

ROOTS & RHIZOMES ISSUE

GULF COAST *Gardening*

ISSUE 241 • JANUARY / FEBRUARY 2024



TEXAS

MASTER  GARDENER

TEXAS A&M AGRILIFE EXTENSION

Galveston County

WRITTEN BY GALVESTON COUNTY MASTER GARDENERS
IN COOPERATION WITH THE GALVESTON COUNTY OFFICE
OF TEXAS A&M AGRILIFE EXTENSION SERVICE

2024 to be a busy year



MG Kathy Maines

Happy New Year! 2024 will be a busy year for our Association. Our Discovery Garden is open to the public every Thursday morning from 9 until 11 am and we would love for you to come out for a visit and tour. Check out our website <https://txmg.org/galveston/> for lots of information. There is 'request' tab for you to request a Master Gardener speaker and Ask a Master Gardener booth for your events and groups. This tab is also for requests to bring your group (church group, garden club, youth group, school group) for a garden tour and/or activity. The group tours and activities are individualized to meet your needs. We will continue our free Saturday educational seminars. These are held at the Texas A&M AgriLife Extension office or at our Discovery Garden, both in Carbine Park. On January 20, Herman Auer, MG 1983, will present Fruit Tree Planting at our Discovery Garden orchard. We also have a YouTube channel, <https://www.youtube.com/@GalvestonCountyMasterGardeners>, where you can view many of our educational seminars.

With help from our partnership with Galveston County Parks Department and grants from INEOS and Native Plant Society of Texas, in 2024 we are able to construct our Dr. William McCray Johnson Outdoor Classroom, phase one of handicap accessible pathways, a new building for pesticides, and expansion of our Pollinator Habitat Garden. Another exciting new opportunity is working with Texas A&M AgriLife Family & Community Health to form a Junior Master Gardener program that will meet at our Discovery Garden, <https://galveston.agrilife.org/fch/> for information. For our 2024 plant sales, we will have two

online and two in-person sales. We have added every plant we have sold to our online database. You can access this plant information anytime. Please check it out at <https://galvestonmg.square.site>.

I am not very good at labeling my plants, seeds, cuttings, etc. For some reason, I always think I will remember. The older I get, the farther and farther from the truth this becomes. For this very reason I think of bulbs as mystery plants. When they start coming up, it's a mystery to see what they become. Years ago, a dear friend gave me a bulb, a blood lily (*Scadoxus multiflorus*). I have since moved and brought the bulb with me. Now it blooms annually and is spreading. It surprises me every year and every year I send a photo to my friend's daughter.

Thank you for supporting Galveston County Master Gardeners and thank you for being one of the 1,800 online subscribers to our Gulf Coast Gardening Newsletter. In the words of Dr. William McCray Johnson, "Knowledge not shared is knowledge lost."



Blood Lily MG Kathy Maines

Kathy Maines



MG Karolyn Gephart

Roots, Rhizomes, Fairy Gardens & MORE!

Happy New Year! It's time to start thinking Spring thoughts and what will YOU be planting this year? Have questions? Ask a Master Gardener (get details in this issue). Check out upcoming events and attend. MG Pat Saenz will help you create your own Fairy Garden (See the DIY article in this issue). MG Hedy Wolpa will be keeping readers aware of what insects we will be seeing each month and the articles about gardens around the globe will help you add to your travel bucket list. So many great MG writers and photographers work hard to offer new ideas, factual information and assistance in helping you have gardening success. I predict 2024 is going to be a GREAT YEAR! Get a new pair of garden gloves ready... try a new plant or two...and learn more about roots and rhizomes. Enjoy!

Karolyn Gephart



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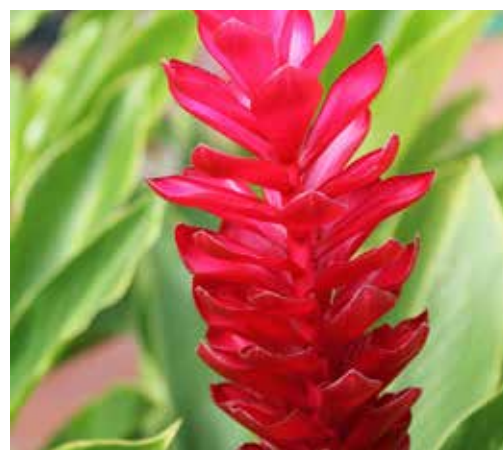
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Differences in Roots and Rhizomes



Sandy McBride
GCMG 2018

When we look at a plant, we see the stems and leaves, flowers and/or fruits and possibly the seeds. Generally, we give little thought to the roots below ground which provide stability for the plant and the water and nutrients it needs to be healthy and productive. Before you plant it is helpful to understand the type of root system your plant will have so you can provide optimum conditions.

We are going to take a closer look underground and investigate the different types of root systems, explore rhizomes, and the associated plants produced by both.

Differences between Roots and Rhizomes

Root growth begins when the seed is fertilized. The embryo emerges from the seed and the roots are formed from the radicle of the embryo. Roots have three primary functions: anchoring and supporting the plant, absorbing water and minerals and sending these to the stem, and storing food. In many plants the roots store food the plant produces during photosynthesis. Roots have no joints, leaves, or flowers.

Rhizomes are modified plant stems; they have nodes or joints that send roots into the soil, often from the bottom of the node, and shoots grow from the upper portion of the node. Rhizomes can also store food produced by leaves during photosynthesis.

Root Systems:

Most plants have both primary roots that grow downwards and secondary roots that branch out to the sides. There are two forms of root systems found in plants: taproot and fibrous root systems. Taproots are found primarily in dicots and fibrous roots are almost universally in monocots.

Taproot Systems have a single, thick primary root (taproot) and smaller secondary roots growing from the sides. The taproot anchors the plant securely. It can grow several hundred feet below the surface which can assist in surviving drought conditions as it can reach deep water. The taproot can also store a generous amount of food for the plant. There are three types of taproots: napiform, conical, and fusiform.

The following are examples of plants and trees with taproots:

Dandelion (*Taraxacum* spp.) – This strong taproot can be as deep as ten feet and extremely difficult to remove entirely as buds quickly regenerate on the top part of the root.



Baby carrot taproot Pixabay.com



Banyan tree prop roots Pixabay.com



English ivy adventitious roots Pixabay.com

“Roots have no joints, leaves, or flowers...”



Giant Horsetail, multi-layered rhizome Courtesy Alan Cressler
Lady Bird Johnson Wildflower Center



Ginger rhizome Pixabay.com



Johnsongrass invasive with rhizomes Chris Evans, University of Illinois, Bugwood.org

Carrot (*Daucus carota* subsp. *sativus*) – They have a conical root and require deep soil or a tall container.

Radish (*Raphanus sativus*) – This has a fusiform root with a wide middle area and tapering toward both ends forming a two-sided fusion of conical roots.

Turnip (*Brassica rapa*) – They have a napiform taproot which thickens as more food is stored.

Parsley (*Petroselinum crispum*) – A shallow root extends about 6 to 10-inches below the surface with a spread of about 2-inches.

Common Milkweed (*Asclepias syriaca*) – Roots can grow up to 13-feet deep and up to 10-feet horizontally.

Oak (*Quercus* spp.) – The taproot system extends horizontally three to seven times the diameter of the crown and 18-inches below the ground.

Hardwood trees – These have some of the deepest extending taproots that go to extreme depths, ensuring the trees survive drought conditions.

Fibrous Root Systems have no primary root, but have many small threadlike roots called fibrous roots. This network of roots grows from the base of the stem. Due to the vast number of threadlike roots, they have a huge capacity for absorption of water and minerals.

Since fibrous roots grow shallow in the soil and mostly horizontally, they are not able to secure the plant as well as a taproot. In fully developed plants the root system appears almost like a mat underneath the plant. Most roots in a fibrous system are about the same thickness unless they have been modified for storage. Fibrous roots are better at preventing soil erosion than taproots because they hold the surface soil together. They are also more efficient than taproots in absorbing nutrients.

Examples of Modifications in Fibrous Root Systems:

Fleshy Roots – These roots store nourishment for the plant.

Tuberous – This type of fleshy root is found in Sweet potato (*Ipomoea batatas*)

Fasciculate – Dahlia and Asparagus (*Asparagus officinalis*) roots grow in bunches

Stilt Fibrous Roots – These small, thick roots grow from the stem toward the soil and develop fibrous roots as they penetrate the soil; Sugarcane (*Saccharum officinarum*) and Corn (*Zea mays*) are examples

Prop Roots – Bigger in diameter and thicker than stilt roots,

“Rhizomes are stems that grow horizontally under the ground”



Stilt roots Pixabay.com

these horizontal big branches emerge from the stem then shoot downwards to provide additional support as seen on Banyan trees (*Ficus benghalensis*)

Additional examples of plants with fibrous root systems:

Lawn grasses

Onion (*Allium cepa*)

Ferns

Wheat (*Triticum aestivum*), Rice (*Oryza sativa*), and Corn

Orchid

Portulaca (*Portulaca* spp.)

Adventitious Roots originate from the stem or branch, nodes or internodes, or even a leaf of the plant, but not the root. All fibrous root plants/trees are considered adventitious, but not all adventitious rooted plants are fibrous.

If you start a plant with a stem cutting from a dicot, even though the roots will resemble a taproot, the plant is considered adventitious since it did not originate from the root. The majority of adventitious roots develop from stem tissues, but they can also start from leaves.

Rhizomes, corms, and tubers, being examples of underground stems, develop numerous adventitious roots. Adventitious roots are also the primary means of attachment to surfaces like other plants or rocks used by epiphytic plants like various orchids and *Tillandsia* species. Climbing plants, such as English Ivy (*Hedera helix*), often grip their supports with specialized adventitious roots.

Rhizomes

Rhizomes are stems that grow horizontally under the ground, or just above it. Unlike roots, rhizomes are divided into nodes and roots; new plants can grow from these nodes when there is enough food stored in the rhizome. One function of a rhizome is to store nutrients, carbohydrates and proteins that the plant might need. They also help with reproduction and since rhizomes grow horizontally, they help the plant to spread. They support perennial plants in adverse conditions and provide nutrients during winter. Most rhizomes grow underground, a few grow on the surface and some are multi-layered. Often the multi-layered are highly invasive plants.

