

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

GULF COAST *Gardening*

Issue 208 • November / December 2017

TEXAS A&M
AGRILIFE
EXTENSION



2017 Master Gardener Association Leadership

President

Ira Gervais

Sr. Vice President

Henry Harrison III

VP for Programs

Denny & Nancy Noh, Education Programs
Judy Anderson, Monthly Meetings

VP for Projects

Clyde Holt, Bobbie Ivey, Julie Cartmill and Tish Reustle

VP for Volunteer Development

Peggy Budny and Ann Anderson

VP for Media Relations

Nita Caskey

Secretaries

Mary Lou Kelso and Bernice Shirey

Treasurers

Connia Webb and Ed Klein

Newsletter Editors

Linda Steber and Robin Collins

Master IT Specialist

Gregory S. Werth

MG Intern Course Team Leader

Peggy Budny

Hospitality Coordinators

Judy Anderson, Lori & Keith Boydston and Jackie Auer

Speakers Bureau Coordinator

Cindy Croft

MG Volunteer Hour Recorders

Wayne Elliott, Dr. Margaret Canavan and Linda Steber

Jr. Master Gardener Programs Leaders

Kaye Corey, Dana Crawford and Gayle McAdoo

Earth-Kind Study Coordinator

John Jons

Photography Team Leaders

Herman Auer, Tom Fountain and Chris Anastas

Videographers

Barbara Hankins

State Association Delegates

Terry and Velda Cuculis

State Association Alternate Delegate

Jim Edwards

Grants & Inkind Support Coordinator

Frank Jackson

Webmaster

Genevieve Benson

CEA-HORT and Master Gardener Program Coordinator

Dr. William M. Johnson

Board of Directors

Julie Cartmill, Camille Goodwin, Tim Jahnke, Dotti Krustchinsky and Frank Resch – Chairman

The best-laid plans of mice and men often go awry.

Consider me a guest columnist as Master Gardener Camille Goodwin normally authors this page. She usually starts her column with one or more witty aphorisms that gardeners can readily relate to. In following her tradition, I offer the above adage.

This is newsletter edition #208 of Gulf Coast Gardening. The first newsletter was titled Master Gardener Club of Galveston County and was published on April 20, 1993. Since that first publication, the newsletter was published on a monthly basis until April 2012 when publication was made on a bi-monthly basis. To my knowledge, there have been only two occasions when the publishing schedule was interrupted: the first time was in 2008 after Hurricane Ike made landfall on September 13. The second time occurred this year after Hurricane Harvey made landfall in late August.

On Friday, August 25, I was reviewing what I thought would be the September/October edition. As with all newsletter issues, many Master Gardeners are involved in making it happen. There are many writers and several editors for this newsletter. Newsletter edition #208 was supposed to include articles on a diverse range of gardening topics.

But then round after round of pounding rainfall came after Hurricane Harvey arrived. Our area received over 50 inches of rain from Hurricane Harvey. Fifty inches of rain is the same as 4 feet, 2 inches of rain – when it's stated in feet, it conveys a much different scenario. I gave up on emptying my 6-inch capacity rain gauge after the first three emptyings.

My attention would be diverted in many other ways for many, many weeks thereafter. The full impact of Hurricane Harvey cannot be measured with an impersonal assortment of statistics. Twenty-four Master Gardeners suffered through the devastation of their homes becoming flooded. Some Master Gardeners had flood waters rise to the ceiling in their homes, some Master Gardeners have elected to move elsewhere in Texas and two Master Gardeners (husband and wife) are seriously contemplating moving out-of-state.

The Galveston County AgriLife Extension Office was converted into a Red Cross shel-

ter for 4 weeks, starting on Friday, August 31. We had up to 45 evacuees calling our two classrooms home over that time period. We cancelled all educational programs that had been scheduled for September.

