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GULF COAST *Gardening*

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Galveston County



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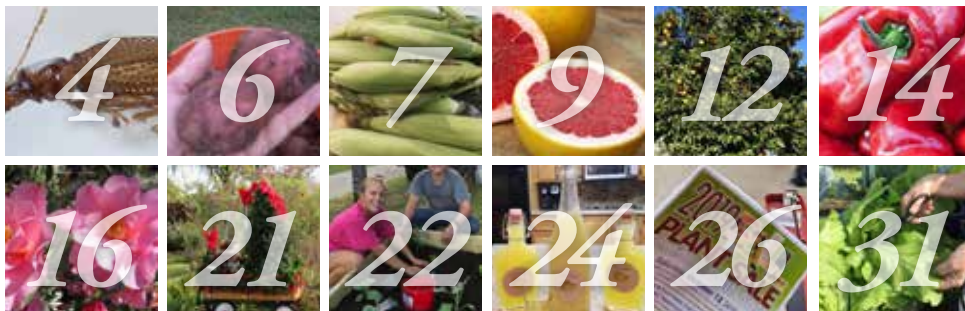


By Camille Goodwin
MG 2008

Anyone who thinks gardening begins in the spring and ends in the fall, is missing the best part of the whole year; for gardening begins in January with the dream.

Those of us lucky enough to live on the Texas Upper Gulf Coast region know we can garden in every month of the year – and January is when we do dream and plan our landscape and garden changes before our tropical heat and humidity arrives.

READERS' ACTION: Our newsletter team meets regularly to plan subjects for upcoming issues of our newsletter. For a change we'd like to ask our readers what do **YOU** want to know? What problems and challenges do you face in your landscape? How can we help? Send us your horticulture requests/questions and we will do the research and publish our findings in a future



issue. If you have a question or problem, others might be dealing with the same puzzle. Send your requests (maybe with photos) to Linda Steber (steber8@msn.com) or Camille Goodwin (mrghmsc@comcast.net).

Our first newsletter issue of 2020 presents many topical features. Are you providing a food source of moisture and mold for Minute Brown Fungus Beetles (page 4)? These “man biters” are an insect we don’t want, but what about chocolate (biting) midges? These are the sole pollinators of plants that we derive chocolate from; without them we wouldn’t have chocolate! (Yikes-WHAT??) Discover the complexities of cultivating and pollinating chocolate on page 10. Vegetables are one of the most popular crops for home gardeners. Learn what we found growing potatoes (page 6) and corn (page 7) in the Discovery Garden, and everything (I mean everything) you need to

know to successfully enjoy homegrown tomatoes (page 8). For those who like hot peppers, see the “A Study of Hot Peppers” article on page 14 and enjoy a special recipe as well.

If you’re not that much into vegetable gardening, you’re probably into citrus growing in our region. Read about the wonder of various types of citrus on page 9 and how to keep them healthy. If you haven’t been to the Discovery Garden recently, come out to see the new Louisiana Iris plantings and gain some understanding about these beautiful plants (page 5). One of my absolute favorite plants, the camellia, is showcased on page 16. As you plan your landscapes for the New Year, Donna Ward provides us with a long list of tasks we should be doing this month (page 13).

This month we have two different stories on friends who became Master Gardeners together, meet Charlotte Avent and Theresa Blackwell (MGs, Class of 2017) on page 18. Linda Barnett and Jane Carter (MGs, Class of 2015) chose our Association to join after reading our newsletter. Linda and Jane have many talents. They travel a

longer distance, than most of us do, to actively participate with us. Enjoy their story on page 20.

Are you looking for a new volunteer activity where you can give back to our community? Learn about the School Garden Program (page 23) and Seeding Galveston Urban Farm (page 22). Both organizations are in need of Master Gardener mentors and both are very rewarding; please consider supporting one or both. Our calendars have been recently updated, new recipes are featured in “Seasonal Bites,” page 25 and the Carbide Park Update is on page 21. Dr. Johnson tells us about Greens in the Last Word, page 31.

Don’t forget your Action Item (above). Happy New Year everyone, wishing you all many miracles, big and small, in the coming year.

The hum of bees is the voice of the garden.

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Photo courtesy of Robin Collins



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Thanks for your interest!

Q&A ask a master gardener

Mildew Insects



By Laurel Stine
MG 1996

Q: We live near the water on the bay side of Galveston Island in a brand new home. We moved in several months ago, and suddenly we are invaded by hordes of tiny insects. They are attracted to our lights and crawl up the walls. It feels like we're being bitten. Help!

A: These tiny insects are called Man Biters (*Eufallia seminivea*). They are part of a family commonly known as Minute Brown Fungus Beetles (Latridiidae). Many times we are unaware of their

existence until the right conditions develop.

In many parts of the world, Minute Brown Fungus Beetles occur naturally in moldy organic matter in forests, grasslands and a variety of other habitats. They are especially common in areas that are regularly slightly moist. Eggs are laid within the organic matter, and the larvae graze on fungal hyphae, spores and crusty fungal substrates. Adults and larvae of some species feed on slime molds.

Under optimal circumstances, the life cycle requires one month or slightly less from egg to adult – longer under cool conditions and shorter when warmer. Adults and larvae are often found together, and large populations may be present in conditions that favor fungal growth.

The Man Biter occurs in natural habitats in the southern U.S. but is more commonly encountered in residences and other human-made structures.

Man Biters are tiny – 1/25th of an inch (1 mm) in length. The common name “Man Biter” derives from the probing habits of adults when they find their way onto human skin. Although they do not feed on humans, they have a habit of testing the surface with their tiny but surprisingly effective mandibles to determine whether or not something edible is present. Many beetles will occasionally bite to test the surface of skin, but this species, *Eufallia seminivea*, is the only member of the household-infesting minute brown fungus beetles that has been repeatedly documented as a source of bites.



Eufallia seminivea

The generally accepted common name “Man Biter” is misleading, in that it is an equal opportunity biter of either sex. When populations are high, adult beetles may concentrate in areas of high humidity (such as bathrooms) and bite unsuspecting residents.

The beetles cannot crawl on smooth, vertical surfaces, and are often trapped in ceiling light fixtures, washbasins, bathtubs, or pots and pans. Fungus beetles can sometimes be found on building materials as they are incorporated into the structure, or on wrappings of plumbing and electrical fixtures, but they can also be brought in later on moldy or mildewed furnishings or other materials.

Another perhaps unexpected source of fungi and mildew is found in newly plastered walls that have not been allowed to completely dry before applying wallpaper. This has earned members of the Latridiidae family the name “Plaster Beetles.” These are not something owners of brand-new homes are happy to encounter.

Plaster Beetles usually appear 3 or 4 months or as long as a year after the walls of a building are plastered, and disappear after the walls are thoroughly dry and can no longer support the growth of molds. However, walls and other parts of a building can also become damp from sources of moisture other than plaster and can support ongoing infestations of fungus beetles.

Fixing leaks or plumbing problems and making sure air conditioning condensation is not excessive will reduce suitable habitats for an ongoing infestation. Be aware that these insects also feed on exterior mildew. Mildew is caused by fungi feeding on nutrients contained in the paint film or on dirt adhering to any surface. Because moisture is the single most important factor in its growth, mildew tends to thrive in areas where dampness and lack of direct sunlight are problems such as window sills, under eaves, around gutters and downspouts, on the north side of buildings, or in shaded areas near shrubbery.

Contact insecticide sprays to kill adults leaving breeding areas address only the symptoms of the problem posed by these beetles – high moisture creating growing conditions for mold that the beetles use as a food source.



Plaster Beetle next to the Head of an Insect Pen



Tiny insects are called Man Biters (*Eufallia seminivea*)

The Iris



By Monica Martins
MG 2013

Recently, we planted an exhibition area of Louisiana Irises at the Discovery Garden in Carbide Park. To our knowledge it is the first plot specifically created for hybrid and species beardless irises, procured solely for our grounds.

The Louisiana Iris belongs to the botanical family Iridaceae, of which there are many types of irises. Over the years, residents have told us that the most common Louisiana and species irises found in local gardens are usually heritage ones that

have been passed between friends (the varietal name usually forgotten) or plants that are commonly found in stores – yellow or blue flag irises, African Iris, or Walking Iris.

The genus *Iris* includes Louisiana Irises and other water-loving species that are non-bearded. These are the most suitable irises for our climate. Houstonians north of Interstate 10 and further afield can grow bearded irises. These have a fuzzy tubular "beard" that resembles a caterpillar on the upper petals. By contrast, Louisiana irises have a signal, which is a flat marking on the same petals that can resemble a particular shape and is often yellow. With regard to flower color, we typically hear about yellow, blue and purple irises, unless gardeners have come across hybrids. That group opens up a world of colors and combinations!

Thanks to the efforts of a relatively small group of people – who began identifying irises in the wild nearly 100 years ago – we now have access to a plethora of hybrid irises that were initially developed from several wild species. Those species provided not only numerous color combinations – including red – but also cold tolerance, height, and increased flower size. Occasionally beautifully strange color and pattern combinations occur.

On an iris, the upper petals are called the standards. There are usually three. The lower sepals, also three, are called the falls. Breeders focus on creating unique color combinations of petals and sepals. Sometimes the underside of the flowers and signal carry unique markings and colors as well.

As with bearded irises, the main source for obtaining Louisiana Irises is through small family businesses scattered around the growing territory. It is worth noting that younger generations of adults have not taken to flower breeding to the same degree as those during the latter 20th century. With this in mind, we have developed an iris project to begin collecting Louisiana Irises.

The project involves two plots at the Discovery Garden that showcase 44 varieties as a starting point. All of the colors of the rainbow are represented on the petals and sepals (except for green). Each plot also has an example of a bicolor iris – with petals/sepals of two distinct contrasting colors. Many of these irises were registered with the American Iris Society during the 80s and 90s, but a few date back to the 50s, 60s, and 70s. Some

were registered during the past 15 years. We also have planted overflow irises in several home gardens that will be introduced into the Discovery Garden as space permits. In February, as the first experimental plots begin to bloom, we will set our sights on irises for the new Water Garden.

You are welcome to watch the progress of our plots each Thursday from 9-11 a.m. when the Discovery Garden is open to the public. Every week, we count the irises, note their heights, and watch for any that are failing to establish. The next presentation about growing Louisiana Irises will take place during the spring, and we hope to coordinate that with a garden walk on site to take in the beautiful blooms.

We could not have done this project without the help of the Society for Louisiana Irises (SLI), of which my husband, Roy, and I are members. Nor would this project have been possible without the aid of several SLI volunteers and former and past iris breeders, to which we are extremely grateful!