Rhizomes that grow on the surface include irises and ferns; these should not be completely covered by soil. Rhizomes that grow underground include gingers (*Zingiber*, *Curcuma*, *Costus*), bamboo (*Bambusa* spp.), canna lily (*Canna* spp.), and Snake plant (*Dracaena trifasciata*). An example of a multi-layered rhizome is the Giant horsetail (*Equisetum telmateia*).

Most rhizomes in your garden will require some control if you want them only in a designated area. There is a long list of invasive plants spread by rhizomes including Johnsongrass (*Sorghum halepense*), Bermudagrass (*Cynodon dactylon*), Purple nut sedge (*Cyperus rotundus*), Poison oak (*Toxicodendron pubescens*), Creeping Charlie (*Glechoma hederacea*), and Poison ivy (*Toxicodendron radicans*).

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The Underground Life of Bamboo



Tish Reustle
GCMG 2008

I think that bamboo is a bit like liver: you either love it or hate it. The word either conjures up visions of gently rustling branches and graceful striped canes or an unwanted visitor that invades from your neighbor's yard breaking fences as it travels attempting to take over the world. Both of these visions are correct, of course, and both derive, not from what you see above ground, but what is happening below the ground in the rhizome structures.

Rhizomes and roots are not the same. Roots absorb and transport water and nutrients to the stem and help to anchor the plant in the ground. Rhizomes are underground stems that can produce roots that grow downwards, or new canes (culms) that grow upwards to the light. In the case of bamboo, the underground rhizome, like the above ground culm, has rings called nodes with internodes between them. Above ground, the nodes produce those graceful arching branches but below ground they can grow roots to sustain the clump. Nodes also have the ability to grow axillary buds that can develop into more rhizomes or new culms.

Many people know that bamboo comes in two main types known as "running" and "clumping". Running bamboo is called leptomorph or monopodial and produces rhizomes that travel in a horizontal direction. The axillary bud on the rhizome may develop into a new rhizome or grow upwards to become a new culm. These rhizomes can travel as much as forty feet away from the original plant in one growing season

producing new culms at any point. These characteristics give running bamboo its bad reputation.

Clumping bamboo, known as pachymorph or sympodial bamboo, has a different underground growth pattern. Axillary buds at the stem base can develop directly into a shoot which will, in turn, develop into a new culm above ground. Consequently, a cluster of clumping bamboo will only move outwards between six to ten inches in a year depending on the species. It will still need plenty of space, but the growth of the clump will be slower and much more predictable.

Understanding the underground rhizome and root structures of the different bamboo types can help the gardener choose wisely between the available options and avoid costly mistakes and arguments with neighbors. The smaller varieties of clumping bamboo are obviously more suited to a suburban lot, while those with acreage can include the larger varieties. Running bamboos can still be planted, even in a smaller space, provided a barrier of some kind is properly installed. Barriers can be made of thick plastic or metal, and a circular trench all around the clump can be made to work, provided the gardener is diligent about removing the rhizomes as they grow.

Perhaps those who hate bamboo might change their minds if they understood those rhizomes systems better.

Reference:

Meredith, T.J. 2001. *Bamboo for Gardens*. Timber Press Inc: Portland



Clumping Bamboo MG Tish Reustle



Bamboo MG Carolyn Gephart



Clumping Bamboo



Photo courtesy of Texas Bamboo Society; illustration by Bob Clune.

The Beauty of Calatheas



Bronia Michejenko
GCMG 2015

The genus *Calathea* is a family of ornamental foliage plants that originate from South American rainforests. Their leaves, having many intricate patterns, shapes and textures and with various shades of green and burgundy, look as though they have been hand-painted. Calathea is closely related to the Prayer plant (genus *Maranta*). Unlike marantas, they do not close

their leaves up at night. Many Calathea species have recently been moved into the genus *Goeppertia*. Calathea flowers in the wild but rarely does as an indoor plant. Calathea are mainly grown for interior landscaping and houseplants and are pet friendly.

Calathea leaves move throughout the day. This characteristic, called nyctinasty, allows the plant to move to a circadian rhythm by changing the water pressure at the joint where the leaf meets the stalk. The leaves push upward at night so that the plant can gather dew and spread its leaves during the day to follow the sun.

Calathea needs specific care to thrive. Understanding the plants' origin – the floor of a tropical forest – gives us a better understanding of their needs being warmth, humidity, moisture, filtered light and rich moisture-holding plant medium. They need a consistently warm spot and bright but indirect light, no direct sunshine. The plant media must be kept moist from spring to fall. It is also recommended to provide humidi-

ty by misting the leaves two to three times a week or standing pots on a tray of moist pebbles. Humidity, indeed, makes the plant happy. During the winter months when the humidity is low, a humidifier would greatly benefit the plants. Regular watering with small amounts of room temperature or lukewarm water is suggested, making sure the media is always slightly moist but never soggy. Allow the top one to two inches of media to dry before watering. Some researchers recommend that Calathea be watered with filtered, distilled, or rainwater – not tap water. Calathea performs best with water that has been filtered or dechlorinated and low in fluoride and salts. Finding the ideal spot for this houseplant can be tricky. They prefer temperatures of 65° to 85° and may exhibit leaf tip burn when directly exposed to air conditioning or heating vents, drafts from doors or variations in temperature. The bathroom is a good environment because of its humidity. The media needs to be well draining and lightweight. A good potting mix with vermiculite and coconut coir holds moisture, and perlite adds aeration. The plant should be fertilized monthly during the growing season with a weak fertilizer. Its method of propagation is by division only. In dividing the rhizomes, it should be made certain that each division has at least one leaf.

Problems to watch for:

Leaves that curl inwards are a sign of underwatering. Yellowing leaves indicate overwatering. Calathea are intolerant of soggy soil as it causes root rot. Brown patches may indicate



Peacock plant *Goeppertia makoyana*, ncsu.edu



The striking leaf patterns of *Goeppertia insignis* (Rattlesnake plant) NYBG.org

“Leaves move throughout the day...”

sunburn. Faded leaves indicate too much light. Brown or black spots on the leaves may indicate bacterial disease Pseudomonas leaf spot (*P. cichorii*). This may occur because of prolonged periods of leaf wetness.

Affected leaves should be removed. Brown tips may indicate dry air – increase humidity around the plant. Overfeeding or watering the plant with hard water may also cause brown tips. Spider mites, aphids, scale and mealybugs can affect calatheas. Insecticide soap or neem oil may be beneficial in treatment.

The striking foliage has earned Calathea several nicknames: the Peacock plant or Cathedral windows (*Goeppertia makoyana*). It gets its name because of its patterned leaves. This plant has pink or red-tinted stems. The upper part of the leaf is cream-colored with dark green ovals that are like the eyes on a peacock’s tail or windows in a cathedral. Underneath the patterning is the same with red to purplish tones. This plant is particularly sensitive to humidity levels and prefers a wet climate.

The Rattlesnake plant (*Goeppertia insignis*) is bushy with narrow tapering leaves, and the leaf pattern looks like a rattlesnake. The upper part of the leaf is yellow green with darker edges and oval spots. Underneath is maroon or reddish purple.

The Striped calathea or Pin-striped calathea (*Goeppertia ornata*), has a deep green foliage that forms a base for what looks like feathery stripes of lighter green, white, ivory, or pink. The underside of the leaves has a distinct purplish hue that is similar to the Rattlesnake plant.

The Calathea family of plants is famous for its beautiful, variegated leaves. Even though the plant seems a bit fussy, adhering to light, watering and humidity needs will bring success in caring for this tropical beauty.

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[Calathea Production Guide \(ufl.edu\)](#) accessed 9/25/2023.

[Calathea picturata \(Calathea\) | North Carolina Extension Gardener Plant Toolbox \(ncsu.edu\)](#) accessed 9/26/2023.

[Light and Fertilizer Recommendations for Production of Acclimatized Potted Foliage Plants \(ufl.edu\)](#) accessed 9/30/2023

[Ctenanthe oppenheimiana \(Giant Bamburanta, Never Never Plant\) | North Carolina Extension Gardener Plant Toolbox \(ncsu.edu\)](#) accessed 9/30/2023



Pin-striped plant *Goeppertia ornata* Marlon Co NYBG.org



Rattlesnake plant Hope Duckworth, ncsu.edu

The Amazing and Underappreciated Beet



Kevin Lancon
GCMG 2018

Beets are generally much underappreciated as a vegetable to grow, a food to eat and also from a nutritional viewpoint. Mankind has been eating beets well before written history, but became prominent when French chefs began roasting them in the 1800s. Beets have the highest sugar content of any vegetable.

About 55-percent of all US sugar production is from sugar beets that have been genetically modified to be glyphosate resistant for increased commercial production. Don't be alarmed though — the beets that we grow in our gardens have not been genetically modified.

Beets are a delightful vegetable to eat and lend themselves to being prepared in a variety of different ways. They are excellent roasted, delicious pickled, and even tasty used raw in salads. My favorite way to prepare them is to roast them in the oven until they have softened a bit but still have some firmness, then peel them and cut them into smaller chunks and mix them with sliced red onions, balsamic vinegar, a bit of honey and some fresh herbs from my garden. This is best served chilled. Oven roasted beets are also an excellent addition to salads and pair well with goat cheese.

Many folks don't realize that beets are incredibly healthy and nutritious, and among the best vegetable sources of vitamin C. In addition, beet greens are also edible and can be substituted for spinach or other greens, either in salads or cooked. Also, one of the main nutritional benefits of beets is their high level of nitrates. Nitrates are known to enhance sports performance by improving blood flow and also lowering blood pressure. I am an avid distance runner since turning 50, and I always make it a habit to eat beets the day before or morning of a race or long-distance run. I can't begin to tell you the difference it makes in my stamina and overall performance and at my age I need every advantage I can find.

Beets thrive in cool weather and can be grown in both the spring and fall seasons in our area, with optimal temperatures near 60-degrees. They will also grow through our typical winter, being able to withstand temperatures slightly below freezing for short periods of time, but they can't handle our hot Texas summers. Ideally, beets should be grown in full sun but they will also tolerate partial shade and do not require much room to grow, making them a very versatile and easy crop to grow. Beets also have a very short time to maturity of 45 to 60 days, making them perfect for the home gardener almost year-round.