The Galveston/Houston region will be synonyms for a rainfall event of unfathomable proportions. In all the misfortunes and miseries brought on by this storm, one positive note stands out: Master Gardeners threw their all into helping other Master Gardeners. I cannot recount the number of stories I have been told about Master Gardeners showing up at the homes of other Master Gardeners to help with flooded homes—six MGs showed at one MG's home on one occasion, three MGs showed at another MG's home on one occasion...such actions would be repeated on multiple occasions. "The better angels of our nature," as Abraham Lincoln phrased it in his First Inaugural Address, was on common display after the arrival of Hurricane Harvey. Those angels are still hard at work in Texas.

Hurricane Harvey took a lot of things from us...what Harvey could not manage to take was our hope and resilience. That includes getting on with publishing edition #208 of the Gulf Coast Gardening newsletter. While many articles will appear to be a little out of sync with the current gardening season, this issue is a result of pivoting after Harvey and serves as an exemplary example of why the MG Discovery Garden is so-named. Comb through this premier issue containing the first in a series of articles entitled "What I learned in the Discovery Garden."

The Discovery Garden offers Master Gardeners and visitors an informal education approach to learning, which includes spontaneous learning opportunities through conversation, exploration, observation and enlargement of experience. It's a form of informal education which involves learning outside a formal classroom. For Master Gardeners, that also means sharing their learning opportunities with other gardeners everywhere! Enjoy.



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

Inside This Issue...

- 2 *Intro* by Dr. William M. Johnson
- 3 *How to Reach Us*
- 4 *What I learned in the Garden Series - Bagworms* by MG Intern Briana Etie
- 5 *What I learned in the Garden Series - Lacewing Larvae* by MG Barbara Lyons
- 6 *What I learned in the Garden Series - Spittlebugs* by MG Rodger Allison
- 7 *What I learned in the Garden Series - Golden Orb Weavers*
by MG Judy Anderson
- 8 *What I learned in the Garden Series - Fall Webworms* by MG Judy Anderson
- 9 *What I learned in the Garden Series - Growing Peanuts* by MG Sue Jeffco
- 10 *What we learned in the Garden Series - 2017 Interns' Tomato Trials*
by MG Intern Briana Etie
- 12 *What we learned in the Garden Series - The Canna Conundrum*
by MG Tish Reustle
- 13 *Members in the News*
- 14 *Repel Mosquitos Effortlessly* by MG Jan Brick
- 16 *Best Shots* by MG Elayne Kouzounis
- 18 *Trowels and Tribulations* by MG Donna Ward
- 19 *Amazing Bats* by MG Kaye Corey
- 20 *The Birmingham Garden and Flower Show* by MG John Jons
- 21 *Meet a Master Gardener* by MG Trish McDaniel
- 22 *MG October Plant Sale* by MG Intern Carolyn Gephart
- 24 *Continuing Education for Certification Hours* by MG Ginger Benson
- 25 *Seasonal Bites - Easy Recipes* by MG Sandra Gervais
- 26 *The Discovery Garden Update* by MG Tom Fountain
- 28 *Upcoming Events* by MG Denny Noh and MG Nancy Langston Noh
and MG Nita Caskey
- 29 *Master Gardener Association Meetings* by MG Mary Lou Kelso
- 30 *Bulletin Board* by MG Linda Steber
- 31 *Last Word - Gardeners Checklist for November* by Dr. William M. Johnson
- 32 *2017 Monthly Meetings and Invitation* by MG Judy Anderson



Cover:
Coleus
Photo courtesy Dr. William M. Johnson



Galveston County Master Gardeners are on Facebook with information about upcoming programs, Dr. Johnson's weekly column and more.
Like us on Facebook and don't forget to opt to receive notifications. Share with others!

www.facebook.com/pages/Galveston-County-Master-Gardeners/220088841395231

How to Reach Us



Extension Office:
281-309-5065
galvcountymgs@gmail.com

To Submit Newsletter Articles:
Contact Linda Steber
281-534-6695
steber8@msn.com

We encourage your articles!
Due the 20th of each month.

Speakers Bureau:
Contact Cindy Croft
281-332-9501
garden.speakers@gmail.com

TEXAS A&M
AGRI LIFE
EXTENSION

Extension programs serve people of all ages regardless of socioeconomic level, race, color, sex, religion, disability, or national origin. The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas cooperating.