Eastertide

Growing Potatoes in the Discovery Garden



By Jenni Hudgins
MG 2016

When I began gardening with some of my “well-seasoned” partners (Master Gardeners friends), one of the first things we planted was potatoes. I thought (to myself of course) that choice was a waste of time. Potatoes are plentiful and inexpensive at the grocery store. Why bother? As usual, I learned a lesson from them. The potatoes that we grew were better tasting and creamier than red potatoes from the market; even my doubting husband and son could tell the difference! While

there are various potato growing methods, the following is what works for us in our raised beds.

The first thing to understand about planting potatoes is that seed potatoes and grocery store potatoes are very different. Do not eat seed potatoes, as they may have been treated for storage. Do not plant grocery potatoes as they may have been treated to eliminate sprouting. Once you purchase your seed potatoes, cut them into 1 to 2 ounce pieces ensuring that each piece has 1 to 2 eyes. Spread your cut potatoes out and let them dry for three days. After they have dried, add them to a paper bag with a handful of sulfur and shake well to coat, and you are ready to plant! Note: Some gardeners prefer to coat with sulfur prior to the drying process.

In our Texas Upper Gulf Coast growing region, the recommended time period for planting fall potatoes is August 1 to September 1. The recommended time period for spring-grown potatoes is January 15 to March 1.

Now it's planting time! Make sure that your soil is moist but not overly wet. Dig a trench approximately 4 inches deep. Potatoes are heavy feeders, but they only feed from the soil that they are planted in. Work a general purpose fertilizer (such as 15-5-10) or my favorite, Microlife, deeply into the soil at the bottom of your trench, then dig 3 to 4 inch holes at the bottom of your trench spaced 8 to 10 inches apart. Place your cut seed potatoes in the holes, eye-side up, cover with soil, but don't fill the trench. Water lightly, ensuring no water is standing in the trench.

In a couple of weeks, you'll see some green growth. Once that growth is at least an inch above the edge of your trench, fill it with soil or compost. Leave an inch of growth showing. As your potatoes grow, continue to add soil or mulch. This process, called “dirting,” is required because potatoes don't grow directly from the buried cuts. The eyes produce stems that grow upwardly resulting in the leaves aboveground and stolons underground. The stolons grow in a short, horizontal direction, swell, and eventually produce tubers. The tubers begin to form around three weeks after you see the first green growth; this is the point that watering becomes especially important. For healthy production, don't let the soil become very dry or fluctuate from very wet to very dry.

Harvesting potatoes is usually the fun part! You never know what's under your soil; it's like digging for treasure! After 90 to 120 days, the leaves will

wither, turn yellow or may even bloom. It's time to dig to see what you have. Start one foot from the plant and carefully dig around the plant. If your potatoes are the desired size, you can immediately dig them all or, if heavy rain isn't in the forecast, the digging can wait or be spread out over a couple of weeks. Store potatoes unwashed in a cool space.

Potatoes aren't immune to insect or disease damage. We find that disease and rot are our biggest problems. Number one is a fungal disease known as scab which is strongly influenced by the pH of a soil (ideal pH is 5.5 to 7). Potatoes with scab have spots that are rough. The good news is these are edible if peeled! Good garden hygiene such as rotating crops, amending soil or solarizing is helpful for potatoes as with any vegetables or fruits. Another problem that we have encountered is rot due to heavy rain. Unless you have pull with Mother Nature, this is simply out of your control.

Growing potatoes, like many of our crops, is mostly rewarding but occasionally disappointing. Pulling a baking sheet of roasted Red LaSodas out of the oven is so worth it when grown in the home garden!



Red LaSoda Potatoes

Growing Corn in the Discovery Garden



By Bill Cummins
MG 2012

For my spring garden in 2016, I decided to include corn as one of my vegetables to determine if it would grow well in the Discovery Garden and what problems I might encounter. In the spring of 2016, Burpee introduced a supersweet (Sh2) "On Deck Hybrid" corn that was developed to be grown on the backyard patio. This particular corn variety was grown in a 24-inch diameter pot, using potting soil and in full sun. Nine kernels of corn are spaced evenly in a circular pattern

within the pot.

This corn variety will produce stalks that are 4 to 5 feet in height. Each stalk will produce 2 to 3 ears of bicolor corn, with a length of 7 to 8 inches. The time from planting to harvesting is 61 to 63 days, approximately 2 months. Seed germination occurs in 7 to 14 days after all danger of a frost has passed. The cost of the seeds for this corn is \$6.95 for 50 seeds.

I decided to test this corn by planting it in a raised bed in the Discovery Garden, as shown in the photograph. The bed was prepared by adding mushroom compost then tilling the week before the planting. I fabricated five, 24 inch rings using edging material, and placed two rings in the garden on 2/18/16, along with nine kernels of corn in a circular pattern. I used a liquid 5-5-5 fish emulsion fertilizer diluted to a 1-gallon container of water, and applied to each ring.

My watering schedule from this point on was to water on Tuesdays and Thursdays throughout the growing season. A week later, the corn that I had planted the previous week had germinated and was 1 to 2 inches above ground. The germination rate appeared to be at 90%. I placed three additional rings of corn in the bed, next to the first two and added the fertilizer. At this time, I began a weekly schedule of spraying Bt on the corn, which continued throughout the growing season.

On 3/15/16, when I checked the corn from the second planting, the germination rate was approximately 70%. By the end of March, the corn was 10 to 12 inches high, and I gave each ring a 1-gallon application of the 5-5-5 fertilizer mixture. During April the corn grew to about 5

feet high and produced 2 ears of corn per stalk. The tassels were in full bloom by the last two weeks in April and the silk on the corn was ready for pollination. From 5/5/16 through 5/19/16, I harvested 34 ears of corn. The ears as were 7 to 9 inches long, with 100% pollination and no indication of insect damage. The corn, when prepared for eating, was sweet and tender.

There were at least 16 additional ears of corn that were below expectation. Two ears were damaged, eaten by an unknown animal, while the remainder failed to reach any level of maturity. Most of this corn was on the lower portion of the stalk or was on a stalk that was 2 to 3 feet high. There did appear to be a difference in the germination of seeds between the first planting on 2/18/16 and the second on 2/25/16. The second planting had a lower rate of germination than the first at 70%.

In the spring of 2017, the same corn was again planted in a raised bed without the rings. Because of the cold weather in February, the corn was not planted until March 9, 2017. The corn germinated in 7 to 10 days and was ready to be picked in late May and early June. I removed 40 ears of corn during this period. Each ear had been damaged by an insect boring into the side of the corn. At least 25% of each ear had been damaged by a worm. The differences in the 2017 planting of corn is (a) the corn was planted in rows and not rings and (b) a different brand of mushroom compost was utilized that contained a large amount of wood chips.

From the two plantings of this corn in 2016 and 2017, I am satisfied that corn can be grown in the Discovery Garden with some cautions. The corn variety used should have a short maturity date of 60 to 65 days so that the corn can be harvested in mid-late April. The corn should be in the ground in February after the last freeze date. The later the planting the greater the chance of insect or animal damage. Additionally, there are strong winds in March and April that can blow the corn down.



Growing Tomatoes from Seed



By Ira Gervais
MG 2011

We grow tomatoes from seed because we can choose our varieties, we can get the transplants when we need them, and we can watch them grow from the packet to our table. Most of all, everyone knows that home grown tomatoes just taste better!

- Start by planning. Where will you start the seeds and where will you plant them in your garden? They will need 8 hours of sunlight.

- Decide how many plants you will need (about 1 per person) and what variety you want. Select a tomato variety that suits your use and

taste. Always use a disease-resistant variety in our area. Seed packets give good information on the variety's resistance.

- If you are canning, a determinate variety works best as they produce most of yield within a 30-day period.
- Cherry tomatoes or small fruit variety tomatoes tend to be sweeter than most other tomatoes. They are great for salads or just picking and eating off the vine.
- Color of the pigment tends to produce different balances of sugars and acids. Orange, yellow and pink pigments tend to taste milder and are less acidic than red tomatoes. These are good for salads, slicing and drying.
- Paste varieties are good for cooking and salsas.
- Tomatoes with plenty of foliage capture a lot of sunlight and can convert more sunlight into sugars and other flavor components. (Heirlooms have a larger amount of leafage than hybrids and many claim they taste better.) In the end, tomato flavor is a matter of taste—your taste.
- Start seedlings about 6 weeks before the date of published last frost in your area so they will be ready to go in the ground after most of the frost danger has passed.
- The season is best extended at the beginning rather than trying to stretch into late June or July so you will need to get your transplants in early. Early Season (matures 50-69 days) and Mid-Season (matures 70-79 days) varieties work best in our area. By late June to early July, the summer heat and repetitive high night-time temperatures (above ~72° F) in our area will effectively end the production of quality tomatoes, so Late Season (matures 80 + days) varieties (like heirlooms) will not produce much if planted late in the season.
- Insect pests (such as stinkbugs) and fungal diseases (such as early blight) can also bring the season to an early close.
- Seeds will germinate in 7-10 days at a temperature of 70-80° F. Make sure when seedlings start to emerge that they have plenty of light or use fluorescent grow lights.
- Know where you will place the transplants to get the necessary light. You can use an outdoor cold frame or a sunny (8+ hours) indoor

area. If you choose fluorescent lights to grow your seedlings, keep the light no more than 2 inches above the seedlings.

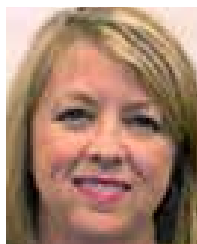
- To guarantee the best transplants at the right time, start 2-3 batches about 10 days apart. Keep back a start in reserve should you lose some to a frost or freeze.

Seed Starting Process:

- Fill cell-packs, (if cell-packs are not available other containers can be used to start seeds, such as "Jiffy" peat pellets, egg cartons, pans, etc.) with a good sterilized seed starting mix or soil-less mix.
- Using a dibble or small screwdriver, make a hole in the center of the potting mix about ¼" deep and drop in 2-3 seeds and refill hole.
- Moisten growing medium. Keep moistened not wet. Don't allow seed mix to dry out.
- Cover cell-packs or the growing pot. The cell-pack trays usually have a clear plastic dome covering. The clear plastic dome creates a mini greenhouse environment. If you don't have a dome you can use a clear plastic zip-loc bag sealed with the pot inside. Punch a few breather holes in the plastic bag. (Don't forget to place ID tags on seedling pots.)
- Keep planted seeds at about 70-80° F and keep them covered until seeds germinate (7-10 days). They may not germinate if too cold or if they get too wet or dry.
- Remove clear plastic dome when most of the seedlings have emerged.
- Move them to full light soon. Increase light levels to prevent the seedlings from stretching and producing a weak leggy plant. Consider setting up fluorescent lighting or grow lights. (A brighter light will help keep the seedling short and stout.)
- Keep seedlings no more than 2 inches from the fluorescent lights. Keep the lights on for 12-18 hrs. The seedlings will do better with a rest period.
- Do not overwater seedlings as it may lead to damping off.
- Transplant seedlings to a larger container (example - an 8 oz. Styro-foam cup with a few drain holes in the bottom) when the first true leaves appear from the seedlings.
- A week prior to transplanting into the garden, harden off your plants to outside conditions. For the first 2-3 days, protect them from wind and direct sun. Gradually expose them to garden conditions as weather permits. Hardening off strengthens plant cell structure. It also results in a faster growing plant after transplanting into the garden.