Avalance Beets



Beet seeds



Chiogga Beets

“...a delightful vegetable to eat”



Detroit Red Beets



Golden Beets

Beet seeds are actually small capsules containing several seeds, generally 2 to 6 seeds per capsule.

Beets should be planted in the spring (February to April) and in the fall (August to November). They should be grown in a very nutrient rich soil that drains well, therefore they are very suitable to being grown in raised beds, where the soil can be controlled and amended. They do not, however, do well in heavy clay soils. Beets should be planted 1/2-inch deep and when the soil temperature is at least 45-degrees, which is required for the beet seeds to sprout. Thinning beets 4 to 6-inches apart once they sprout will produce the largest beets. If you don't choose to thin the seedlings, you will simply produce smaller beets. If you'd like a continuous supply of beets instead of one large harvest all at once, plant more beet seeds in 2 to 3-week intervals.

There are many different types and varieties of beets to choose from. These include red beets which have a more earthy taste,

yellow or golden beets which are sweeter than reds but less earthy, and white beets which are the sweetest and have the least earthy taste. Some of my favorites are the Detroit Dark Red, Avalanche, Chiogga and Golden.

The Detroit Red heirloom beet is the most popular and well-known beet. It was first introduced in 1892 by D.M. Ferry Seed Company of Detroit. It is generally considered the standard for red beets. This variety produces 2 to 3-inch beautiful, deep crimson beets, which are tender and delicious and great roasted, pickled and eaten raw.

Avalanche, a delicious white beet, won't leave red stains as red beets do and has been designated as an All-American Selection (AAS). The AAS Winner label is like a stamp of approval, having been tested for garden performance by a panel of expert judges; their chosen varieties are deemed to perform best overall in North America. Avalanche is widely adapted, being one of the sweetest beet varieties. It produces consistently large, round beets and vigorous tops. Those of you who are non-beet-lovers, this might just be the variety to change your mind.

Chiogga, also called Candy Stripe or Bull's Eye, is unique from other varieties, having alternating concentric rings of red and white inside, similar to a bull's eye. This beet originated from Chioggia, a town in Northern Italy. Chioggia has an especially sweet and mild earthy flavor and it doesn't bleed as much as regular beets, meaning no bright red beet juice staining your fingers and clothes. Chioggia is a showstopper with its unique bull's eye pattern and makes for great culinary presentations.

Golden beets are yellow or golden in color and are an excellent variety for kids and newbie beet eaters. They have a mellower flavor and are much less earthy tasting than regular red beets and the golden color makes for a beautiful culinary presentation as well.

With many tasty and interesting varieties to choose from, beets are an excellent addition to any home garden and due to fast growth can be enjoyed before many other crops in a long growing season. Beets are a versatile culinary vegetable and can be prepared many different ways and go great in salads, as a beautiful side dish or tossed with goat cheese making a delectable appetizer.

Happy Gardening, and the BEET goes on!

References: Photos and information were taken from the author's presentation on beets for Galveston County Master Gardener Association.

Gloxinia: Root or Rhizome? BOTH!



Ralinda Fenton
GCMG Intern 2023

Would you like to add a little color and joy to your indoor area with plants? Do you enjoy spending some time with your plants? Then a Gloxinia may just be the plant for you. Varieties include those with roots and those with rhizomes.

Most plants called Gloxinia are actually genus *Sinningia*. The original classification began in 1874 when they were named in honor of Wilhelm Sinning. Many gardeners and florists still refer to them by their common name of Gloxinia. *Sinningia* are tuberous perennials. Most of the *Sinningia* are tropical plants. *S. tubiflora* (Hardy gloxinia) and *S. speciosa* (Florist gloxinia) are two common species of *Sinningia* grown locally by Rachel Reynolds and other members of the NASA African Violet Society. African Violets and *Sinningia* are both a part of the Gesneriaceae Plant Family.

Sinningia speciosa or Florist gloxinia is a tuberous plant with hairy, purplish stems that can be as tall as 12-inches. Its leaves are velvety and can be up to 8-inches long and 6-inches wide with stalks that can reach up to 2-inches. It is a 'space hog' due to these dimensions. The flowers resemble a trumpet and can be many shades of red, white and violet. They need bright indoor light, well-drained soil and some humid air. An east-facing window is best but it can also be grown using artificial lighting. The plants will lose foliage and go into dormancy in the winter. The soil can get fairly dry during dormancy, but the tubers still need to be kept moist so you will need to mist them. These plants have to be grown indoors mainly because of their tropical nature. They are placed in USDA Hardiness Zones 10 through 12.

If you prefer to grow a *Sinningia* that is hardy in Zone 9b area where we are, try *S. tubiflora*. I spoke with my friend Rachel Reynolds who grows Hardy gloxinia outdoors to get her input for the specific needs of the Hardy gloxinia. She reported that the plant can survive low temperatures as long as the tubers are planted deep enough in the soil to keep them from getting below about 22-degrees. These plants form tubers, but the tubers are connected by rhizomes that can spread aggressively. They have clusters of thin, trumpet-shaped flowers. The flowers are best removed after they dry. They must go dormant each winter to bloom again the following year. They will need fertilizing about every 2 to 3 weeks during the growing season from March to September. They can even grow in rocky areas. They do not like to have their feet wet so their soil needs to be well drained. If planting in a pot, you can use the same soil you use for African Violets and *S. speciosa*. Hummingbirds are very attracted to the fragment trumpet shape of the *S. tubiflora*.

Both species of *Sinningia* are pretty much the same when it comes to soil, fertilizer and propagation. They need to have well-drained soil like an African violet. It is recommended to use 50-percent or more of large perlite (usually around a size #3 at half-inch, or #4 at one-inch diameter). You can wick water from the bottom, or water from the top without getting the leaves wet. Hold the plant to the side as you water to avoid getting them wet. The plants don't like to stand in water but prefer a moist soil during the growing season. They also need fertilization during the growing season. Use a balanced fertilizer like 15-15-15 or a 20-20-20 African violet fertilizer. It must be diluted about one-fourth the regular strength for wick watering. They can be propagated from leaf cutting by putting



Florist gloxinia Tiffany Fincher (NASA African Violet Society)



Sinningia speciosa tuber Rachel Reynolds

“Bring some extra joy into your life...”

them in a domed container. It will take two weeks or more to see new growth. They can be transplanted after the tiny new plants develop. Some growers find some success by continuing to dome them for a while to get them established. All these plants need to be groomed regularly to remove dead and dying blooms, leaves and stalks.

If you are a plant enthusiast who likes plants that require some effort but grow well indoors, the Florist gloxinia (*S. speciosa*) is well worth it for the beauty they add to your environment. The Hardy gloxinia (*S. tubiflora*) would be a wonderful potted plant to add some beauty and fragrance to your outdoors. Both Hardy gloxinia and Florist gloxinia make beautiful plants to bring some extra joy to your life.

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Rachel Reynolds from the NASA African Violet Society (photos and information)



Gloxinia perennis rhizomes Rachel Reynolds



Flower MG Ralinda Fenton



Size of flower MG Ralinda Fenton

Gingers, Bananas and Cannas! OH MY!

What do these plants have in common?



Norma Torok
GCMG 2022

A common characteristic of gingers, bananas and cannas is that they originate from the tropics and express big showy and complex flowers. All of them are grown from rhizomes and all are categorized to be herbaceous plants because they do not contain woody stems.

Gingers, bananas and cannas all prefer a tropical environment, albeit several varieties can also be grown indoors as lovely houseplants. They all grow bracts, which are vegetative parts of the flower that are spirally arranged. They all flower in clusters of blooms except for the banana which only bloom once but will yield its fruit in clusters. Yet with these common characteristics, they each have distinct features for attracting the gardener.

Gingers belong to the Ginger Plant Family (*Zingiberaceae*). Culinary gingers are botanically classified as a root vegetable; but not all gingers are edible. There are ornamental gingers known for their showy foliage and blooms.

Gingers grow best in an atmosphere of high humidity and can grow in temperatures from mid-60 to mid-80 degrees. Gingers require moist soil but not overwatered; conversely, their soil should not dry out. Gingers grow well in part shade to full sun but note that direct hot sun may burn the foliage. Gingers benefit from a fertilizer with 3-1-5 ratio (higher potassium), or a balanced slow-release fertilizer to promote their blooms.

Flowers of the gingers vary in appearance. Some gingers bloom a very showy prominent flower while others may hide their flower under their foliage. Particular varieties bear a

structure that has many bracts growing closely to form a cone, which may be mistaken for the flower. However, the flowers of these particular gingers are projected from the cone bracts. These cones are widely used in making lovely tropical flower arrangements.

Gingers can be propagated like potatoes. The rhizome can be cut in pieces; each piece should have at least two eyes (buds) for a more successful propagation. After cutting, the rhizome pieces should be left to callous for a couple of days before planting. Plant with the eyes facing up in a prepared bed. The planting site may be improved for drainage with the addition of compost.

A fun fact is that ginger has a therapeutic action that stimulates saliva production; historically it has been used for gastrointestinal relief. Gingers, OH MY!

Banana plants require loamy, well-watered and well-draining, acidic soil with full sun. They can be fed with a well-balanced fertilizer or soil amendments during their growing season that extends from spring to fall. After bearing fruit, the mother plant cannot produce again and should be cut to the ground. The banana plant is propagated by division.

The foliage is large and very tall, and leaves vary in color depending on variety. Some are a bright green, some have purple stems and veins, others are red. One variety has a purple-mottled leaf when the plants are young. Few pests and diseases affect the banana plants. The leaves are delicate and can tear in strong winds.

Flowers of the banana are generally white, purple or red. The



Bananas MG Database



Canna 'Phasion' MG Database



Ginger 'Variegata' MG Database

“All are grown from rhizomes...”

huge flower is sometimes called the heart and is amazingly beautiful and stately. A stalk of many cascading bananas, called a hand, will yield from the flower. The hand is harvested when the bananas are plump and afterwards, ripened indoor. Bananas are a very good fruit that help a person's heart and digestive health.

A fun fact about banana plants is that the flower is produced from a single ovary classifying the banana as a berry, botanically speaking. Bananas! OH MY!

