through April. However, some organizations, including Earth Day Network, are staging global digital mobilizations (learn more at their website earthday.org.) Check your local calendars of events (keeping in mind that the situation is fluid).

You can also practice climate action in your garden. Here are some things you can do to fight climate change:

1. Reduce the use of gasoline-powered tools such as leaf-blowers and lawn mowers. Replacing some turf grass with planting beds and using a broom to clear driveways are good ideas.
2. Plant a diverse native or Florida-friendly landscape. These can prevent the spread of invasive plants and support pollinators and birds. They also need less water, less fertilizer, and have fewer pests.
3. Reduce water consumption by mulching, installing rain barrels, adjusting your watering schedule, and using drip irrigation. Install a rain sensor to stop irrigation during rains.

4. The main reduction in greenhouse gasses from gardening comes from diverting food waste from the landfill, where it rots and emits methane and nitrous oxide. Compost kitchen and garden waste, which also gives soil nutrition and reduces the need for fertilizers.
5. Plant trees and shrubs that will reduce carbon dioxide in the air.
6. Grow edible plants, especially vegetables that require long-distance transport. Use organic methods to reduce pesticides. Buy local produce.
7. Plant perennials to reduce plant waste every season.
8. When it comes to nutrient runoff, residential landscapes are significant contributors to pollution. Fertilize with appropriate fertilizer and on the best schedule for your plants. Be aware of Manatee County's summer fertilizer restriction.

Your Extension Office has information on choosing appropriate plants for your landscape, composting, vegetable gardens, integrated pest management, organic methods for pest control, and fertilization information for trees and shrubs. You can also have a free evaluation of your irrigation system. Call us for information, (941) 722-4524.

Of course, one of the best things you can do is get outside and appreciate all the natural beauty of Manatee County!

For more information on climate change, visit: https://edis.ifas.ufl.edu/topic_climate_change.

The Beauteous Bougainvilleas

By Nancy Hammer, Master Gardener Volunteer 2014



Have you ever wondered about those striking flowering shrubs or vines that you see as you drive through Manatee County neighborhoods in October through March? Chances are you are admiring the striking bougainvillea (*Bougainvillea* spp.) - pronounced boog-in-VIL-ee-uh. Like palms, it is a signature tropical plant of Florida and named by Louis-Antoine de Bougainville, a ship commander.

There are several plants that our Landscape Assistance Program (see "Need Help with Your Landscape?" - March 2020 issue) recommends based on certain site conditions, and client goals. The shrubby variety of bougainvillea is one of these thumbs-up plants.

Although not a Florida native, when properly sited, the hardy bougainvillea is low maintenance, and enables environmentally sustainable practices – desirable traits in Florida-Friendly Landscaping™. It thrives in zones 9-11, although I have a mature vine which has laughed off frosts, and even a freeze over the years. Depending on the variety, bougainvillea can be a fast-growing evergreen vine suitable for a large trellis, fence or wall, a viney shrub, groundcover, or trained into a tree form known as a standard. They are also used for bonsai and topiaries and are very popular in containers.

Bougainvillea stems all sport long lasting and showy modified leaves called bracts, which are often thought of as flowers. In fact, the flower is the tiny white petals inside the colorful bracts. Blooms are available in an array of luminescent colors including purple, fuchsia, red, white, yellow, pink, coral and orange! There are also varieties with variegated leaves.

Bougainvillea needs full sun (at least 5 hours) for desirable bloom. Otherwise expect just an evergreen vine or shrub. Don't be tempted to fertilize to make more blooms, as it will have the opposite effect.

One of the reasons that it is Florida-friendly is that it thrives in dry conditions – growing happily without supplemental irrigation after being established. Avoid planting this beauty near a downspout, or irrigation head.

You may want to prune your bougainvillea from time to time. In order to not reduce blooming, it is best to prune soon after flowering. Some - but not all varieties - are VERY thorny, and downright nasty. So, arm yourself with long handled pruning shears; heavy, long sleeves, and leather gloves. When shopping for bougainvillea, it is advisable to make a note of the mature height and spread, and site accordingly.