Growing tomatoes in the home garden and harvesting fresh tomatoes from the garden make the effort involved in growing your own transplants well worth it.

January Plant of the Month in the Discovery Garden



By Lisa Davis
MG 2018

Our Plant of the Month comes with an interesting history lesson. First documented in 1750, the grapefruit (*Citrus x paradisi*) originated in Barbados as a natural mutation between sweet orange (*Citrus sinensis*) and pumelo (*Citrus grandis*). It was known as "the forbidden fruit" until the early 1880s when a Jamaican farmer named it "grapefruit" for the grape-like cluster in which the fruit grows.

Count Odette Phillipe, a Spanish don, is credited with introducing the grapefruit to the United States in 1823 when he planted it in Pinellas County, Florida. By 1893, the first grove of trees was reported in Texas. The earliest commercial shipment of 120 tons left the Rio Grande Valley in 1920.

Grapefruit production peaked in 1945-46 with 960,000 tons. The first grapefruits were white-fleshed and seedy. In 1929, red mutations were discovered in different groves and named for their founders. The Texas Ruby Red received the first-ever patent awarded to a grapefruit.

In 1993, the Texas Legislature named the red grapefruit as the State Fruit of Texas because it contains no fat or sodium, lowers high levels of blood cholesterol, is low in calories, is rich in vitamin C, and generates more revenue than any other fruit or nut tree in Texas.

Aren't you proud that The State Fruit Tree of Texas is thriving in the Discovery Garden's Orchard?

Common Name Grapefruit

Location in Discovery Garden Orchard

USDA Hardiness 9-10

Plant Characteristics

Type: subtropical evergreen tree

Family: Rutaceae

Height: 16-20 feet, can reach 40-50 feet

Spread: 15 feet

Bloom Information

Bloom Color: white

Bloom Size: 2 inches

Bloom Time: mid-spring

Culture

Exposure: full sun

Soil Moisture: well-drained

Soil Description: loamy soil

Salt Tolerance: low

Drought Tolerance: yes

Planting: Spring or early Fall for best start

Tolerates Deer: no

Maintenance

Water regularly and thoroughly. Fertilize three to four times the first year with a cup of ammonium sulfate (21-0-0). Increase amount to 2 cups in the second year, then three cups in the third year.

Benefits

Wildlife Use: pollinators & butterflies, grapefruit waste converted into molasses and used in livestock fodder, skins purified and fed to livestock

Edible Uses

Raw; juiced; in vinegar, syrups, jams; seeds can be used for vegetable oil; seed extract used in natural medicine; grapefruit skin oil used as flavorings; inner skin and pulp naringin used for flavorings.

Propagation

T-budding or inverted T-budding onto sour orange rootstock. Can be grown from seeds but fruit production will be delayed and trees vulnerable to Phytophthora disease.

Interesting Notes

Grapefruit gets larger and sweeter the longer it remains on the tree. Fruit can be harvested from late October through May.



Without Flies, There Would be No Cacao, “Food of the Gods” – Chocolate

We wish to acknowledge the assistance and permission from Professors Dr. Wouter Vanhove and Dr. Guy Smagghe to use research from their paper: Challenges in Cocoa Pollination: The Case of Cote d'Ivoire, by Gregor Claus, Wouter Vanhove, Patrick Van Damme and Guy Smagghe and Dr. Smagghe's original photos in presenting this article to our readers. For additional information, please see this link:

<https://www.intechopen.com/books/pollination-in-plants/challenges-in-cocoa-pollination-the-case-of-c-te-d-ivoire>



By Camille Goodwin
MG 2008

If you are like me and excessively fond of chocolate, you might basically know that chocolate comes from the cacao bean, a seed in the fruit drupe (pod) of a *Theobroma cacao* tree grown and revered by the ancient Mayans and Aztecs. After cacao beans are dried, fermented, and roasted, the nibs (pieces of peeled beans) are ground to produce a dark, pasty chocolate "liquor," the basic ingredient for all processed chocolate products.

Have you ever wondered how pollination of the chocolate bloom occurs to form the fruit or perhaps what the bloom looks like? You're probably thinking of all the normal pollinators and a rather straightforward flower, but again, like me, you'd be incorrect. The plant's reproductive structure and Mother Nature do not make pollination or chocolate production easy. It might make you question how chocolate exists at all.

The seeds from which chocolate is made develop only when the trees' blooms have been pollinated. The fruit is created from dime-sized, very complex flowers that make the pollination process barely possible. Each flower petal curves into a tiny hood that fits down around the plant's pollen-making anthers. A honey bee would look like a blimp trying to reach it. Turns out, a wild, tiny fly, no bigger than a speck of dust, the

head of a pin or a poppy seed, known as a chocolate (biting) midge is responsible for the world's supply of chocolate.

Chocolate midges, *Forcipomyia* spp. in the family Ceratopogonidae, are the only pollinators that can work their way into the intricate flowers to pollinate. They are members of the "no-see-um" insect family, found in humid, tropical environments, that drive humans mad with their bites. Midges measure about one to three millimeters long. Each fruit pod requires 100-250 grains of pollen to fertilize its 40-60 seeds. Midges emerge from a flower hood with just a few to maybe 30 grains of sticky white pollen. The midge must then find a female part that sticks up in the very center of the flower, but the pollen is useless for any blooms on the tree it came from and won't work on close relatives.

Cacao flowers are hermaphrodite [having both staminate (male, pollen-producing) and carpellate (female, ovule-producing)] parts. Cacao trees are self-incompatible and can't be fertilized by its own pollen. It must be cross-pollinated. These midges are bad at flying, barely carry enough pollen to pollinate one flower and each flower only lasts 24-48 hours. The opportunity for the flies to fulfill their role is fleeting.

Less than one in twenty cacao flowers turn into fruits. Midges are most active at dusk and dawn, in sync with the cacao flowers which fully open just before sunrise. Wild cacao flowers have 75 distinct aromas that at-



Blooming Cacao Flowers -
Image courtesy of Dr Guy Smagghe



Cacao Flowers and Fruit -
Image courtesy of Dr Guy Smagghe



Cacao -
Image courtesy of Dr Guy Smagghe

tract the midge. The blooms emerge directly from the trunk or lower branches of the tree and hang vertically. Botanists refer to this occurrence as cauliflory.

The tree flowers and fruits all year long. It is unusual to have flowers and fruit on a tree at the same time. The cacao tree stops bearing fruit after 25 years, but can live much longer. They are understory trees, growing beneath a taller native rainforest canopy protected from sun and wind in nitrogen rich soil. It cannot release its seeds by itself, it needs animals or humans to open its pods.

In addition to the complex flowers, further complicating chocolate production, is the native habitat of chocolate midges. They prefer humid shade in dense rain forest ecosystems surrounded by decaying organic matter. They need aquatic, semi-aquatic or moist soil for their larvae to develop. Commercial cacao plantations are in sun and clean. Commercial production farms remove shading trees. Midges seldom seek sunnier cacao trees in commercial cacao plantations where the cultivated flowers have very few scents and the peak flower abundance is out of sync with the peaking midge populations.

Chocolate midges, like other pollinators, suffer from loss of habitat, pesticides, herbicides, changing weather patterns, expansive farming and increasing numbers of pests and diseases.



White and Pink Cacao Flower



Vertical Hanging Cacao Flowers on Tree Trunk



Chocolate Fruit Drupes



Forcipomyia Chocolate Midge



Midge on cacao flower
Image courtesy of Mark Moffett



Midge pollinating cacao flower
Image courtesy Samanta Forbes

Tree Story - Citrus Trees



By Dr. Margaret
Canavan
MG 2003

Winter holidays are past and outdoor decorations are stored. But here on the Texas Upper Gulf Coast region some trees are still adorned with lovely yellow and orange globes — citrus. For weeks I've enjoyed kumquats from my small tree's bumper crop thanks to generous fall rains. A friend has harvested 900 plus Meyer lemons. There are some huge grapefruit

down the street. Not to mention oranges, limes, satsumas and tangerines — there are dozens of varieties of citrus, many of which can be grown right here.

In addition to providing fruit, these shrubs or small trees are attractive and maintain their glossy, aromatic leaves all year. They originated in Southeast Asia but have spread everywhere that climate allows. They were grown in tubs and wintered under cover in Renaissance gardens, and no royal or aristocratic residence in the 17th and 18th centuries lacked an "orangerie." Flowering and ripening times vary by variety and fruit ripens fully on the tree. Smaller fruit, such as limes or lemons, can produce multiple crops per year depending on temperature and rainfall. Citrus thrives in a consistently sunny, humid environment with fertile soil and adequate moisture. Galveston Island is a fine place for citrus due to our mild winters.

The fruit has multiple uses beyond its good taste. Citric acid in the fruit has been used in canning, flavoring, cleaning and even photography development. High vitamin C content prevents scurvy (resulting in British sailors' nickname of "Limey"). High citrus intake is associated with reduced risk of stomach cancer and juices may lower the risk of specific types of kidney stones. Grapefruit can be used to lower blood pressure (but it can interact with other medications so must be used carefully).

Citrus plants are important hosts for a variety of butterflies and moths. My favorite is the Giant Swallowtail butterfly. The caterpillars look

remarkably like large bird droppings, and the chrysalides camouflage as twisted dried leaves attached to branches. So, if you see any of these, leave them and you will later be rewarded with beautiful, large black and yellow butterflies.

This tree is not without its enemies, in the form of insects and diseases. Citrus plants are susceptible to infestation by aphids, whitefly and scale

insects, all of which are manageable. A current serious threat, however, is deadly. A bacterial tree disease, citrus greening, is spread by small insects (psyllids). Research is ongoing seeking prevention and treatment for this malady that has wreaked havoc in Florida. Once a tree is infected there is no cure.

Rather than growing plants from seed, it is preferable to obtain citrus from a nursery certified by the Texas Department of Agriculture to grow citrus. It will be several years before you have fruit from that planted seed, and it may not produce what you want. Most available citrus trees are produced by grafting a desired fruiting cultivar onto rootstocks selected for disease resistance and hardiness. Galveston County Master Gardeners created a full-color publication with excellent advice about growing citrus, "Ambrosia from your Backyard," available for free



A Citrus Tree in Galveston

(https://aggie-horticulture.tamu.edu/galveston/publications/Our_MG_Publications.htm).