Cannas generally have little culinary value; they are simply used for their beauty and flowers in the landscape. Cannas have tubular, lily-like flowers. The canna is widely hybridized making flowers available in a variety of colors of red, orange, yellow, pink, and several bi-colored blooms. Their leaves grow large and have a variety of colors such as green, a combination red and green, or mono-color red, bronze, or blue green. Many also have very attractive variegated leaves such as green with yellow, red, or pink veins. A recent variety that is rare but exists is the white canna with white variegated leaves. The size of canna leaves also vary. There are very tall varieties spanning up to 15-feet or dwarf varieties that grow as low as 2-feet.

Cannas are low maintenance plants. They can be planted in slightly acidic soil that is kept evenly moist. The leaves will split if left in dry soil and may burn in direct intense sun. Cannas enjoy a feeding during early and mid-summer with a well-balanced fertilizer. For good healthy plants, canna rhizomes should be divided every two to three years.

Some pests do bother cannas such as leafrollers, caterpillars, slugs and snails. If the leaves are curling, it is probably a sign of aphids. However, their leaves do have a protective waxy covering that helps fight foliage diseases. If planted in poor soil, they may suffer from bacterial blight or rust but, in general, cannas are less susceptible to foliage diseases.

A fun fact is that in South America, the canna leaves (like banana leaves) are often used to wrap tamales. Cannas, OH MY!

Bananas, cannas, and gingers, look stellar planted individually or together, in a garden, in a container, or in an arrangement.

How great are these gingers, bananas, and cannas. OH MY!

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Hidden Ginger MG Michelle Thompson



Spiral Ginger MG Pam Hunter

Plant Of The Month: Air Plant (*Tillandsia ionantha*)



Pam Hunter
GCMG 2018

Tillandsia ionantha, commonly known as tillandsia, come in all sorts of shapes, sizes and colors. They are an epiphyte and easy to grow. They should not be planted in soil. They can be placed in pots or mounted on objects. They require regular misting as their native habitat is humid. Be sure to gently shake any excess water from the leaves. They collect all the water

they need through specialized cells on their leaves called trichomes that allow the efficient absorption of any water from the air or from rain. Tillandsia is grown without soil, this means they can be grown just about anywhere indoors that receives bright, indirect light. Place them in trays or specialized hangers, grow them in terrariums, or set them in seashells or glass globes. How they are displayed in the home is often only limited by someone's creativity. Provide them with bright, indirect lighting and they will live for several years and produce pups to become a clump. These can be removed to make a new plant if desired. Use a foliar fertilizer made for air plants only.

Plant Characteristics

Leaves are in rosette, simple, linear-lanceolate, acute, bases wide and flattened, entire, succulent, medium, grey-silver, blue, green, covered with absorbent gray scale.

Family: Bromeliaceae

Height: Approximately 6 inches – 1 foot plus

Width: 4 inches plus

Growth rate: Medium

Country or region of origin: Nicaragua, Mexico, Costa Rica and South America

Bloom Information

The inflorescences are terminal spike, a reduced panicle that looks spike-like with various colored petals and stamens. Various colors of blue, purple, lavender, pink

Culture

Exposure: dappled sunlight. (shade through upper canopy all day)

Available space to plant: less than 12 inches

Maintenance: Low

References:

North Carolina State Extension Gardener

Iowa State University Extension and Outreach



Pam's tillandsia in bloom MG Pam Hunter



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Insects In Our Winter Gardens



Hedy Wolpa
GCMG 2018

The insects we detest in summer and fall are still among us. They are over-wintering in our gardens, awaiting warmer night-time temperatures and longer sunlit days to emerge in the next phase of their life cycle.

Think back a few months when our cool-season vegetable gardens were bountiful. We likely found armyworms, squash vine borers, squash bugs, snails, slugs, stink bugs, cabbage loopers, and aphids. Brassica crops, like cauliflower, broccoli, cabbage, bok choy, and greens like kale, collards, spinach and lettuces, are prone to chewing caterpillar infestations that cause serious leaf damage. Squash vine borers, squash bugs, and weevils are feeding on zucchini and other squashes. Fall veggies attract stink bugs, but usually in smaller numbers than what we see in summer. Using a variety of methods, we did our best in fall to keep insect pest populations under control. Some gardeners chose to use pesticide treatments, others chose biological controls. The few and the brave picked off the stink bugs and caterpillars by hand. **Anything to save the crops and bring the bounty to the dinner table!**

But there are two sides to every story. The presence of insects in the fall that overwinter and emerge in spring is both a bad problem AND a good problem to have. Our friends at Texas A&M Agrilife remind us that we WANT insects in our vegetable gardens. “The lack of prolonged cold in Central Texas means that insects and other bugs don’t die out over the winter. This creates a varied and active ecosystem all year long that must part of your vegetable growing plan.” Agrilife also refers us to IPM, Integrated Pest Management Plan, to guide us as we make decisions about controlling insects in our gardens. We should expect, and even tolerate, a moderate amount of insect damage to our plants in order to protect beneficial insects from dying as the result of aggressive pesticide treatments.

One of the very best plans for controlling insect pests year-round is timing our fall and our spring clean-up activities in the garden. It’s possible to protect the beneficial insects and alter the life cycle of the less desirable pests. This also helps maintain a healthy balance to the entire ecosystem of animal life in the garden. **This is very important if you are cultivating a pollinator habitat or butterfly garden.** Your cleanup in spring and fall should be done very modestly (and late in the season) because your goal is to protect overwintering insects that will nest in twigs and stems and lay their eggs in leaf debris. Leave a layer of plant debris in your garden beds and continue to provide water sources for insects. They will emerge in spring ready to polli-



Photo courtesy Bart Drees Texas A & M



Cabbage looper-known for inch-crawling movement; Herman Auer



Cutworm-overwinters in soil; Herman Auer

“We WANT insects in our vegetable gardens...”

nate your early flowers, trees and vegetables.

On the other hand, your fall vegetable crops are still vulnerable to insect damage, even at the height of winter weather, so early control is important. Clean-up activities in your veggie garden should include clearing away old plant debris that may harbor fungus, blight, mites, larvae and eggs. Some gardeners like to till the soil before planting vegetables to expose any larvae or eggs to sunlight and hungry birds. Always identify the pest and the damage before selecting a pesticide treatment. Leaf damage, such as torn, chewed, or holey leaves is sometimes the most obvious sign of insect damage. Practice vigilance in examining plants at the soil level, checking leaves and stems for pests. Handpick insects, if you can, to gain control early. Pests can cause big damage, but it's important to use the most effective treatment that does the least amount of damage to the environment. Be sure to choose the proper insecticide, apply it at the proper rate and with proper self-protection, and observe the preharvest interval specified on the label. If your garden has insects or disease, avoid adding plant debris into your compost pile. It's not recommended to apply insecticides or pesticides to bare soil to kill overwintering insects because they are often in an egg or pupal stage under the soil and pesticides are not likely to penetrate and kill them.

Here are some of the most commonly seen insects in fall-to-winter gardens:

Aphid damage can impact every vegetable in your garden, including tomato, lettuce, kale, and cole crops. These small, pear-shaped, soft-bodied insects pierce plant parts and suck out the fluids, excreting honeydew and forming sooty mold in the process. Aphids, which can be green, yellow, brown, gray, red or black, give birth to live, hungry young that can then reproduce as soon as 10 days after birth! Carefully check new growth and the undersides of leaves for their presence. Beneficial insects, such as lady beetles and lacewings, can help manage aphids, so consider planting flowering plants nearby that will attract them. You can also spray with a sharp stream of water, or hand-squash them. Horticultural oil, insecticidal soap, and neem-based products are helpful.

Cabbage loopers enjoy chewing on the leaves of plants such as cabbage, broccoli, Brussels sprout, kale, and bok choy, as well as other fall vegetables. From white to pale green with whitish stripes, cabbage loopers arch like inchworms as they eat their way through your vegetables. The cabbage looper is the larvae of a moth, and in moderate winter climates reproduction continues year-round. Cabbage loopers can completely defoliate plants as they chew on leaves and leave ragged holes or bore into a cabbage head. Control of these caterpillars includes hanging birdhouses and bird feeders in the garden to attract plenty of hungry birds. Consider covering plants with floating row cover from the time of planting until harvest, as host plants do not need to be polli-



Stink bug-a year-round pest; Pixabay.com



Squash bug-narrower and lighter than stink bug; Pixabay.com



Squash vine borer MG Hedy Wolpa

“Practice vigilance in examining plants..”

nated to be productive. Inspect plants and hand-pick the caterpillars as another effective measure. Two insecticide products to try are Bt-based insecticides (*Bacillus thuringiensis*) and Spinosad-based products.

Squash vine borer is the larval stage of a diurnal moth. They are active during the day while most moths are active only at night. Their larvae most commonly develop on zucchini and pumpkins. Larvae burrow down inside the vine, disrupting the flow of water and nutrients, causing wilting and probable death of the plant. At this stage, the pest is mostly unseen, even by the most astute gardener. **Eggs** are laid on the lower part of the main stem of the host plant, as well as on the stalks and leaves. They are reddish brown, ovoid but slightly flattened. Larvae are white, with a dark head. Adults resemble a red and black wasp in flight. About 16mm long with bright reddish-orange scales, they have a row of black spots on the orange abdomen. The front wings are covered with scales giving them a metallic sheen. We need to control this pest if we want our squash to make it to the dinner table, but there is no single remedy for any stage of the borer's life. Experts recommend a combination of several treatments and deterrents, and IPM methods.

Squash bugs are “true bugs” that prefer pumpkins, squash, and melon. Adults are half-inch or longer, and are brown or gray and shield-shaped, but slightly more elongated than stink bugs. Squash bug eggs are yellow-bronze in color and they will appear in a cluster on the underside of plant leaves in the V-shape of a leaf vein. When the nymphs emerge, they can be found clumped together to feed, but later instars (there are 5 total) find them as solitary feeders. The nymphs are wingless and pale green. Adult squash bugs can live through the winter in sheltered places under plant debris and rocks. In spring they attack cucurbit plants to feed and then mate, continuing their life cycle.