Another reason to recommend bougainvillea is that it is generally pest and disease free. Occasionally I will see leaf-roller caterpillars wrapped up in some of the leaves on my vine. The leaves may look tattered for a while but bounce right back.

For more information, visit:

<https://gardeningsolutions.ifas.ufl.edu/plants/ornamentals/bougainvillea.html> or

http://hort.ufl.edu/database/documents/pdf/shrub_fact_sheets/ousppa.pdf

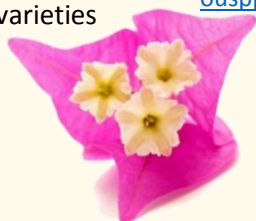




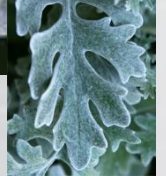
Photo: M. Ritter, J. Yost, D. Nicolle, W. Mark and J. Reimer - <https://uflca.hort.ufl.edu/>

Silver Buttonwood



Dusty Miller

Photo: Costa Farms



Awesome Adaptations: **SILVER** Leaves

By Amy L. Stripe, Master Gardener Volunteer 2008

Plants have surface outgrowths on leaves, flowers, and stems called “trichomes.” Trichomes come in a wide variety of forms – from tiny hairs to glandular structures – serving a wide range of functions.

The “stingers” of stinging nettle (*Urtica* spp.) are trichomes packing irritating compounds; the psychoactive component of marijuana (*Cannabis* spp.), THC, is concentrated in resin trichomes on the plant; the sticky substance that traps insects in some carnivorous plants are in glands sitting upon trichome stalks; in bromeliads, trichomes absorb surface minerals and water, thus giving rise to the name “air plants” which subsist on the atmosphere alone.

In some silver-leaved plants (those hued gray, gray-silver to silver), the coloration results from trichomes, waxy tiny hairs that serve several protective roles. Firstly, the trichomes serve to reflect heat and light, providing UV protection for plants that grow in high altitudes or fierce sunlight or very hot environments.

Secondly, they serve to reduce evaporative water loss by coating leaf surfaces in humidity-trapping hairs.

Lastly, insect pests find walking on the dense waxy hairs difficult.

The native silver buttonwood (*Conocarpus erectus* var. *sericeus*); *Tillandsia* spp. bromeliads, dusty miller (*Senecio cineraria*), and lamb’s-ear (*Stachys*

byzantina) are all examples of just a few plants sporting dense silver trichomes.

Those of you with silver buttonwoods may have seen a propensity for an ugly mold or fungus to grow on the leaves that does not rub off, wash off, or even respond to fungicides. In corresponding with botanist Dr. Marc Frank of the University of Florida Herbarium, he wrote: “Many plants with dense silver trichomes are prone to molds in high humidity climates.... (such as) Florida summers.... The mold is actually growing on the moisture trapped between the hairs.”

He gave a valuable tip: “When planting densely haired plants in Florida.... (plant) them in a very open, exposed area with excellent air flow.” Silver buttonwoods need full sun and I often see them planted in shadier spots in or near hammocks or as an understory shrub.

Understanding plant adaptations helps us ensure we are applying Florida-Friendly Landscaping™ principle Number One: Right plant, right place.

For more information, visit:

<https://irrecenvhort.ifas.ufl.edu/plant-prop-glossary/01-biology/02-cell-types/11-celltypes-trichome.html> or

<https://edis.ifas.ufl.edu/st180>.



Q: What is this plant? I was told it is Hawaiian.

D.F. Bradenton

A: The plant you have is *Kalanchoe pinnata*, also known as cathedral bells, miracle leaf, or life plant. It is from tropical Africa and has become naturalized in many tropical areas of the world including Hawaii.

This plant is one of several that are called 'Mother-of-Thousands' for its ability to produce plantlets in each crook of the leaf. As they grow and become heavier, the plantlets drop to the ground and grow, spreading the plant. The plantlets can grow even if the leaf isn't attached to the plant thus the designation 'miracle leaf'.