If you have a sunny spot in your garden, consider adding one of these lovely trees. Let me know when the lemonade is ready.

"Tree Stories" is an ongoing series of articles about outstanding island trees, tree care, and tree issues. If you have or know of a special tree on Galveston Island that should be highlighted, please email treesforgalveston@yahoo.com. Margaret Canavan is a Galveston resident, a Galveston County Master Gardener, and a member of the Galveston Island Tree Conservancy Board.

Trowels and Tribulations



By Donna Ward
MG 1996

You may be sitting on the couch with that cup of hot chocolate thinking that because it's February there's not much to do in the garden. Well if that's what you're thinking, you've got it all wrong. Remember those cool weather weeds that popped up all through the St. Augustine last spring? You can put a stop to them this month by applying a pre-emergent herbicide if you're into that sort of thing, but it's been my experience that once warm weather arrives those cool-weather weeds will be

history. If you feed your lawn on a regular basis and keep it healthy, it will choke out most weeds.

Some of us have already put in a few tomato plants, but be careful, Jack Frost could decide to hit us with an unexpected cold snap. Those of you who keep 'frost cloth' on hand will be ready to cover those tender plants, otherwise a few old sheets or pillowcases should do the trick. If the temperature is predicted to drop close to freezing, double wrap to provide adequate insulation. Just don't lay plastic directly on any plants - it will surely 'burn' the leaves. If you think it's necessary, put the plastic on top of the frost cover or sheets.

If you didn't get around to cleaning up that perennial bed, now's the time. Cut off all old foliage to make room for new spring growth. Don't be too anxious to prune the hibiscus, as you risk forcing new growth that could be harmed by a cold snap. If you're a neat-freak and can't stand the brown scraggly growth you can cut away the brown, but don't cut down into 'green.' Once new growth appears, then do your serious pruning. You can however prune the roses now. Thin out the canes - a majority of five is plenty. Roses like sufficient air circulation to help prevent the ever present black spot and mildew problems so prevalent on our Gulf Coast. Wouldn't hurt to give them a feeding to promote blooms - a fertilizer with a high middle number, and of course a good layer of mulch to protect the roots from summer's sizzle and help to conserve soil moisture. Hold off on pruning the flowering shrubs until the curtain goes down on their performance.

Local nurseries are ready for you to pick up transplants of spring and summer color. They have plenty of small potted petunias, marigolds, geraniums, snap dragons, salvia, coleus, dianthus, begonias, ixora, lantanas, impatiens, pentas, and plenty of others to choose from. Incidentally if you want to attract butterflies to your garden, be sure and pick up some of the lantana and salvia. Ferns happen to be some of my favorite plants, and three or four small pots will soon fill a hanging basket and give your landscape a tropical ambience.

Do you like gladiolus? Start planting in mid-February and then at two-week intervals up until May and early June. You'll be cutting these gorgeous blooms for an extended period of time. Be prepared to stake them as the flower spike can be pretty heavy and have a tendency to fall over if not provided with support.

To all of you wanna-be farmers, prepare to plant broccoli (transplants), spinach, radishes, Irish potatoes, English and snap peas, mustard, lettuce, collards, beets and corn. Hold off on the corn until mid-month. You can keep planting onion sets through all of February.

I know you're thinking "There she goes again" preaching about crape murder. Crape myrtles don't have to be pruned every February. As a matter of fact they should not be pruned - ever. (Well. O.K. if they just need a bit of shaping). Whoever came up with that idea should have their pruners, lopers and saws confiscated. These lovely 'Lilacs of the South' naturally have an open airy canopy, and pruning them forces the production of weak spindly growth which totally ruins the architectural integrity of this beautiful tree. Many of you have taken this advice over the past few years and I thank you, but there's still a few who haven't gotten the message. If these perpetrators happen to be your friends, relatives or neighbors, please set them straight. I'd love to see every crape myrtle in El Lago display all of its blossoming glory not marred by ugly nubbins where blooming branches used to be.

I know you're raring to go - put down the hot chocolate, be prepared to make your neighbors jealous of your green thumb.



Governor's Geranium (full bloom)



Hibiscus



Impatiens

“Some Like It Hot” Chili Peppers

Editors Note: this is a reprint of Jan's article in the *Galveston Monthly*



By Jan Brick
MG 2001

The spicy heat of chili peppers comes from a substance known as capsaicin along with several other chemicals contained in the fruit. The quantity of capsaicin in any given pepper depends on growing conditions and the quantity of water absorbed by the plant. Low water amounts cause more concentrations of capsaicin in some parts of the fruit. Peppers also increase the volume of capsaicin in response to an attack of fungal damage to the seeds.

Capsicum fruit has been a part of the human diet since 7,500 BC and is considered one of the oldest cultivated crops in South America. Origins of the fruit have been traced to northeastern Mexico and have self-pollinated across Mexico, Central America and parts of South America. Peru and Bolivia have the largest diversity of capsicum peppers that have been continuously consumed by humans from pre-Columbian times to the present.

Christopher Columbus and his crew discovered the capsicum fruit, calling them “peppers” because like black pepper used at that time throughout Europe, they had a spicy, hot taste unlike other types of food found in the Caribbean. The Spaniards carried the “pepper” fruits back to Europe as a fine delicacy. Portuguese traders promoted the marketing and use of the fruits through the Asian spice trade routes and into India towards the end of the 15th century. Today chili peppers are commonly used across varied regions of the world.

Red chilies contain large amounts of vitamin C, while other species have significant quantities of vitamin A and can be a rich source of vitamin B6. The leaves of capsicum chilies are edible, mildly bitter and not as hot as the fruit itself. Cooked as “greens” in the Philippines, the leaves are often added to soups for extra flavor. Chilies are considered a staple in many countries where they are often ground into powders or pastes. The dish called chipotle is the smoked, dried, ripe jalapeno. Another popular chili in Mexico is the Poblano that has a tough outer skin that does not break down in cooking thus leaving the flesh inside to be eaten whole as the skin usually slips off easily. In India, cooks use hot green chilies to flavor curries as well as dry dishes. Fresh or dried chilies are used to make commercially available hot sauces to add spice to home cooking.

The colors and contrasting foliage make chili peppers attractive garden plants as well, especially the Black Pearl pepper that sports small cherry-shaped fruit with dark brown to black leaves. Also of interest is the Black Hungarian pepper with its green foliage highlighted by purple veins, purple flowers and jalapeno-shaped fruit.

Another attractive pepper plant is the Bishop's crown pepper, called the Christmas bell pepper for its distinct three sided shape that resembles a red bishop's crown or a red Christmas bell. The Thai Ornamental Hot Pepper produces large numbers of green fruit that mature to a “blazing red color with heat and flavor to match”. This variety grows well in our hot climate, compact in size, perfect for containers with colorful peppers that last throughout the growing season. For more color, try the Chilly Chili that has long extended yellow and red “fingers” that shoot straight



Aurora Peppers



Bishop's Crown Peppers



Black Pearl Pepper



Black-Hungarian Peppers

up from the plant or the Aurora chili pepper that bears fruit in green, purple, orange and red on one plant.

Capsicum chili peppers are used to add pungency, tang and a spiciness to foods; when consumed by humans or other mammals, the capsaicin binds to pain receptors in the throat and mouth sometimes inducing irritation in the brainstem and thalamus where heat and discomfort are perceived. Why do some humans crave and enjoy these burning sensations even seeking hotter and spicier combinations in the foods they savor and relish? One psychologist, Paul Rozin, has stated that perhaps eating chilies might be considered a “constrained risk” somewhat like riding a rollercoaster in which extreme sensations like pain and fear can be enjoyed while understanding that these stimulations are not actually harmful and are without significant risk of harm.

Interesting Facts

- Capsaicin, the chemical in chili peppers that makes them hot is often used in topical heat patches, nasal sprays and ointments.
- Capsaicin is used in the manufacture of pepper sprays and tear gas.
- Capsaicin targets specific pain receptors in mammals but not in birds so as birds consume chili peppers, the peppers are naturally dispersed in bird droppings.
- In some African and Asian countries, “chili dung bricks” are placed around fields and burned to discourage elephants from devouring the food crops.
- Creating the world’s hottest pepper is considered a huge success so many growers continually work on crafting the next record holder.



Capsicum Chili Peppers



Chilly Chili Peppers



Pickled Hot Peppers



Thai Ornamental Hot Peppers

Chili Dishes from Around the World

Some notable dishes from around the world that contain chili peppers include:

Hungary

Paprikash, includes amounts of mild, ground dried chilies (paprika) in a chicken dish.

Indonesia

Sabal terasi, hot condiment made with chili, garlic and shrimp paste

Italy

Arrabbiata, a tomato based sauce for pasta includes dried hot chilies.

Italy

Puttanesca, a sauce made with chilies, olives, capers and anchovies.

Mexico

Chilies en nogada, fresh mild chilies stuffed with meat topped with creamy nut sauce.

Mexico

Mole poblano, dried chilies, nuts, spices and fruit in a thick dark sauce for poultry.



Poblano Peppers

The Colorful World of Camellias



By Elayne Kouzounis
MG 1998

The large-flowering camellia, native to China and Japan, has been popular in America for 150 years and is represented in American gardens at present by several hundred varieties. Carl Linnaeus, the grand Old Man of Botany, named the camellia after George Joseph Kamel, a Jesuit monk who devoted his life to helping the sick and the poor. The Latin name of Kamel is Camellus; hence Camellia.

Camellias grow best in sheltered, dappled shade. In winter, they should be protected from hot, drying, or frosted wind. Try to position your plants where early morning sunlight does not heat up the frosted buds and cause frozen tissues to rupture. Sasanqua varieties tolerate more sun than most other camellias and reticulates need full sun for part of the day.

Camellias need very acid, well-drained soil rich in decomposed organic matter, heavy and badly drained soils cause root rot and plants often die. Fortify thin, sandy soils with well-rotted leaf mold before planting. Glossy-leaved and showered with blossoms, evergreen camellias are a great asset in your garden. Some species and varieties flower successively from late fall through to spring. Blooms are white, pink, deep rose, or crimson, and suffusions of these colors. The flowers of some have the general form of roses, while others have the general form of peonies. Ranging in size from 4-15 feet, most varieties flower when they are 2 or 3 years old and mature within 10 years. Camellias grow to a great old age. Some of the original camellias are still living and growing in the same spot where they were planted when Shakespeare was a boy. Plant them to form a statement in a lawn or mixed shrub border, or set them in a large pot or

tub and clip them to form a loose obelisk, pyramid, or drumstick. They also can make a dashing flowering hedge.

Most camellia species have come from China and Japan; some from North India and the Himalayas. They now have been extensively hybridized to yield a wide range of varieties, nurseries and garden centers display flowering camellia plants in the spring. Choose a variety suited to the position you have in mind.

There are four main types of Camellia.