Cutworms claim cole crops and greens as their victims. Partial or completely cut stems and wilted leaves are the damage you will see from cutworms. They are difficult to spot because they spend their days in soil and come out at night to eat. In our region, three or more generations of cutworms in one garden bed isn't unusual because they overwinter as larvae in the soil. Turning your garden soil in fall and spring helps reduce carryover. Adult cutworms are brown or gray night-flying moths. The larval caterpillars are up to 2-inches long and curl into a tight C-shape when disturbed. They are found in the top few inches of soil, and they can be green, yellow, brown or gray, depending on the species. Prevention is

fairly effective, and measures include rotating crops and protecting young seedlings by making a collar of aluminum foil or cardboard at the soil level.

Stink bugs can be troublesome year-round. In cooler fall months, they attack and destroy okra, tomatoes, broccoli, cauliflower and cabbage. Adult stink bugs overwinter in the garden, only to emerge in spring and begin to reproduce in great numbers. Young stink bugs retain their basic shape but vary in color as they mature from nymph to adult. They damage vegetables by piercing the skin or leaves and sucking out juices and can quickly destroy an entire crop. Practicing good garden sanitation so there are few places for insects to hide will help with maintenance and control. Hand picking or vacuuming stink bugs is very effective. You can also drown them in soapy solution to avoid the characteristic smell when smashing them. Attracting beneficial insects to the garden will help control stink bug eggs and larvae.

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Beneficial insects need leaf litter and hollow stalks MG Hedy Wolpa

DIY: Fairy Gardens



Pat Saenz
GCMG 2015

A fairy garden is a miniature garden with a wide variety of living plants and miniature structures in scale to one another to create a living garden scene or vignette. The garden creation lures the fairies, gnomes and other “wee folk” and their legendary luck into the home.

And what is a fairy? Also called fay, fae, fair folk, faerie, an inhabitant of the fays, a fairy is a mythical being or legendary creature. Often the word “fairy” is used to describe any magical creature, including gnomes, which are an inhabitant of Celtic folklore. In Celtic they are referred to as Aos Si’ a Gaelic term for a supernatural race in Irish or Scottish culture. The Aos Si’ lived in ancient barrows and cairns.... the precursor to modern day “fairy gardens.”

The practice of fairy gardening has been around for at least 130 years in the United States. The first fairy garden debuted in the United States as a Bonsai dish garden in 1893 in the Japanese Pavilion at the Chicago World’s Fair. Soon after the New York Times highlighted the miniature creations in a feature article, their popularity began in earnest.

Steps to Building Your Garden

Fairies love to hide so, when you begin to design your miniature garden to house your fairies remember to keep things small and leave tiny spaces where they can hide and peek out at you.

Scale: Scale can be a difficult concept at times but there are some tricks that can make it less difficult. An easy way to figure scale is at 1:12. For a miniature fairy garden, this means that 1-inch in Fairy life is equal to 1-foot in regular life. Try and think in terms of your own home ... how the trees appear

in proportion to your house, and so on.

Contrast: Contrast is more important in a miniature garden because of its size; for instance, all the same shades of green seem to just disappear. Examples: Add contrasting color; light-colored leaves and darker leaves. Change the shape of the leaves; round or pointed, long or short.

Repetition: Even though your fairy garden requires contrast, it is important to repeat your plants, or colors and textures. You can have two plants that are alike and have them be the same color, or you can have a plant that has white blooms and then have white colored accessories ... such as furniture or animals.

Focal Point: It can be a plant or perhaps your Fairy home, but in order to draw the observer in you will want to give them a significant item to focus on.

Theme: This is what pulls it all together. You alone will decide whether you want to put together a miniature garden in a pot or build a larger scale fairy garden at the base of a tree, under a porch or as part of a water feature (for all those beach bound fairies). You alone decide your story, whether it is a garden party or a trip to the beach, a river plantation or a walk in the woods, a water garden or a desert scene. Remember, it is wherever your mind takes you.

Let’s Talk Containers

The kind of container in which you create your fairy home is limited only by your imagination and your ability to provide good drainage in the container. Don’t limit yourself to pots. Recycle found kitchen items like teacups, colanders, bread-baskets and loaf pans. Use things castoff by children ... old dollhouses, bicycle baskets and especially wagons! Try out-



Acorn top with glass marble light fixture MG Pat Saenz



Dragons on palm MG Pat Saenz



Fairy on tree trunk MG Pat Saenz

“You alone decide your story...”

door items - old tool boxes, work boots, or watering cans. The sky is the limit when searching for your fairies' home.

Soil Types

Potting soil is used for all containers and should contain a mixture of compost, perlite or vermiculite, peat moss and bark. Add sand or use cactus soil if you are planting things that require a drier home. You may add slow-release fertilizer to help with fertilizing or add specialty fertilizer especially for cacti and succulents. Do research on your particular plant choices to know their requirements.

Plant Selection

For plants to use consider growth rate, water requirements, light requirements and inside or outside location.

You can choose annuals or perennials; succulents or herbs; groundcovers. Sedums and Jade plants look like small trees of grasses. You can also use bonsai trees, ferns, ficus, miniature roses or aloes, and Parlor palm.

Supplies

Allow yourself to imagine everyday objects for a new purpose. These things can be found in nature or your junk drawer ... just waiting for you to repurpose them into treasures for your fairy home. Use pinecone bracts, woody tree fungus (commonly called Artist conks), and hanging Spanish moss to create a roof for your fairy house or curtains for the windows. Pony beads sealed on the end with a dab of glue will create containers, flowerpots, etc. Old costume jewelry will provide a wealth of hardware, hinges, door knockers and all manner of things.

Almost anything can become furniture for your fairy garden. Try crafting seats from twigs, thread spools and small wooden findings from craft stores. For light fixtures you can use acorn tops combined with glass beads or marbles. Tiny clothes pins for crafts combined with jute twine for clothes lines. Painted thumbtacks make wonderful mushrooms!

Pulling It All Together

Your adventure begins. Grab a gathering basket, clippers and your imagination to select materials for your fairy garden. Investigate junk drawers and craft boxes and get the materials together to make that perfect chair, swing, or flower pot.

Call the children, grandchildren, or the next-door kids and build, plant, dream create the perfect miniature garden.

May the luck of the “wee folk” find you. Happy Gardening!



Garden with pumpkins MG Pat Saenz



Peeking MG Pat Saenz



Made with a Crown of Thorns gourd MG Pat Saenz



Tub garden MG Pat Saenz

Travel: Allerton, McBryde Gardens on the Island of Kauai, Hawaii



John Jons
GCMG 2003

While visiting the Hawaiian Islands, we signed-up for a garden tour featuring the Allerton and McBryde Gardens on the island of Kauai. The garden tour's promotional literature promised an "incredible" experience.

The Allerton and McBryde Gardens are part of the network of five non-profit Hawaiian National Tropical Botanical Gardens. These gardens are listed by National Geographic Traveller as one of the "50 Places of a Lifetime." The gardens are located next to each other on the south shore of the island of Kauai. The gardens are located on both sides of the Lawa'i stream. The stream meanders through a deep lush green valley that opens to the palm clustered and the tropically scenic Lawa'i Bay on the Pacific Ocean. Shortly after the McBryde garden was established, the Allerton Garden was purchased and combined with the McBryde garden.

The gardens are well manicured and intensely planted with many exotic plants and flowers, massive fig trees, and lots of indigenous Hawaiian plants. Throughout the gardens are well designed pathways that lead to the many smaller theme gardens. The smaller gardens feature plant collections, ponds, man-made and natural waterfalls, as well as many museum quality sculptures that are tastefully placed within the gardens and the walkways.

The McBryde garden consists of 259 acres and contains over 6,000 plants. It is the home to the world's largest collection of native Hawaiian plants. The garden focuses on plants of cultural value and also serves as a repository for threatened and endangered plants of the tropics. The property was purchased by the McBryde family in the late 19th century and was originally a sugarcane plantation. In 1970 the property was purchased from the McBryde family by the Pacific Tropical Botanical Garden Trust and became the National Botanical Garden. The garden was initially called the Lawa'i Garden, but the garden was renamed in 2000 after a generous donation from McBryde descendants. In 2005, a state-of-the art conservation and horticultural center was built with a plant nursery and micropropagation laboratory. Plants have been donated to the garden by researchers, plant collectors, botanical gardens, and others throughout the tropical world. Today the garden serves as research and conservation garden.

The Allerton Garden, also known as Lawa'i Kai, covers 80 acres. The property was sold to Robert Allerton in 1938. Allerton had a lifelong interest in garden design, landscape architecture and collecting sculptures. Soon after the purchase

of the garden, he began designing and laying out the gardens and collecting exotic plants from Southeast Asia and the Pacific Islands. He also installed his collection of museum quality sculptures throughout the gardens. The exotic and lush scenery within the Allerton garden has been used as a Hollywood film location for many movies and TV shows, including *Jurassic Park* and *Pirates of the Caribbean*.

In order to maintain the Hawaiian and horticultural integrity of these gardens, they can only be accessed by a bus ride from the Hawaiian National Tropical Botanical Gardens visitor center. The number of visitors are limited, and the visits are limited to 2 hours, which is by no means enough time to enjoy the garden. You can either tour the garden by guided walking tour, or on a guided bus tour led by one of the garden's interpretive guides.

This garden tour did deliver, as promised, an "incredible" experience.

The few photos with this article do not fully represent the gardens. May I suggest that to see many more photos of these gardens, that you view my YouTube video titled "A visit to the Allerton and McBryde Gardens on the island of Kauai, Hawaii." <https://youtu.be/3lpgUjXtajo>



Allerton Garden MG John Jons



McBryde Garden MG John Jons

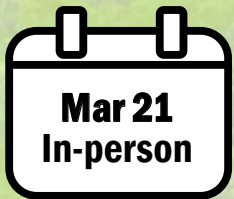
Galveston County Master Gardeners

2024 Plant Sales



Ready, Set, Spring! Sale

Fruit & citrus trees, tomatoes, potatoes, peppers, lilies & perennials



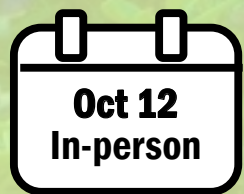
March Madness in the Discovery Garden

Master Gardener grown, perennials, spring vegetables, peppers & herbs



Summer Sundown Sale

Fruit & citrus trees, fall tomatoes, perennials & hibiscus



Fall Festival & Plant Sale

Master Gardener grown, fall vegetables, herbs, bulbs & plumerias



Online sales at: <https://galvestonmg.square.site/>

In-person sales at: Discovery Garden
4102 Main St (FM 519) La Marque, 77568



If you need special accommodations, please contact the Extension Office no later than seven days before the program so we can consider your request. Texas A&M AgriLife Extension provides equal opportunities in its programs and employment to all persons, regardless of race, color, sex, religion, national origin, disability, age, genetic information, veteran status, sexual orientation, or gender identity. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.