It's also because of this ability to reproduce so readily that it is listed as a Category II invasive exotic, meaning the University of Florida and the state are monitoring it.

Here are links to information about the plant.

http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf,

<https://plants.ifas.ufl.edu/plant-directory/kalanchoe-species/>,

http://www.ilifl.com/Encyclopedia/SUCCULENTS/Family/Cra ssulaceae/29116/Kalanchoe_pinnata.

KH, Ask a Master Gardener Volunteer



Q: What is this growth at the base of my pygmy date palm?
N.S., Parrish

A: When people spot a "growth at the base" of any palm tree we tend to fear the worst, Ganoderma butt rot. *Ganoderma zonatum* is a type of fungus that is lethal to all palm trees. It is almost impossible to detect until a shelf-like mushroom growth appears in the lower part of the trunk. There is no cure.

HOWEVER, your growth is NOT Ganoderma. It is a slime mold, most likely *Fuligo septica*, commonly known as – ready for this? – dog vomit slime mold. *F. septica* is not a fungus, but more closely related to amoebas.

It grows in areas that are moist and subsists on dead organic matter (in your case the mulch). It is not harmful to your palm and will eventually go away on its own.

But if you are unconvinced of its attractiveness, you can hose it away with water. The spores can be an irritant to people with allergies or respiratory conditions. Cap off any sprinkler heads in the area and pull the mulch away from the base of the palm for healthier roots.

Here's more information on slime mold:

<http://blogs.ifas.ufl.edu/leonco/2018/09/18/i-aint-afraid-of-no-slime-mold/>.

And here's info on the dreaded Ganoderma butt rot:

<https://edis.ifas.ufl.edu/pp100>.

AS, Ask a Master Gardener Volunteer

Master Gardener Volunteers Karen Holleran and Amy Stripe answer your email questions.

Send questions and/or photos for identification of problems to ManateeMG@gmail.com.

Or call us during office hours 9:00 A.M. to 4:00 P.M. at 941-722-4524 and ask for a Master Gardener Volunteer

Is *Fire*scaping in Your Future?

By Kathy Oliver, Residential Horticulture Program Assistant

Florida's wildfire season peaks in May when the weather turns hot and summer rains have not kicked in. Assessing your landscape for fire risk might not be high on the priority list, but, as we have seen in California, homes in fire prone areas are vulnerable to destruction. While fires are a natural and necessary presence in many Florida habitats, homeowners adjacent to undeveloped areas, wild lands, or woods/forests should consider strategies to safeguard their home and landscape.

The number one way a house ignites is by flying embers. Live embers can travel up to a mile from the fire source. Leaves and other debris that collect on roofs and in gutters provide tinder for the ember's spark. Uncovered eaves or attic vents may draw embers inside. Brush piles, wood stacks, or dead trees nearby may ignite and spread fire to the home. Direct flames can also spread to the home by decks, fences, branches overhanging the roof, and vines near the walls.

If you think your property may be high risk, one practical step is to modify your landscape. Firescaping utilizes landscape practices to reduce fuel loads and pathways for fire. The idea here is creating "defensible space," a zone that is accessible to firefighters and equipment, but that also keeps low intensity ground fires from reaching structures.

The first step in creating a defensible space is to maintain a vegetation-free zone two to five feet from the foundation. This includes plant-based mulch, which should be at least three feet away. Stones or other hardscape material may be used, but keep the area free of leaves and debris.

Minimize vegetation in the 30-foot zone around the home. Trees (and shrubs) should be widely spaced so crowns do

not touch. Remove or isolate flammable plants from this area or create islands of vegetation surrounded by non-combustible material. Firebreaks may be created with open lawns, driveways, walkways, parking areas, patios, and water features.

Vines and tall shrubs under trees create fuel ladders for flames to climb higher. Prune trees up 10 feet from lower vegetation. Prune tree branches to fifteen feet away from the roof, chimney, and siding. Also, make sure to clear out materials that could catch fire such as firewood and dead vegetation.