Camellia japonica: Large and glossy leaved, hardier varieties will prosper in sheltered spots. Blooming from fall to spring. The variety "Czar" and "Emperor of Russia" can take full sun.

C. sasanqua: Flowers in the fall, from October to December and thrives outdoors in the south. In cooler areas, varieties are better planted in pots, displayed outdoors for summer and transferred to a cool porch or greenhouse for flowering in the fall.

C. reticulata: Flowers from February to April, these varieties can be grown outside in warm, sheltered gardens.

C. x williamsii: A hybrid between *C. saluenensis* and *C. japonica* producing tough weather resistant foliage, and flowering from November to April, its varieties bloom freely despite low light intensity.

Encourage lustrous leaves and a wealth of blossoms by applying a balanced ericaceous fertilizer in April and again in July. It is very important that the border soil or container compost is always moist, water daily, if necessary during prolonged hot spells. Mulch with crumbly, bulky organic manure to conserve moisture, but keep it well away from the stem so it



Camellia Japonica - Pink Perfection



Camellia Sasanqua



Camellia Sinensis



Camellia Williamsii

does not rot the bark.

If you encounter problems:

Bud drop: can be caused by wet or over dry soils, root rot, or root disturbance. Some very late-flowering varieties may have buds literally pushed off the stem by new spring growth.

Brown petals and balled blooms: this usually occurs when buds or flowers are lit by early morning sunshine and the dew is still on the petals or blooms. Petals maybe scorched and some buds ball and fail to open. Some varieties with clusters of big buds are prone to this. Gently breaking off some of the buds when they first form helps to reduce balling.

Oedema: If plants are over wet and conditions are overcast small brown corky swellings may develop on the leaves. Reduce watering and try to improve air circulation.

Scale insects: These may be found on the upper or lower leaf surface. Limpet like scales suck sap and debilitate plants. Spraying with Malathion controls them. But spray only in cool or cloudy weather so that it does not scorch the leaves.

Leaf Gall: This causes abnormal thickening and discoloration of new growth. It occurs in spring and is caused by a fungus. Pick off and destroy affected leaves before spores disperse.

Viruses: May be responsible for variable, bright yellow pattern on leaves. As the leaf ages it becomes yellowish; the center of the ring becomes bright green. There is no cure for viruses, but plants rarely lose much vigor or have their blooming affected. Pick off the worst-looking leaves if they are spoiling your plants appearance.

Pruning: Little pruning is needed. Cutting blooms for the vase is usually enough to keep plants compact. However, any thin, spindly, unproductive growth should be removed from the center of the shrub after flowering. Aging, overgrown camellias can be rejuvenated by quite heavy pruning, provided cuts are made directly above a leaf bud. If severe pruning is necessary, do it in stages, over two years, to avoid stressing the plant.

Propagating: you can increase your plants from semi-ripe cuttings in late summer, removing a thin strip of bark from the base to reveal wood and stimulate rooting. Leaf-bud cuttings, 1 inch or so long, again “wounding” the base of the shoot, are also taken then. Alternatively, layer low, flexible shoots from mid spring to late summer. Some varieties, which are very hard to grow from cuttings, are grafted onto understocks of *C. sasanqua*.

Did you know the tea we drink is from another type of a camellia: *Camellia sinensis*. Even though we cannot grow the *C. sinensis* plant here we do enjoy the teas. Yet the *C. sinensis* is treated differently from our garden camellias, in that the tea camellia is heavily pruned and manured each year to produce these delicious teas. Scotsman Robert Fortune, plant hunter extraordinary, introduced the tea plant into India from *C. sinensis* plants which he obtained in China. (Fascinating Story). Today the theory is that the tea camellia originated in the Burmese Irrawaddy River basin. This plant is grown in the TROPICS as the source of tea (leaves) but is NOT commercially grown in the continental U.S. The alternate, leathery evergreen leaves are 2-5 inches long and have shallow teeth. The white fragrant flowers are 1 ½ inches wide, and borne either singly or in 2-5 flowered clusters. Very closely RELATED to Camellia.

Enjoy your cup of tea while gazing at your beautiful camellia blossoms.



Camellia_japonica_in Full Bloom



Camellia-Reticulata



Camellia-Reticulata-Yunnan-Camellia



Green Tea

Two Friends Become MGs Together After Growing Up Around Gardening



By Karolyn Gephart
MG 2017

Sometimes things go better in twos. Such was the case for close friends and neighbors Charlotte Avant and Theresa Blackwell. The two became Master Gardeners in the class of 2017. Together, the two greet people at the gate for every plant sale as they tackle the task of counting the multitude attending each sale. As neighbors, it worked well to travel from San Leon to La Marque for classes, but both had taken different paths on the way to being selected for the program.

Charlotte Avant grew up in Aransas Pass. She looks back to her roots for gardening and finds it must have come from her great-grandmother and grandmother who both raised all their food for their families with crops and animals. Charlotte and her husband, Larry Braden, have three daughters who all live in Santa Fe with their families. The family also includes Braden's two sons, one of which serves in the US Army.

Charlotte worked as a Safety Engineer for Esterline Defense, a company that made decoy flares in Camden, Arkansas. A garden memory Charlotte recalls fondly occurred during a time when she lived and worked outside

of the United States. "When I lived in Saudi Arabia, I was amazed at how they could water a part of the desert and grow everything you can imagine. I grew flowers and vegetables there with ease. All of the yards there were covered in beautiful flowers," Charlotte said.

Her first glimpse of desert gardening was even before she touched her feet to the ground. "I remember my first flight into Saudi Arabia. As we were flying in, all you could see were these giant green circles. I asked the Saudi next to me what they were and he told me that was where all their food was grown. I was amazed," Charlotte said.

But gardening alone had not led her to the MG program until the idea came from her close friend and neighbor. "When Theresa Blackwell told me that she wanted to be a Master Gardener, I thought this is a golden opportunity because I have this beautiful yard that I got with the house. I wanted to know what kind of plants and flowers I had and how to take care of them. I also wanted to have fruit trees and bushes (which I now have plenty of)," Charlotte said.

The plan was for Theresa to get in the program and Charlotte would go with her to listen, knowing that her friend could remember the informa-



tion for both of them. Charlotte had had a major health concern seven years before and worried her memory would not be enough for the classes.

"We were both very surprised when they let us both take the classes. I thank her every day for her patience with me," Charlotte said. "I really enjoy the fall and spring plant sales. Greeting the people and counting them as they come in through the gate and talking to them is real rewarding and very interesting."

Theresa Blackwell grew up on 20 acres in a very rural area of Southwest Michigan, also known as the fruit belt. Growing up, she picked crops on nearby farms each summer for spending money. She moved to San Leon on Galveston Bay six years ago after spending 30-plus years living and working in Southwest Houston and Stafford. Theresa worked in accounting for the oil and gas industry. She still has relatives on all coasts from the Great Lakes to the West. Her brother moved to Texas last year.

Theresa's parents were from the East Coast and bought their 20-acre farm to try and raise pigs, cows, fruit and alfalfa, but also never quit their day jobs, according to Theresa. Before they passed away, the family planted 20 acres of trees they call the Oxygen Farm.

Theresa was intrigued in her youth by people around her who knew so much about plants. Many old timers, especially from the Ozarks, could identify what a plant was, if and when you could eat it (like Poke salad, prepared from leaves from a plant known as American pokeweed (*Phytolacca americana*) and how to grow and prepare things. They always fascinated me," she said.

Growing up in the Midwest is very different than growing in southeast Texas, according to Theresa. "Things that are annuals there are perennial here and vice versa. Plants grow easily in the fertile soil up there, but not so much in the gumbo here. Growing plants in Galveston County is even different from Harris County," Theresa said.

Becoming a Master Gardener was a goal that Theresa had waited to accomplish. "I wanted to enroll in the Master Gardener Intern Training Class when I was working, but the classes were only during the day, so I had to wait till I retired," Theresa said. "I plant everything in containers outside now. Only the strong survive."



Meet a Master Gardener



Linda Barnett, MG 2015

By Trish McDaniel
MG 2001

On a sterling October morning, wafts of roasting pork and buttery vegetables greeted me when I opened the kitchen door adjacent to the MG Discovery Garden. Not a bad gig.

There I met Texas native and petite force-of-nature, Linda Barnett (MG, Class of 2015), busily conducting prep work for the weekly volunteer lunch. The tempting menu included fresh coleslaw and generous sides of homemade pies. Secreted in one of her many vintage cake keepers hides her anticipated iced confection of the week. Among the galley crew is Jane Carter, Linda's best pal and MG partner-in-crime for the last 4 years. Both hail from small towns a whopping 50 miles up the road in Crosby and Humble.

Linda learned of the MG program in 2013 from her sister-in-law who lives in Port Arthur and is a Jefferson County Master Gardener. Linda became obsessed with joining a Master Gardener Program near her home northeast of Houston. Upon being rejected from the Harris County Master Gardener program, where 300 applicants vied for 24 precious spots, the undaunted duo began looking elsewhere.

After researching MG programs in surrounding counties, they set their laser sights on the Galveston County Master Gardener Program. The clincher was their delight in coming across the awarding-winning newsletter you are currently reading - our own Gulf Coast Gardening newsletter! Linda and Jane visited the AgriLife Extension Office in the latter part of 2014. After surviving a daunting third-degree interview by Dr. Johnson regarding his concerns of making the extreme commute, plus the fact that one or the other may not qualify – both Linda and Jane were accepted into the 2015 MG Intern Class. They celebrated their first day with a picture taken under the “Welcome New Master Gardener Interns” sign. In comical contrast to her exuberance of being accepted was her surprise at the agricultural depths of which she would soon be immersed. As her interests were “always and only growing flowers”, she proclaimed, “Holy Moly, why do we have to know about soil?” and “I don’t do bugs!” After embracing the required curriculum, she was quite proud when she and Jane excelled in conducting the MG Intern Tomato Variety Performance Trials, an accomplishment well outside her comfort zone.

Among their accomplishments is the design and planting of a series of elegant trellises in the Discovery Garden, built and installed by Joe Copeland, MG 2013. It provides a beautiful compliment to the hard work of the many dedicated MG volunteers and enjoyed by Discovery Garden visitors from around the region.

Linda dished the fact she has a reputation for being a shameless suck-up

to Dr. Johnson, recalling that she and Jane “wanted to be a MG so bad, whatever he told us to do, we did!” Recently she vied for extra brownie points with her now famous limoncello cake. She says Dr. J liked it so much he renounced chocolate as his favorite dessert.

Linda's unabashed pandering to Dr. Johnson is apparently balanced by her persistent mantra of “do we get extra hours for that?” She laughs that most times it's met with a negative, albeit patient, headshake and a hand-puppet-gesture indicating a “NO.”