Ask a Master Gardener



Briana Etie
GCMG 2017

Find out answers to your gardening questions. GCMG members Briana Etie, Gene Speller and Laural Stine will provide answers and seek the help of the GCMG organization and Horticulture Agent Stephen Brueggerhoff to offer what is needed. Anyone having a gardening question should send it to gcmghotline@gmail.com.

Q: How should I prepare my plants for freezing temperatures?

A: Gardeners can benefit from websites and apps with five to ten-day forecasts to closely follow predictions of precipitation, dew points, wind speeds and hourly temperatures. Forecasts can help gardeners and growers determine whether the conditions will be advective, radiative, or a combination of both, and which protective measures to take.

Row covers or individual plants covered with frost cloth or thermal blankets can help protect plants in a radiative frost. Drape the cover loosely over the top of the plants allowing it to hang wide. Stake the cloth outward at the corners, like a tent. This is best done when temperatures are at their daily high as this will trap the radiant heat rising from the ground. Watering the soil deeply or placing large containers of water near the plants can give protection. Buildings offer a microclimate of cold protection. Since plants in pots do not have the protection of the earth, it is best to bring pots in to a garage or indoor area when temperatures are forecasted to be 32-degrees or less.

Advective freezes bring sudden, steep plunges in temperature and wind speeds of more than four mph. It is harder to protect plants in advective freeze events. The wind freezes quickly, cooling plant tissue and displacing any heat provided. Lightweight covers and blankets, by themselves, will provide little to no protection in a severe freeze. Best practices for advective freeze events include heat and cover. Add a source of heat and seal or secure the cover to keep wind from moving the warmer air out from under it. Common heat sources include a mechanic's light, a clamp-on floodlight with a heat lamp bulb, and a string of Christmas lights with large bulbs. Providing windbreaks, banks, and mulches around the base of many grafted citrus trees can be a great way to protect those tender varieties.

Please see this link to an AgriLife Extension publication written by Extension Program Specialist Monte Nesbitt and retired Horticulture Agent Robert 'Skip' Richter for more detailed information:

<https://agrilifelearn.tamu.edu/s/product/protecting-landscapes-and-horticultural-crops-from-frosts-and-freezes/01t4x000004OfAAC>

[es/01t4x000004OfAAC](https://agrilifelearn.tamu.edu/s/product/protecting-landscapes-and-horticultural-crops-from-frosts-and-freezes/01t4x000004OfAAC)

Q: When is the first freeze date for Galveston County?

A: Galveston County is zone 9b. Historically, the average first freeze date we use for most of Galveston County is December 17 with December 28 for Galveston.

A light freeze happens when temperatures are between 29 to 32-degrees, causing tender plants to die. A moderate freeze has temperatures between 25 to 28-degrees and can be widely destructive to most vegetation. A severe freeze, when temperatures fall between 24-degrees and colder, causes heavy damage to most garden plants.

Q: When is it too late to plant bulbs?



Fran Brockington
GCMG 2018

A: It's never too late to plant bulbs! Even if you forgot and left them in the garage, as long as the bulb is still hard and not mushy, you can plant it. In our area (USDA Zone 9b), planting spring-flowering bulbs in November and December is best. Summer-flowering bulbs are best planted in spring after the soil has warmed above 65-degrees.

"Better in the ground than in the garage." Even if you plant a bulb later than suggested, as long as the soil is warm and moist, the bulb will begin to develop the roots and the tender baby flower bud inside. Bulbs may take a year or more to settle in but should eventually bloom as expected. Don't forget to mark where you plant them!



Bulbs Pixabay.com



Ice forming on leaves Pixabay.com

Discovery Garden Update



Tom Fountain
GCMG 2008

It was a HOT summer in the Discovery Garden, and the heat continued into the fall. It continues to be warmer than normal punctuated by a few cool days. This weather has become more typical for this time of year. However, rainfall has continued to be three to five-inches below normal. The good news is that the cooler weather has encouraged more Galveston County Master Gardeners to come out into the garden. It has been a joy being outside, doing some gardening, and having a chance to catch up with friends.

Despite some cold fronts and spotty showers during autumn, our area remained in dire drought conditions across the area. The outlook from the National Weather Service expects El Nino to strengthen this winter, and produce wetter than normal conditions through the winter season with warmer than average temperatures along the Gulf Coast.

Thanks in part to some nice cooler weather, our second annual Fall Festival and Plant Sale in the garden was successful. We had almost double the number of visitors than last year with 486 residents. They were visiting with our members, and wandering through the garden to view our gardening projects. The midway layout at the Fall Festival is pictured (1) with all the different booths and visitors. It was quite fun for everyone.

I have to admit, I like to take candid photos of our gardeners who are doing interesting things. Ira Gervais, Sven Bors-Koefoed and Bobbie Ivey were talking about plants and the effect of the summer's extreme heat on the garden (2). MGs harvested a large number of tomatoes, and cucumbers as Jan Fountain looked on (3). Jim Waligora is another interesting individual who is usually making compost in the back of the garden, and in the photo he is getting ready to repair the mulching machine once again (4). I have seen Jim take that machine apart over the years, replacing bearings or whatever was broken. Good job, Jim.

Of course, it is not hard to find Ronnie Corley, Kevin Lancon, or Larry Brizendine doing some kind of work around the garden. In the photo (5) they were all busy repairing the greenhouse roof and getting it ready for winter. Christie McGrath, Becky Jaschek, and Donna Merritt had just finished planting the renovated Herb Bed (6).

One of the yearly highlights in the garden is our annual Thanksgiving luncheon. This year was fantastic and fun as usual. We are grateful for all our remarkable cooks and the kitchen crew. Have a Happy New Year and I look forward to seeing you in the garden soon!



1



2



3



4



5



6

Meet Master Gardener: Hedy Wolpa



Trish McDaniel
GCMG 2001

In the 1950s, while many girls were into dolls, Hedy Wolpa had a keen attraction for all things creepy, crawly, buzzy and fluttery. Expressing deep gratitude, Hedy explained that she was inspired by her mother and father who were devout outdoors people.

As Hedy wandered about her natural world in Corpus Christi, they cheered her on as she embraced her innate curiosity and fearlessness.

In her young years, Hedy acquired a penchant for the capture, prep, and study of her many marvelous creatures. From the local pharmacist, her parents further aided her pursuit by obtaining formaldehyde necessary to dispatch her specimens. Over time, her passion for insects evolved into a substantial collection, which she curated in dozens of cigar boxes; each specimen carefully mounted and identified by order, class, and family.

In 1963, Hedy's family moved to Houston where she attended school, married, and raised two sons. Wearing many hats, she had a fulfilling 32-year career at Foley's/Macy's in management, marketing, and advertising followed by a "second career" as VP and Program Director of Houston's East End District.

Prior to full retirement, Hedy learned of the Galveston County Master Gardener program from her dear friend Andrea Levine, MG class of 2003. After reviewing the website, Hedy

quickly decided that she would apply and interview for the program as soon as she completed her "work life."

During her Texas Master Gardener interview (to be accepted into the Class of 2018) with former Extension Agent Dr. William Johnson and then president Sharon Zaal (MG 2015) she shared that she was just as interested in caring for the insect life in her garden as she was for the plants and flowers. Delighted about her entomological leanings and later in Hedy's tenure, Dr. Johnson saw her as the perfect candidate to fill the much-needed position of entomology specialist, and recommended she attend the Texas Master Gardeners Entomology Advanced Training offered from Texas A&M AgriLife Extension. After certification, Hedy shares her expertise at the Galveston County Extension Diagnostic Lab with the Galveston Bay Area Master Naturalists, and fields insect-related questions from GCMG members and Galveston County locals. As well, she is always happy to collaborate with other MGs, stating that many are knowledgeable and considers them a valuable resource.

For those GCMG members who would like Hedy to identify an insect: 1) If bringing to the Galveston County Extension office, follow the same procedure as used with the public: place the specimen in a jar or baggie, meet with Extension staff and fill out a submission form, and leave it in the Diagnostic Lab. It can also be brought to the Discovery Garden on Thursday mornings. 2) Properly identify – you must include Hedy's name, your name and contact information, as well as where



Hedy's booth at 2023 Fall Festival MG Debby Brady

“...a penchant for the capture, prep, study of creatures”

you found it, what plant it was on or near, and a brief note on what damage (if any) was caused to the plant or tree. You can also send Hedy a hi-res photo via text or email. She notes that the GCMG library, located in the Volunteer Room at the Galveston County Extension office, has many great reference books available for check out to members. There is also a cache of insect books in the Discovery House, handy for those working onsite. On-line references she uses are Texas A & M Agrilife, bugguide.net, Google Lens, and apps iNaturalist and Seek by iNaturalist.

As a member of the GCMG Speakers Bureau, Hedy has developed presentations that she provides to various garden and service clubs, schools, and Extension Master Gardener events.

She especially enjoys presenting to children, where she delivers a rich, interactive experience. Another favorite program is *Beneficial Insects*, a lecture that she, Dr. Johnson and Herman Auer (MG 1983) had developed together. She also gives demos on how to correctly identify, pin, and mount insects, including how to fill out an ID tag which accompanies each specimen.

In the Discovery Garden, Hedy works closely with Sue Bain and Vicki Blythe (MG 2018), and Hazel Lampton (MG 2019) in what was formerly called the Butterfly Garden. Recently, this crew was awarded a \$500 grant from the Native Plant Society of Texas. The funds will be used to procure additional native plant varieties for the aptly renamed Pollinator Habitat Garden.

Hedy, with the precision of a professional librarian, has also established two outstanding libraries: the first is GCMG's library at the Extension office, which includes gardening references and related material, and the second is Sharr Hashalom's Library at her synagogue. It holds the largest collection of Holocaust resources in the area.

Fun Facts:

Hedy is a proud torch passer to her two young grandsons, now considered bona fide “bugologists.”

Her handbag and car always contain tweezers, little jars, insect ID books - just in case. Her home freezer doubles as specimen storage.