Flammable plants burn readily due to characteristics such as volatile oils or waxes, narrow leaves or needles, loose or papery bark, and accumulation of dry, twiggy material on the plant or on the ground below. Florida landscape plants in this category include hollies, saw palmetto, wiregrass and other clumping grasses, cabbage palm, red cedar, pines, and arbovitae. Less flammable plants for the landscape include coontie, ferns, seagrape, azalea, oaks, red maple, magnolias, winged elm, agaves and yuccas, gardenia, pittosporum, crape myrtle, beautyberry, Walter's viburnum, and trumpet tree (*Tabebuia*). For more information on plant selection and firescaping, visit these sites:

Firewise USA

<https://www.fdacs.gov/Divisions-Offices/Florida-Forest-Service/For-Communities/Firewise-USA>

Fire in the Wildland-Urban Interface series

http://edis.ifas.ufl.edu/topic_series_fire_in_the_wildland_urban_interface

National Fire Protection Association

<https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA>

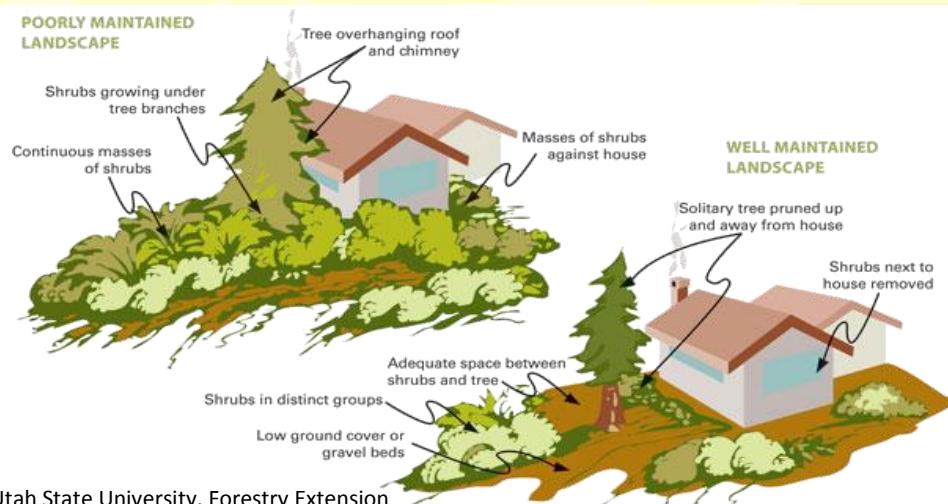


Photo credit: Utah State University, Forestry Extension



Want to Become a Master Gardener Volunteer?

If you are a resident of Manatee County, contact our Master Gardener Volunteer Coordinator at (941) 722-4524 or ManateeMG@gmail.com. The 2020 classes are being held in a flipped classroom format, with some sessions online and others in person. We will meet one evening each week starting August 5, 2020 to conduct hands-on activities and labs. The remaining coursework including; lectures, guest speakers, and class discussions will be completed via an online classroom.

What do Master Gardener Volunteers do?

Master Gardener Volunteers work through their UF/IFAS Extension county office to educate Floridians and provide research-based information about residential horticulture—America's most popular pastime. Volunteers can fulfill their volunteer hours in a variety of ways, including:

- Answering residential horticulture questions over the phone or in person at Plant Diagnostic Clinics or at local events
- Participating in community and school garden projects
- Giving educational programs to the public and performing soil/water evaluations
- Propagating and grow plants for the annual Florida-Friendly plant sale
- Maintaining the educational gardens and greenhouse
- Certifying Florida-Friendly yards through the Florida-Friendly Landscaping™ Program

Is the Master Gardener Volunteer Program Right for You?

To help you decide, ask yourself:

- Are you looking for a volunteer activity that will stimulate your mind and body?
- Do you want to learn more about the culture and maintenance of many types of plants?
- Do you look forward to sharing your knowledge with others?
- Do you have enough time to attend the training and complete an annual volunteer commitment?
- Participants who complete the training and internship commitment are certified as Florida Master Gardener Volunteers by the UF/IFAS Extension.