The Discovery Garden Update



By Tom Fountain
MG 2008

Happy New Year Ya'll! May your year be full of joy and your garden more abundant. The low water garden group created a cute seasonal scene in their garden (Fig. 1). Nice job!

Officially winter is here and we have had a few light freezes. Yet, our temperatures continue to be three to four degrees above normal for the past few months. In fact there were seven new record highs for this period.

Our part of Texas is close to drought conditions again. Rainfall in the Galveston County area has been running about two inches below normal for this time of year.

The weather outlook for the remainder of the winter indicates more of the same. The National Weather Service predicts we can expect temperatures that will continue to be above normal with rainfall near normal.

Our garden group has many faithful heroes with that can-do spirit. A couple of these people are Jim and Ken. Jim and Ken are pictured in Fig. 2, as they were finishing up the new state of the art composting bins. We have Joanne and Hazel tending and cleaning the beds in the butterfly garden (Fig. 3). These ladies along with Tish and Judy are always busy working in the north end in the Butterfly, Serenity and Low Water Gardens

Other activities in the garden this time of year include the harvest of some fall and winter produce and keeping all the beds weeded. Aulvey is pictured in Fig. 4 gathering fresh greens to eat. He really enjoys a mess of fresh greens. Also the greenhouse crew is always hard at work in the greenhouse and in the hoop house getting plants ready for the upcoming spring sale on Saturday, February 15, 2020. In Fig. 5, Mary is in the hoop house watering plants that are almost ready for the spring sale.

Construction activities around the garden continue. The demonstration compost bins will soon be in operation. Our expansion at the Discovery House is expected to resume. In the mean time, Lisa and the kitchen crew have picked out the kitchen cabinets they would like to have and have been working hard to raise the extra money needed by holding raffles and welcoming donations. In our current kitchen, Debra and Marilyn are getting ready for lunch (Fig. 6). It will be a real nice space when it is completed, so if you can drop a little extra in the donation jar that would be great!

I hope your holidays were filled with good food and good fellowship. Here's wishing everyone a Happy New Year. Our Discovery Garden is a place to meet and help others, and maybe learn or try something new and make new friends. Come on out and I will see you at there.



Photos courtesy of
MG Tom Fountain



Seeding Galveston Urban Farm Celebrates Accomplishments with Dinner for All



By Cheryl S. Watson
MG 2018

The Seeding Galveston (SG) 100 Kitchen Gardens project is well underway and is still seeking Master Gardeners to serve as mentors for these inexperienced and deserving home gardeners. It has been my great pleasure to participate in and contribute to Seeding Galveston's efforts for the last several years. We recently celebrated some major milestones.

On October 24th we hosted our first Kitchen Gardeners' cooking demonstration and dinner at the Urban Farm at N & 33rd Streets in Galveston.

Chefs Brian Pepper of UTMB and Paul Mendoza of Galveston College prepared foods in our outdoor kitchen using SG harvests plus some extras. Extra produce was needed since the farm suffered a setback in the Tropical Storm Imelda floods; it was necessary to replant many beds. Another needed extra was the wine, since we aren't growing any of that type of produce at the farm—yet.

See our dinner menu in one of the accompanying photographs. It was a great time to celebrate our accomplishments so far, socialize, and introduce those MGs interested in becoming mentors to some veteran and some new Kitchen Gardeners (KGs). We plan to have such dinners about every other month. Announcements of the dinners will be sent to the MGs by email, asking for an RSVP so we may know how much food to prepare. Feel free to bring a family member.

Other Seeding Galveston milestones include the construction of 33 raised beds so far, in a combination of single and multiple (market garden) installations, planning to add about 7 more gardens by year's end to make 40. Our goal will then be 60 gardens installed in the next year, mostly to be built in the spring and fall, to avoid starting new gardens in the hot summer months. We have also now replanted fall crops in all our existing kitchen gardens.

Our newest gardeners still needing a MG mentor include: a handicapped woman, for whom we constructed her bed high enough to be easily reached from her wheelchair; a young woman struggling to balance her budding careers in art, teaching, and music, with growing food; a young couple, teacher and student, who lives far north of Broadway in a small raised development, trying to start a neighborhood "block" garden; and a nurse and student home in Fish Village. Volunteers who installed these new gardens include UTMB's community outreach group, Students Improving Global Health Together (SIGHT), and Elders and Sisters from the Church of Jesus Christ of Latter Day Saints.

We welcome participation of MGs in our upcoming installation activities. Our existing gardeners, introduced in a previous article, who are still without mentors include: a young man with Downs Syndrome and his mother; a retired couple being a former Marine and wife interested in joining the MG program; and a mostly Spanish-speaking mother with her gardening-loving high school age son, fluent in English, severely burned when he was younger.

We currently have two KGs that are being mentored by MGs Briana Etie and Cheryl Watson. Briana's new mentee is thrilled with the suggestions that have helped her save time in a busy life of a single mother who works as a teacher.

We also currently have two market gardens that could use multiple mentors because of their size. They are: Streetscape Ministries on 37th Street who have 5 beds installed by SG plus they have now added 5 more. They feed needy or homeless clients. Another is a home market garden where we installed 5 double long beds for relatively new gardeners with children. These gardeners have already taken some of their produce to Galveston's Own Farmers Market weekly community home gardeners' table to support their families or their charity.

Please consider joining us in these endeavors as we grow and learn. Contact me, MG Cheryl Watson, at cherylswatson@yahoo.com to learn the details of each opportunity and sign up. Come by the farm and meet the organizers of the enterprise – Debbie Berger and John Sessions, and the friendly goats (including four new babies), chickens, turkeys, and guinea fowl. Browse the urban farm's website at www.seedinggalveston.com.

Thanks for considering our worthy cause to help disadvantaged people learn to grow their own food.

Dr. Cheryl S. Watson is a Galveston County Master Gardener (Class of 2018) and Professor Emeritus, the University of Texas Medical Branch at Galveston.



School Garden Program Needs You



By Nan Wilson
Director of the
Young Gardeners
Program

Can you remember when you became a lover of horticulture? Perhaps you grew up in a family who cultivated a lush backyard garden, providing the perfect setting for your childhood play. Maybe your grandmother and/or grandfather dutifully tended summer vegetables on a crowded cement patio or fire escape, teaching you to revere the homegrown tomato.

Possibly your relationship with nature may not have sweetened until your adult years, all because of one striking Mardi Gras plumeria bloom that caught

your eye. Could it have just been an increased curiosity and desire to prepare better meals in the kitchen?

If you were among the lucky ones, someone early in your life showed you the wonder of a garden and the magical adventure in growing things yourself.

The Young Gardeners Program (YGP), a project of Galveston's Own Farmers Market (visit their website at <https://galvestonsownfarmersmarket.com/>), is designed to do exactly that. It practices the Galveston County Master Gardeners' conviction that "Knowledge Not Shared is Knowledge Lost," and moreover, adamantly believes that the knowledge of how to grow food (and what to do with it) can truly change lives. YGP thinks that no better folks than our local Master Gardeners would be perfect to join them in their endeavors.

This program is an after-school activity. It was established in 2017 and is currently embedded in four Galveston ISD schools (Oppe, Rosenberg, Morgan, and Crenshaw), each serving 25 to 50 children in grades 1 through grade 6.

YGP's mission is to get the youngsters' hands in the soil so they may learn the transformative power of growing their own food and eating healthy. As a Certified Junior Master Gardener program, YGP teaches the tasks of maintaining an organic garden, plant anatomy, soil science, nutrition, cooking and beyond.

YGP also teaches about pollinators and pistils, grubs vs. worms, fiber, nutrition, and the philosophy inspired by *Rachel Carson and Her Sisters*. They need and would deeply appreciate volunteers with relevant Gulf Coast gardening knowledge to have a hands-on role with their young students. Master Gardeners are perfectly suited to thrive in the program!

YGP's emphasis on production gardening makes it different from most other school programs. YGP uses organic methods to grow an abundance of food

for YGP students and their families. On the average, each child takes home 1 to 2 pounds of food every week from October through May. Each session includes a 20 to 30 minute indoor classroom lesson followed by time spent in the garden. Students are involved in all aspects of growing; they plant seeds, prepare soil, water, fertilize, weed, control pests, and harvest.

Students learn different types of edible plants, how to harvest those plants to maximize continued production and how to prepare those plants for meals. Students learn about insects that are vital to growing healthy crops and are taught what it means to be a steward of the garden, treating all creatures with respect (even when those stinkbugs simply can't stay.) The young gardeners are taught proper knife skills, share in daily clean-up, and take home bilingual recipes with their weekly harvests.

YGP creates the plans for each planting site, provides the tools, funding and oversight. But the bountiful harvests and learning that molds children's lives for the better cannot be accomplished without the help of many community volunteers. YGP is inviting Master Gardeners volunteers to work with YGP students as "Garden Facilitators" during the after-school sessions, a commitment of one day a week.

This position requires that you enjoy children, practice patience and love, and share what you know while going with the flow. Also, they have "Weekly Waterer" opportunities for those who may prefer spending time with plants more than children.

Additionally, each site has a monthly Saturday "Community Day" when you will be able to join in for two hours of garden maintenance or special projects. YGP is an ideal pathway to accrue your MG volunteer hours while making a tangible, positive, and lasting impact in the health of our children and our community.

Volunteering your time and sharing your knowledge with the Young Gardeners Program may be a good fit for you and gift to students involved in the program.

Nan Wilson is the Director of the Young Gardeners Program (YGP). The YGP has been approved as community service project for Galveston County Master Gardeners to earn volunteer service hours. MGs interested in assisting with this project can contact Nan Wilson by phone (206-653-6326) or by e-mail (young-gardeners@gofarmersmarket.com).



Master Gardener Workshop

How to Make Homemade Limoncello

Sweet and soothing, potent and relaxing, limoncello is a strong, bright yellow after-dinner liqueur that hails from Southern Italy. It is home-produced a bit everywhere on the Italian coast and traditionally, the best limoncello comes from the big, ripe lemons of the Mediterranean.

However, with an abundance of lemon varieties and our own big, ripe lemons growing in Gulf Coast gardens, this digestif can be successfully produced in our home kitchens with a few simple steps and a little patience.

Galveston County MGs Sharon Zaal, Kevin Lancon, and Robin Collins taught a group of Master Gardeners how to make their own limoncello in a 2-Part Workshop. The first session was "Preparing the Infusion," followed a month later with "Mixing the Batch & Bottling."

Upon completion of the 2 workshops, everyone produced their own batch of limoncello, just in time for the holidays.