Road trips with her husband include visiting truck stops. While he's eating waffles, she gathers specimens from the grills of big rigs collecting information on individual insects, swarms, and probable routes the trucks have taken.

Favorite reference book: *Kaufman Field Guide to Insects of North America* by Eric Eaton and Kenn Kaufman.

At home, Hedy prefers landscape gardening, using mass plantings of color with drought tolerant plants. While moving towards exclusive use of steadfast native plants, she preserves many old favorites which provide full, perennial backdrops for seasonal flowering plants. She avoids using insecticides or pesticides and relies more on natural control. She has adopted a less tidy gardening style by leaving leaf litter and twigs for overwintering insects and then has a good spring clean-up when the time is right.

Hedy considers insects essential partners in the garden. If we learn to accept them as such, they will provide us with bigger and better gardens, while requiring less work. A welcome “less is more” bonus!



Hedy in the Extension Office lab MG Trish McDaniel

Seasonal Bites: A Perfect Time for Soup!



Sandra Gervais
GCMG 2011

The holidays are over, and the grey days of winter have us all feeling a bit down. It's either too cold or too wet and miserable to do much outside. But no matter how long winter lasts, spring will come and with it the desire to see the magic of tiny leaves pushing up through the soil again. Here are

some warming soup recipes to try while we wait; notice how many of the vegetables in them happily grow here; they're always more flavorful than frozen or canned ones. So, take heart and start planning what you'd like to grow for more flavorful meals.



Meal in a Bowl Chicken Soup

6 cups chicken broth (bought or homemade)
1 cup sliced celery.
1 cup chopped carrots.
1 cup green peas.
1 cup whole kernel corn.
1/2 cup chopped peppers (bell peppers or hot peppers or a mix of both to your taste).
2 cups cooked chicken, shredded.
1 cup cooked macaroni, drained.
salt and pepper to taste.

In a large saucepan, bring broth to a boil over high heat.
Add celery and carrots, then reduce heat.
Cover and simmer 8 minutes, or until vegetables are cooked but still crisp.
Stir in peas, corn, peppers and chicken.
Cover and simmer until vegetables are tender, 4-8 minutes.
Stir in macaroni and add salt and pepper to taste.
Heat thoroughly.
Makes 2 quarts.

Note: This is a general guide. Add more chicken and vegetables, herbs and spices that you like.



Potato and Leek Soup

2 tablespoons soft butter (to grease pan)
1-pound potatoes peeled and diced into similar size pieces.
1-pound leeks diced and rinsed (can use onions but taste will be different).
3-4 tablespoons unsalted butter.
Salt and pepper to taste.
4-6 tablespoons of heavy cream.
2-4 tablespoons of minced chives and parsley.
Cooked bacon or ham (Optional).

Cover the potatoes and leeks in salted water.
Simmer for 40-50 minutes, or until soft.
Purée the vegetables and liquid with either a regular blender or an immersion blender.
Add the butter into bits as you go.
Add salt and pepper to taste.
Add cooked bacon or ham toward the end.
Stir in cream.
Sprinkle chopped chives and parsley over individual bowls to serve.

Note: Bits of cooked bacon added at the end give this soup a nice extra bit of flavor. Or you can make it super hearty by chopping leftover baked ham and adding it at the end.

Book Review: *Down to Earth Gardening Wisdom* by Monty Don



Lisa Belcher
GCMG 2014

Quite a few gardeners are familiar with the name Monty Don. He is the charismatic host of BBC's Gardening World offering a weekly garden to do and advice, all filmed at his home Longmeadow. He has also been in over ten different gardening series for the BBC and has published over two dozen gardening books.

Published in 2017, *Down to Earth* is the first

book the author wrote without his publisher asking for a new book. In an interview with the BBC, Don spoke of often being asked gardening questions and advice for viewers' own gardens. In this book Don decided to share wisdoms from his own 50 years of gardening. One of the first tidbits he shares with the reader is the fact that growing up he hated gardening. It was simply just a chore his family made him do. Over time he came to love and embrace horticulture and gardening.

In sharing his philosophy of gardening, you can sense and almost hear Don's voice, as well as his personality on each page. He encourages readers to make their garden uniquely their own. He asks why exactly is the reader gardening. Don encourages personal gardening philosophy. Some of the queries include: "how much do you enjoy gardening" and "does it make you feel good?" Don encourages the gardener in that "whatever you are doing, you most likely are doing it right" insisting there is no one right way, just the way it works for you. Les-

sons he learned from his gardening and what he had to do to rectify his mistakes are shared with the reader. It is as if he is sharing a story with you without lecturing on how deep to plant a bulb or when best to prune roses.

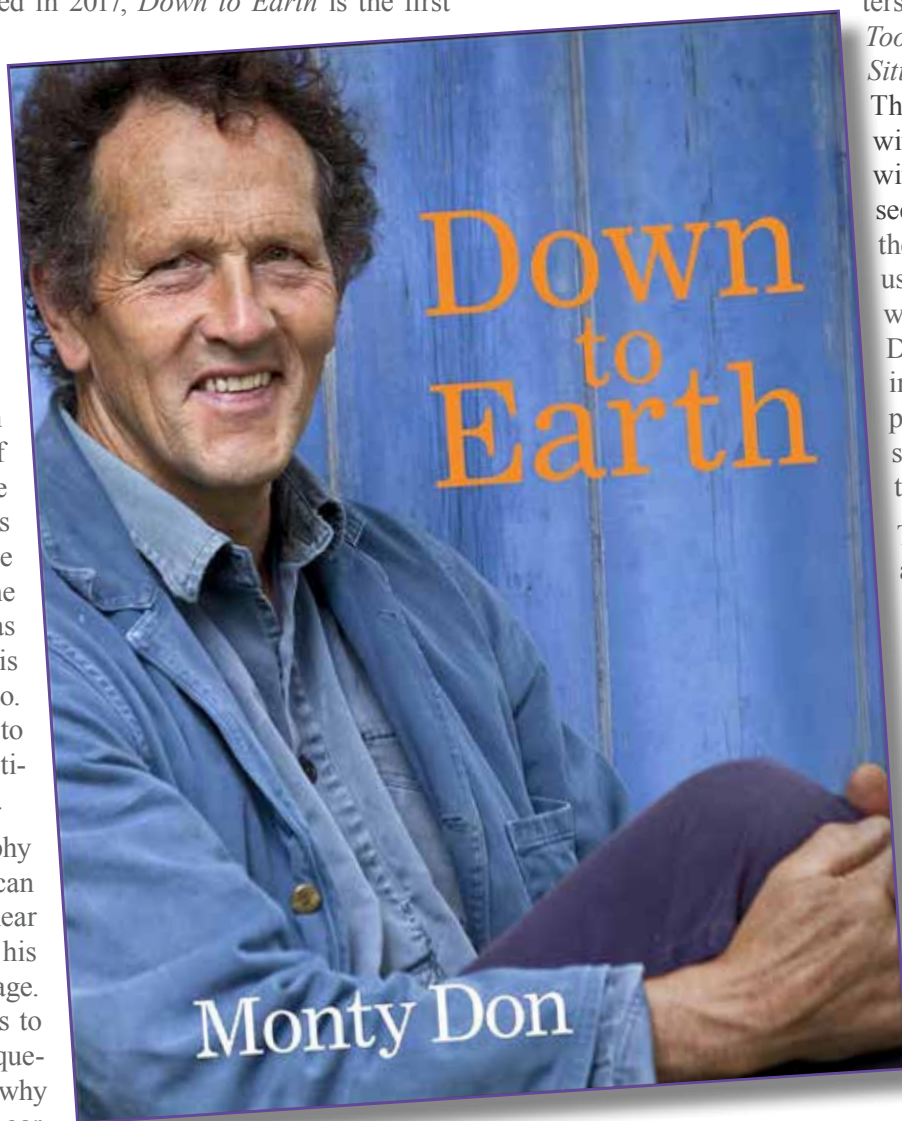
The first chapter is titled *Season*, and to give you an idea of his philosophy style, he tells the reader "Know and go with the seasons. Do not fight them - you will lose." Further chap-

ters include: *Pests, Wildlife, Tools, Design, Walking and Sitting*, and many others. The reader will chuckle with the wisdom shared with regards to sowing seeds outdoors: "Ignore the date, touch the soil and use your own judgement when it is time to sow. Don't do what gardeners in the past did; put their pants down and sat on the soil to test the temperature."

The book ends by the author describing his month by month "to-dos" in his garden, what we should plant, what jobs need doing, what vegetables to grow/harvest, and just as important, why he does it. He hopes what he has done for years in his garden will help you decide what month is best for you to do his gardening tasks.

For those looking for an in-depth garden-

ing manual or instruction manual, this is not the book for you. First, Don lives in England where the climate is a bit different than ours, and two, this book is ideal for a new gardener. Enjoyable from the start, Don doesn't dictate or espouse what other gardening books do; rather over and over he emphasizes "just enjoy your moment gardening." Sage advice indeed.





<https://txmg.org/>

Horticulture

January Events

Urban Orchard Series: Wedge Grafting

01/06/24 9:00am – 11:30am

Gulf Coast Gardening Seminar

Learn the how, when, & why of wedge, whip and tongue, and chip bud method of grafting. Limited to 20 persons.

To register, visit: <https://galveston.agrilife.org/horticulture/>



Urban Orchard Series: Growing Peaches in GC

01/06/24 1:00pm – 3:00pm

Gulf Coast Gardening Seminar

Learn best variety selections and planting locations in Galveston County and what to look for when buying.

To register, visit: <https://galveston.agrilife.org/horticulture/>

Urban Orchard Series: Planting Fruit Trees

01/20/24 9:00am – 12:00pm

Gulf Coast Gardening Seminar

Hands-on workshop at the Discovery Garden for best methods planting stone fruit trees and citrus.

To register, visit: <https://galveston.agrilife.org/horticulture/>



Growing Great Tomatoes, Pt. 2 of 3

01/20/24 1:00pm – 3:00pm

Gulf Coast Gardening Seminar

2nd part of the series will discuss planting and production of tomato varieties that do well in our area.