Seasonal Bites

easy recipes



Linda Barnett's Limoncello Cake

Cake

3 sticks salted butter soften
2¼ cups white sugar
5 eggs
½ cup limoncello
1¼ cups buttermilk
1½ teaspoons vanilla
3 or 4 tablespoons lemon zest
5 cups flour
1½ teaspoons baking powder
½ teaspoons baking soda
¼ teaspoon salt
3 tablespoons poppy seed

Preheat oven to 350° for light pans, 335° for dark pans. Line the bottom of three 9-inch round pans with parchment paper, or two 9.5 square pans. With a mixer beat butter and sugar until fluffy. In a separate bowl mix eggs, limoncello, buttermilk, vanilla and lemon zest. Set aside. In another bowl mix flour, baking powder, soda and salt. Starting with the flour, start adding a little at a time to butter mixture, alternating with buttermilk mixture. Beat at low speed until it is all mixed together, then add the poppy seed. The batter will be thick. Divide the batter into the 3 pans. Bake until a toothpick comes out clean or moist crumbs. Cool Completely.

Limoncello Simple Syrup

After the cake is cool, brush with simple syrup

½ cup sugar
½ cup water
¾ cup limoncello

Bring water and sugar to a boil and dissolve sugar. Let cool and add in your limoncello. Brush tops of cakes with syrup. Don't over soak the cake because they will not hold together.

Lemon Icing

2 sticks soften butter
2 eight-ounce bars of cream cheese
3 teaspoons vanilla
¼ cup fresh lemon juice
¼ cup limoncello
2 tablespoons lemon zest
6-to-8 cups powdered sugar

Beat the butter, cream cheese and vanilla until light. Alternate adding the powdered sugar, limoncello and lemon juice. Beat until fluffy. Mix in the lemon zest.

Assemble the cake by placing the first layer upside down. Frost the top and side with a crumb coat. Follow with the other 2 layers. After the crumb coat sits about an hour, frost cake with a second layer of icing. You can skip the crumb coat if your icing goes on easily.

This cake is the best made a day before.



Fall Plant Sale 2019

Photographer Carlos Rios, volunteering at the fall sale, shot candid photos of MGs in action. Documenting activities is his specialty after spending 33 years as an award-winning photojournalist for The Houston Chronicle.



Meeting Minutes 2019

October, November & December



By Briana Etie
MG 2017

October 8, 2019 Master Gardener Monthly Meeting

The Galveston County Master Gardener Monthly meeting was held on Tuesday, October 8, 2019, at the Galveston County AgriLife Extension Office in Carbide Park. Members arrived at 12:30 p.m. for light refreshments and fellowship.

Ira Gervais called the meeting to order at 1:00 pm. Ira reviewed the delivery schedules and all updated

information for the upcoming Fall Plant Sale to be held on Saturday, October 12, 2019, at Jack Brooks Park in Santa Fe.

Ira introduced MG Karolyn Gephart who presented her Fall Plant Sale Preview PowerPoint presentation. Karolyn presented a highly informative and extremely uplifting review of over 4,000 plants available at the Fall Sale.

A request was made by MG Mikey Isbell on behalf of the Galveston Island Garden Club. The members are currently working on restoring the gardens of a historical home on Avenue P. This is a great opportunity to join and bring this beautiful home back to life. The club meets on the second Thursday of each month. If interested and able to participate in this wonderful project, please email: POWHATAN1847@gmail.com

****Reminder: Saturday, February 15, 2020**
Spring Plant Sale. Mark your calendar.**

Meeting was adjourned at 2:00 pm.



November 12, 2019 Master Gardener Monthly Meeting

GCMGA President Sharon Zaal opened our meeting after we socialized and a blessing of the meal was provided. Master Gardeners then enjoyed a meal together.

Sharon then provided the GCMGA President's Annual State of the Galveston County Master Gardener Program; she discussed program accomplishments made by Master Gardeners over the 2019 calendar year.

Sharon then turned the meeting to our Board of Directors (the Board's Annual Meeting was combined with the Association's monthly meeting.)

After the conclusion of the Board of Directors' meeting, the election of officers took place. The following officers were elected by general membership:

- Board of Directors: Frank Resch was re-elected to serve a 2-year term
- President: Sharon Zaal was re-elected to serve a 2-year term
- Secretary: Briana Etie was elected to serve a 2-year term
- TMGA State Association Delegate: Velda Cuculis was re-elected to serve a 2-year term
- Board of Directors: Linda Steber was elected
- Treasurer: Debra Brizandine was elected
- Assistant Treasurer: Ed Klein was elected

Sharon then provide an overview of our financials and Ira Gervais discussed the past fall sale operation and the upcoming spring plant sale in February. Sharon Highlighted the 2019 year with our new Interns. She also highlighted our community outreach programs in Youth programs, Seeding Galveston, Libbie's Place, *Gulf Coast Gardening* Seminars, Speaker's Bureau, Newsletter and Media Teams. Sharon also discussed our Discovery Garden, the Expansion of the Discovery House and the renovated Compost Education Station. Sharon also informed the membership that our Discovery Garden donated 1,278 pounds of produce to local Food Banks in 2019.

Many thanks to all of the Master Gardeners for their hard work and service.





December 10, 2019 Master Gardener Monthly Meeting

Our host Mikey Isbell welcomed the Galveston County Master Gardener attendees with warm hospitality and beautiful decorations.

Most of us were able to honor our host by donating an unwrapped gift for a child to be donated to a local shelter. Some Master Gardeners participated in festivities with a White Elephant gift exchange.

After socializing Sharon and Dr. Johnson called our meeting to order and Judy Anderson led us in prayer. We enjoyed a fabulous dinner and each other's company. It was a wonderful evening with good friends and fellow Master Gardeners.



GULF COAST GARDENING EDUCATIONAL SEMINARS

Upcoming Events - February 2020

Galveston County Master Gardener Educational Programs for Interested Gardeners

The following 2019 Master Gardener Programs are free to the public.

Location: **Galveston County AgriLife Extension Office in Carbide Park • 4102 - B Main Street (FM 519), La Marque, Texas 77568**

GPS location: **29.359705, -95.003591**

For course reservations, call 281-309-5065 or email galvcountymgs@gmail.com

<http://aggie-horticulture.tamu.edu/galveston/index.html>

HOW TO HYBRIDIZE A NEW PLANT VARIETY

Tuesday, February 4, 2020 6:30 - 8:00 p.m.

Have you even wondered how new and different varieties of plants are created? Have you ever wanted to breed (hybridize) your own new variety of plant? This seminar will teach you about plant hybridization and how to hybridize a new plant variety. The seminar is taught by Galveston Master Gardener, Master Consulting Rosarian and Plant Hybridizer, John Jons. John is an award winning plant hybridizer and has successfully created many new varieties of plants. He currently has plants that he hybridized being tested by a national grower for commercial potential and hold a US Plant Patent for a new variety of plant he created.

*** **Note: This seminar will only be held if we have 10 or more participants.** ***

DISCOVERY GARDEN SERIES (hands-on demonstrations)

Thursday, February 6, 2020 9:00 - 10:30 a.m.

Galveston County Master Gardeners will demonstrate a variety of useful tips for growing and maintaining your garden. Learn about Fig Tree Pruning and Care by Robert Marshall, Avocado Winterizing and Sun Protection by Julie Cartmill, and Garden Tool Care and Use by Tim Jahnke.

*** This program will be held at the Discovery Garden inside Carbide Park ***

SUCCESSFUL SPRING VEGETABLE GARDENING

Saturday, February 8, 2020 9:00 - 11:00 a.m.

Galveston County Master Gardener and Vegetable Specialist, Jenni Hudgins, will address spring vegetable gardening for everyone, beginners to experienced gardeners. Some of the better varieties for Galveston County will be addressed. This interactive presentation will include information from beginning a garden to enjoying your harvest.

GROWING CITRUS IN YOUR BACKYARD

Saturday, February 8, 2020 1:00 - 3:30 p.m.

Galveston County Master Gardener Robert Marshall's presentation will feature the following topics: variety selection of citrus trees that grow well in this area, root stocks, nutrients, diseases (citrus canker and citrus greening), insect problems, control of birds and critters, and freeze protection. Marshall has over 10 years of experience in many facets of growing and propagating citrus trees in this Gulf Coast area.

GALVESTON COUNTY MASTER GARDENER SPRING PLANT SALE

Saturday, February 15

8:00 - 8:50 a.m. - Informational presentation about plants for sale

9:00 a.m. - 1:00 p.m. - Plant sale

Choose from thousands of plants adapted to the Texas Gulf Coast growing area. There will also be quality yard and garden crafts for sale, as well as a display of antique tractors. Volunteer certified Master Gardeners will be present to answer your questions. Customers are urged to bring their own wagons to transport their chosen purchases. Location: Galveston County Fair Grounds in Jack Brooks Park - Rodeo Arena (large covered arena), Hwy 6 and Jack Brooks Road, Hitchcock, TX. For additional details and updates visit <http://aggie-horticulture.tamu.edu/galveston/index.html>

GRAPE PRUNING (a hands-on demonstration)

Thursday, February 20, 2020 9:00 - 10:00 a.m.

Galveston County Master Gardener David Cooper will lead a grapevine pruning workshop. He will share his knowledge of grapes and proper pruning techniques. *** Bring your gardening gloves & pruners. This program will be held at the Discovery Garden inside Carbide Park. ***





bulletin board



Volunteer Opportunities

For the **Master Gardener Hotline** contact Ginger Benson by email at galvcountrymgs@gmail.com or call the office at 281-309-5065.

Volunteer Opportunities

Tideway is a program of the Transitional Learning Center

Dr. Johnson has approved Tideway Transitional Learning Center (644 Central City Blvd., Galveston, Texas 77551) as a location where Master Gardener service hours may be earned. Plans to prepare the gardens at Tideway for spring planting are ready and volunteers are needed. Volunteers can contact Jennifer Pinard at jpinard@tlc-tideway.org. The focus is on the long-term needs of individuals with an acquired brain injury. The program offers accessible horticultural experiences, through which individuals with a brain injury can improve sensory awareness, motor skills, range of motion, endurance and flexibility as well as regain confidence, and learn new skills. This provides the opportunity for our residents to develop the necessary skills to gain and maintain a productive lifestyle whether it is on site or volunteering in the community. The residents at Tideway are very much "hands on" in building the different garden beds, in fact some of the residents came up with the designs.

And they have chickens!

Volunteer Opportunities

Libbie's Place Adult Day Care has been designated as a Demonstration Garden for the Master Gardener Association. It is located at 5402 Avenue U in Galveston and is part of Moody Methodist Church outreach ministries <http://www.moody.org/libbie-s-place-senior-day>. A crew is needed to maintain and upgrade the garden as needed with your time spent counting towards MG volunteer hours. MG Pam Windus is heading up the crew and will determine the day, time and frequency of the work days. If you are interested, or have any questions, please contact Pam at 409.771.5620, email DrPGilbert@aol.com to let her know the day/times (AM/PM) that would work best for you. Thank you for your time and consideration in this great new endeavor for the Master Gardeners.