To register, visit: <https://galveston.agrilife.org/horticulture/>

TEXAS A&M
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EXTENSION

Galveston County Texas A&M AgriLife Extension
4102-B Main Street (FM 519) La Marque, TX 77568
<https://galveston.agrilife.org/horticulture/> 281-309-5065

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<https://txmg.org/>

Horticulture

February Events

Tree Selection for the Home

02/10/24 9:00am – 11:00am

Gulf Coast Gardening Seminar

Explore tree choices, identifying the right location, and best practice for planting a tree in your home landscape.

To register, visit: <https://galveston.agrilife.org/horticulture/>



Vegetable Garden Series: Spring Vegetables

02/10/24 1:00pm – 3:00pm

Gulf Coast Gardening Seminar

Learn how to plan and plant a vegetable garden, as well as, the best location and varieties for Galveston County.

To register, visit: <https://galveston.agrilife.org/horticulture/>

Urban Orchard Series: Fig Tree Propagation

02/17/24 9:00am – 11:00am

Gulf Coast Gardening Seminar

Explore best methods to propagate and prune fig trees. Discussion will include growth habit and maintenance.

To register, visit: <https://galveston.agrilife.org/horticulture/>



Vegetable Garden Series: Irish Potatoes

02/17/24 1:00pm – 3:00pm

Gulf Coast Gardening Seminar

Learn best practices for maximum growth and varieties that do well in our area, including a few facts and myths.

To register, visit: <https://galveston.agrilife.org/horticulture/>

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Photo Gallery: Photographs by Herman Auer



Herman Auer
GCMG 1983

MG Herman Auer became a Master Gardener in 1983. Many photographic archives of GCMGA have been created with his photography. He has preserved a multitude of memories. He shares some of his favorites in this first 2024 Photo Gallery.



Donya Camp, deceased MG Entomology specialist, speaking before a room full of children at the Friendswood Library. July 28, 2009



The hornworm dug into the soil to move up to this stage. August 8, 2018.



Loading up for the bus trip to the MG Conference in Denton Texas. May 6, 2005. It was a full bus.



Peaches, three varieties of plums, and Kiowa blackberries from the Discovery Orchard along with some proud MGs. May 20, 2015



Bois D'Arc for the taking.

Holiday Party Makes December Meeting Merry

The 2023 December meeting was held once again at the home of MG Mikey and Allen Isbell in Galveston. The group donated children's toys, enjoyed dinner and networking, and participated in a gift exchange. 2023 was a good year for the Galveston County Master Gardener Association.



Gift Exchange



Dining in the library



Porch Crew



A cozy corner table



Lynne Slaton and Donna Merritt



Helen Mabe, Stephen Brueggerhoff and Kaye Corey



Kathy Maines and Mikey Isbell



Officers and Board members



MG Trish and Mike McDaniel

Protecting Plants During a Freeze



Stephen Brueggerhoff
Extension Agent - Horticulture
Texas A&M Agrilife Extension
Service - Galveston County

I am prepared for January's cold weather visit with layers of frost cloth fabric in reserve to ward off a potential winter's bite to my gardens. Understanding types of cold weather events is key to properly dressing up our plants in just the right fashion for adequate protection.

I have adapted an article written by AgriLife Specialist Monte Nesbitt and retired Horticulture Agent Skip Richter

to describe the difference between frosts and freezes, as well as materials to consider for cover to help us make sound choices for winter protection.

Frost, specifically radiation frost, is used to describe heat loss from radiant energy, accompanied by freezing temps forming ice crystals from dew collecting on surfaces. These events occur with clear skies, calm winds below 4 mph and temperature inversions. Freezes, also known as advective freezes, occur when freezing air mass displaces warmer air with wind speeds more than 4 mph, an event that can cause ice crystals to form and pierce cell walls within vegetative tissue. Thawing allows fluid to leak out of damaged cells and causing a burned look to leaf and stems. Our job prior to anticipated radiative events is to trap as much heat as possible from the surrounding environment, slowing down heat loss just enough to prevent damage to plant tissue and with appropriate materials such as porous fabric. Commercial frost cloth can be used, and additional materials can include bed sheets or surrounding the target plant with cardboard. Since the focus is slowing down heat loss, you can also use surrounding structures that reflect radiative energy such as roof overhang or even placing under the canopy of larger landscape plants to reduce cooling. The best method for covering plants is securing material at ground level and within the canopy drip line instead of tying around the trunk of the plant. Remember we are not trying to insulate the plants, rather slowing heat loss. The difference may be measured by a few degrees, but it will be enough to lessen the effect.

Advective freezes require more than lightweight covers for protection and can include building box-shaped frames, applying row covers or constructing low tunnels to place over your plants. Polyethylene of 4 mil sheeting is a good material to cover these structures. Make sure that there is enough headroom between the plastic and plants because plastic is conductive and can damage vegetation on contact. Always remove coverings as temps warm above freezing to avoid heat stress. Buildings and surrounding vegetation can also be use-

ful as windbreaks, disrupting increased wind exposure during freeze events. Protecting plant crown and roots can be managed by adding a 3 to 4-inch layer of mulch. Make sure the plants are well watered prior to these climatic events. Water and wet soils collect heat during the day and release slowly as ambient temps cool, providing additional protection to your plants. You can also collect water in used 1-gallon containers or 5-gallon buckets, allow to warm during the day and place beneath covered plants to provide further protection.

With advanced preparation for winter vegetable gardening and if you live in an area experiencing sustained cold weather and frequent freezing events, you may consider adding a cold frame onto your raised bed. The structure is a hinged frame with a transparent top for light penetration, providing cold weather protection and insulation. It can be readily raised during the day and as needed to moderate interior temps. The top of the frame can be covered with plastic, and I have seen used window frames upcycled for the purpose. Make sure you build the height of your cold frame tall enough to accommodate the crop: tops of the plants can be damaged coming in contact with the underside of the roof by cold temperature conductivity.

This season of preparation is also an exciting time for gardeners' active minds, with plans and designs for spring renewal. For planning a spring garden, we can use standardized tools like the updated 2023 USDA Plant Hardiness Zone Maps: <https://planthardiness.ars.usda.gov>. The tool references average lowest temperature determined from data recorded over a recent thirty-year period. The majority of Galveston County has been ascribed to Zone 9B (25-F to 30-F), and most of Bolivar Peninsula, Galveston Island and limited areas (examples San Leon, Smith Point, Texas City, Tiki Island) closest to Trinity Bay, Galveston Bay, East and West Bay have been attributed Zone 10a (30-F to 35-F). USDA developed the maps to define the mean minimum temperatures for areas within the continental and island United States, which in turn provides a supplemental resource to help consumers choose appropriate landscape plants for their region. The map is developed from participating horticultural, botanical and climatological experts and using Geographic Information System (GIS) resources for accurate research and use.

Keep in mind that the map should be used as a guide and not as an absolute authority; landscaping choices should be made using the map as well as site-specific conditions. For example, there are localized conditions that can modify ambient temperature and affect plant reaction, such as relative humidity

“Use best practices to protect your plants...”

and periods of drought, or structures providing wind protection. The beauty of the maps is that it is easy to understand, and offers the public awareness of localized weather events. And don't forget sound advice offered from Galveston County Master Gardeners and Texas A&M AgriLife Extension professionals.

Be prepared and have the right kind of materials on hand, and always use best practices to protect your plants from frost and freezes. Plan ahead using tools like the USDA Plant Hardiness Zone Maps in choosing the right plant for your gardening needs. Season's greetings to you and your family, I look forward to serving you soon with outstanding horticulture programs, and I will see you in the garden.

2 win awards at 2023 Pecan Show

2023 Galveston County Pecan Show winners were awarded during the Gulf Coast Gardening Urban Orchard Series seminar *Going Nuts for Pecans* and presented by Horticulture Agent Stephen Brueggerhoff, December 9, 2023. Classic and New Division First Place winner with varietal 'Podsenick' is GCMGA Sven Bors-Koefoed of Friendswood, with Second Place varietal 'Mahan' awarded to resident David Hartley.

Natives Division First Place recognizes Sven Bors-Koefoed. These winning entries are forwarded to participate in the East Texas Regional Show January 29 - 30, 2024. Regional finalists are then judged at the state show during the Texas Pecan Growers Conference and Trade Show in July 2024. Local judges were GCMGA Herman and Jackie Auer, and Agent Brueggerhoff.



Pecan Show Power Point



Winners

Judy's Corner: Galveston County Monthly Meetings



Judy Anderson
GCMG 2012

January

Start the New Year off with our January meeting, and a look ahead at GCMG activities. Hear from the Association leadership about the many programs and events for the upcoming year. What are the sales going to be like? What about the education programs? There will be information about the new intern class, as well as updates about what is happening in the Discovery Garden. Kathy Maines, Kevin Lancon, Frank Resch and Stephen Brueggerhoff will share their plans for the Galveston County Master Gardeners in 2024.

Plan on bringing a potluck dish for the traditional New Year's meal. We may be late for toasting the New Year, but we can certainly enjoy the food. Wishing all of the GCMG members a very Happy 2024.



February

Living in Houston, we often hear about gardening projects on the International Space Station. Did you ever wonder what plants are selected and why? Thanks to Texas Master Gardener Christie McGrath (MG Intern 2023) suggesting a speaker about this topic. We are fortunate to be meeting in



February with Dr. Gioia Massa of the Kennedy Space Center who will be attending a conference in Galveston at that time. She has agreed to attend our February monthly meeting where she will talk about *Plants in Space and Space Crop Production*. We have never featured this topic before as an education program, but it will certainly qualify for Advance Training. Dr. Massa led the interdisciplinary team for the Veggie validation and heads the study of nutrition, flavor and microbial

composition of space grown crops. She will not be joining us for the potluck, but will be available for questions after her presentation. Please extend a big welcome to her from Texas Master Gardeners and the GCMG.

Bring a dish to share in the potluck dinner. It is February and it will be a festive potluck.



January	February	March	April	May	June
2024 The Year Ahead GCMG Leaders	Dr. Gioia D. Massa "Plants in Space and Space Crop Production"	Dr. Mike Arnold Impacts of Severe Weather	Dr. Kay Sandor Mars Desert Research Station Featuring Medicinal Herbs	Camille Goodwin	GCMG Recognition and Graduation - Mikey Isbell
July	August	September	October	November	December
Fish Fry Plant Swap	TBA	Trish McDaniel	Lynn Shook	Annual Meeting	Holiday Party - Mikey Isbell