GalvCity Master Gardener Discovery Garden
Conditions as of: 10:46 AM Friday, Dec 27, 2019

65°F

HIGH: 65°F at 10:42 AM
LOW: 58°F at 12:00 AM

Wind: 0 mph High gust 7 mph at 10:30 AM

Humidity: 92% Feels like 66°F

Rain: 0.01 in Seasonal Total 49.78 in

Barometer: 30.09 in Hg Steady

Vantage Pro2 Plus, Calibrated via IP
Shop Weather Stations at www.davisinstruments.com

DAVIS

Don't forget to put the link for our weather station on your smart phone and computer:

<https://www.weatherlink.com/embeddablePage/show/269c8db099654c0fa522d3420104b173/wide>

Save the Dates!

TMGA State Conference
Waco-McLennan County
May 12-14, 2020
Waco Convention Center
<https://txmg.org/conference/2020-conference>

VOLUNTEERS NEEDED

Tour Guides for Thursday Public Access and Tour of our Discovery Garden

Our Demonstration Garden is open for touring by the general public on each Thursday from 9:00 - 11:00 am. MGs are needed to serve as tour guides for our Discovery Garden.

Contact MG Denny Noh at 281.723.2830 or dnoh@aol.com to volunteer.

Volunteers are needed to develop and deliver presentations on various horticulture topics of interest to the public in our surrounding communities and our Master Gardeners. Classes are given at the Extension Office on Tuesday evenings and on Saturday. This is an excellent opportunity to contribute, develop and use skills from life experiences as well as contribute to one of the main GCMG missions of Education. We have experienced GCMG Mentors and Specialist available to guide and support. Please contact if you have any questions and so we can get you scheduled to present a class. Volunteers are also needed to help with the Saturday programs and the Tuesday evening programs. If you can help, please contact

Denny Noh @ 281-723-2830 or dnoh@aol.com
Nancy Langston Noh @ 832-289-7087 or nancylnoh@aol.com

AgriLife Extension Office Discovery Garden needs volunteers!

The gardens around the AgriLife Extension Office are maintained by Master Gardeners under the team leadership of MG Ginger Benson. This is an opportunity to make a good impression on the many visitors to the AgriLife Extension Office. Come out and have a good time while learning more about ornamentals. Please contact Ginger at 281-309-5065,

email galvcountrymgs@gmail.com to find out the schedule and join her team.



Here is a great way to support our GCMGA. Amazon will donate 0.5% of our personal purchases to Galveston County Master Gardener Association. All you have to do is: Go to smile.amazon.com - Choose Galveston County Master Gardener Association as your charity. Save smile.amazon.com to your favorites. - Always start from this site to do your Amazon shopping. - You should see your chosen charity in the top bar on Amazon's website. - If you have any problems, search smile on Amazon's website



Greens: A Southern Favorite in Fall Gardens

Editor's Note: This article is a reprint of Dr. Johnson's Weekly Gardening Column in *The Daily News*



By Dr. William M. Johnson
CEA-HORT & MG
Program Coordinator

Galveston County Master Gardener volunteers gather every Thursday to perform maintenance activities at the Discovery Garden located in Carbide Park. They also harvested a bounty of assorted greens. I captured the photo accompanying this article on that day.

Over the weekend, I harvested some kale and Swiss chard. I was anticipating the delightful taste of these two freshly harvested winter greens. I was not disappointed, and the harvest and evening meal brought back memories of growing up on a family farm. Greens were a tasty and extremely nutritious staple at our Sunday dinners when I was kid.

Can any Southern garden truly be a Southern garden without greens planted in the fall garden? If you are from the South, your mother and/or grandmother probably cooked them up with a bit of smoked meat or bacon.

In the South, the term “greens” refers to vegetables whose leaves are eaten when cooked until tender. During cool fall weather, mustard, turnip, collards and other greens flourish in the vegetable garden.

Greens are highly recommended for the home vegetable garden because they are easy to grow and productive. Growing greens is a great way to keep your vegetable garden productive through winter.

Mustard and turnips are fast-growing greens, and harvesting can begin as early as five or six weeks after planting. Harvest the entire plant, or “crop” the plants by removing only the lower, larger leaves. Cropping provides harvest while allowing the plant to remain and continue to grow. It also allows you to extend the harvest. Generally, mustard and turnip can be cropped until late winter or early spring if the winter is mild.

Cropping turnips will reduce the size of the root, so you may want to reserve an area of your turnips for root production. On those plants, do not harvest any leaves. The leaves will produce food through photosynthesis. This food is transferred to the roots for storage, and the plants develop nice size turnips ready to harvest in eight or nine weeks.

Collards can be grown year-round, but the best quality is obtained during the cool season. A frost will “sweeten” collards and make the greens even tastier. Properly spaced plants are best harvested by cropping the older, larger leaves. Collards tolerate high temperatures better than most greens. They are also cold hardy and survive temperatures in the low 20s without damage.

Spinach must have cool weather for best production and fall plantings do especially well. A warm spell can often cause this vegetable to “bolt,” particularly when grown in spring. Bolt is a term used when a leafy vegetable matures and produces a flower stalk.

Cool weather, adequate water and regular fertilization with nitrogen will encourage the spinach to remain in vegetative growth cycle. Spinach is slow growing for the first few weeks after it comes up. Be patient and keep the plants well-watered, and they will eventually grow large enough to harvest the entire plant or begin cropping.

Swiss chard is an excellent substitute for spinach. It is easier to grow, more productive and tolerates warm weather much better than spinach. The leaves of chard can easily grow 14- to 18-inches tall, so production is much greater than with spinach.

Chard is available in several white-stemmed types. Red stemmed types such as Vulcan and a variety called Bright Lights — which produces stems of white, rose, red, yellow gold or orange — are ornamental and even look great in flower beds.

When cooked, chard is similar in flavor to spinach, and tender young chard leaves can be eaten raw. The leaf stems are delicious when cooked separately and have a mild, almost asparagus-like flavor. Space transplants 8- to 10-inches apart. Harvest chard by cropping.

Although kale has early roots in Greek and Roman culture, it remained a relatively minor commercial crop in the U.S. until recent years. This leafy green reached celebrity status around 2012, appearing on menus of Michelin star restaurants and becoming the choice ingredient of millennial food bloggers.

Kale is a leafy green that appears on many lists of trendy superfoods and probably with good reason. Kale is highly nutritious, containing high levels of Vitamin K, Vitamin C, beta-carotene, calcium and carotenoids. Gardeners may be surprised to learn that kale also has a good balance of omega-3 and omega-6 fatty acids.

Kale is a close relative to collards and has a similar flavor when cooked. Kale is cold hardy and can withstand temperatures in the teens.

Leafy greens are a favorite crop to grow by home gardeners in Galveston County. It's not often that we eat plant leaves, but leafy greens can provide a wide range of flavor.

Dr. William Johnson is a horticulturist with the Galveston County Office of Texas AgriLife Extension Service, The Texas A&M System. Visit his website at aggie-horticulture.tamu.edu/galveston.



Greens are highly recommended for the home vegetable garden because they are easy to grow and extremely productive.

2020 GCMGA Monthly Meetings



By Judy Anderson
MG 2012

You're Invited Monthly Backyard Meetings

February TBD

Karolyn Gephart will be presenting the MG Sale preview.

March 10

Kathy Thomas will be

discussing the Gulf Coast Water Authority and the work they do. 409-789-928
kathy@com-strats.com • *Subject to change* •

April 14

Backyard meeting at the home of Tom and Karen Morris, (2002),
2910 Bayshore, Bacliff, Texas 77518

May 19

Backyard meeting at the home of Camille and Ken Goodwin,
894 Kingsgate Lane, Houston, Texas 77058

June 9

Graduation and Recognition at the home of Mikey and Allen Isbell,
1715 35th Street, Galveston, Texas 77550

July 14

Join the GCMG for a potluck dinner to be followed by a presentation from Dr. Andrew King, PhD (Texas A&M): "Medicinal Landscapes: Producing a functional, safe and beautiful Medicinal Garden"

August 11

San Leon and orchids. Clyde Holt hosting

September 8

Backyard meeting at the home of Pam Hunter, (2018), LaMarque, Texas

October TBD

Karolyn Gephart sale preview presentation.

November 9

Annual Meeting preceded by potluck dinner.

December 8

Holiday Party at the home of Mikey and Allen Isbell.

You may contact Judy at
jande10198@aol.com for information.



We Want Your Feedback

We would love to hear from you. Send us your comments or suggestions for future articles, or just let us know how you are using our newsletter. To make sending feedback easy, just click on the button with your response.



REMEMBER



In order to maintain your status as a certified Texas Master Gardener, each year you must complete a minimum of 6 hours continuing education, as well as 12 service hours. Additionally, those hours must be reported through the online Volunteer Management System or other approved means. Contact MG Wayne Elliott at gcmghours@gmail.com for more information.

2019 Master Gardener Recertification Hours

Date	Name of Program	Speaker
1/8/2019	MGA Jan. Meeting - The Year Ahead for GCMG	Sharon Zaal, Kevin Lancon
1/12/2019	Growing Blueberries	Dr. David Cohen
1/12/2019	Backyard Citrus - Crystal Beach Fire & Rescue	Robert Marshall
1/19/2019	Kitchen Gardening	Mary Demeny
1/26/2019	Wedge Grafting	Sue Jeffco
1/26/2019	"Texas Tuff" Plants	Marie Leal
1/26/2019	Herbs for the Gulf Coast	Nancy Langston-Noh & Briana Etie
2/2/2019	Growing Great Tomatoes	Ira Gervais
2/2/2019	Spring Plant Sale Overview	Karolyn Gephart
2/2/2019	Growing Peaches in Galveston County	Herman Auer
2/2/2019	Successful Spring Vegetables	Jenni Hudgins
2/5/2019	MG Training Class - Class Orientation	Dr. William M. Johnson
2/7/2019	MG Training Class - Botany	Jayla Fry
2/9/2019	Growing & Using Herbs	Tricia Bradbury
2/9/2019	Planting Fruit Trees	Herman Auer
2/12/2019	MG Training Class - Vegetables	Tom LeRoy
2/12/2019	MGA Feb. Meeting - Spring Plant Sale Overview	Karolyn Gephart
2/19/2019	MG Training Class - Plant Pathology	Dr. David Appel
2/19/2019	Homeowner's Guide to Weed Control	John Jons
2/21/2019	Peach Pruning - hands-on demonstration	Robert Marshall
2/21/2019	Rose Pruning - hands-on demonstration	John Jons
2/26/2019	MG Training Class - Home Fruit & Citrus Production	Herman Auer
2/28/2019	Grape Pruning - hands-on demonstration	David Cooper

Last Updated 12/31/2019

Use this link to see the entire list.

https://aggie-horticulture.tamu.edu/galveston/2019_MG_Recertification_Educational_Credit_Hours.pdf