References to trade names are made with the understanding that no discrimination is intended and no endorsement by Texas A&M AgriLife Extension is implied.



To subscribe to our newsletter, just click on the subscribe button above.

Interested in gardening in Galveston County? To receive a free online subscription to the Galveston County Master Gardeners' Magazine, please enter your e-mail address after clicking on the "Subscribe to our NEWSLETTER" button above. You will automatically receive an e-mail message when each issue is posted. Your e-mail address will not be used for any other purpose other than sending the e-newsletter. We will not send any commercial mail to the address provided nor will the newsletter itself contain any advertisements . . . we are all about the joy of gardening.

Thanks for your interest!

What I learned in the Discovery Garden...

Bagworms



By Briana Etie
MG Intern 2017

Recently in the garden, while trimming the herbs in the greenhouse beds, I stumbled upon a peculiar looking mass of dried leaves and stems. This mass was about 2 inches long and conical shaped.

MG Carolyn Gephart

was arriving to the garden and after our morning greetings, I showed her what I found. She suggested I should ask Dr. Johnson to identify this oddity. He happened to be at the same bed helping another fellow Master Gardener with his photography.

Dr. Johnson identified it an insect pest known as bagworm. He went on to say the caterpillar creates its home from silk, leaves, stems, and other bits of plant material in a cross wise or shingle fashion to make a small bag that protects and camouflages it during feeding and growth. Dr. Johnson took the time to carefully dissect the insect's home to uncover this brown and black insect with a large chewing mandible.

The bagworm caterpillar is the immature stage of a moth. Bagworm caterpillars feed for about six weeks, enlarging the bag as they grow. Their bag can be up to 2 inches long and a half-inch wide as the caterpillar grows.

The young caterpillars feed on the outer layer of cells of the leaves of the host plant. Older caterpillars feed on all portions of leaves except major leaf veins. Adult caterpillars will also feed on developing seed pods of some shrubs and trees. The caterpillar expels its droppings through a small opening at the narrow, lower end of the bag and uses a wider opening at the top as a door to crawl out to feed or repair the bag. The caterpillar can stick its head and legs out of the top opening of its bag to propel itself like a child on monkey bars while feeding on plant leaves. The bagworm caterpillar will withdraw back into the bag when disturbed.

Adult males emerge from the bags as moths to mate during August and September. Adult male moths are a half-inch in length, with hairy black bodies, feathery antennae and clear wings about an inch wide. Adult female moths are eyeless, wingless and legless; they are creamy white in color and have an appearance of a grub worm. The females remain in their bag and



Photo courtesy MG Rodger Allison

produce a powerful scent, or pheromone, that attracts the males to her location. The male moth flies to the female bag, inserts his abdomen in the hole in the bottom of the bag and mates with the female. Once mated the fertilized female lays several hundreds of eggs inside of her old pupal case within the bag. She then drops from the bag and dies. The eggs remain until April when the cycle begins again. There is one generation per year.

Newly hatched bagworm caterpillars are 1/25th of an inch long. As the larvae hatch, they spin single threads of silk and attach to adjacent limbs or plants, where they begin building their own silk bags. They carry their bags upright as they move. Young larvae drifting on the silk thread may cause an infestation to a new host plant.

Natural predators rarely control bagworms in our area. Some species of birds like Sapsuckers and Woodpeckers can tear open the bags and feed on the larvae. Bagworms can prove difficult to control because they are often unnoticed until mature. Non-chemical control on a small shrub or tree with limited infestation can be controlled by removing the bagworms with scissors or a sharp knife. Destroy the bagworms by immersing them in soapy water.

The bacterium commonly known as *Bacillus thuringiensis* (Bt) is effective if used against young caterpillars. Applications are best applied to entire foliage in April to control newly emerged caterpillars. Chemical control with insecticides such as pyrethrins can be used to control bag worms. Both Bt and pyrethrins can be harm beneficial caterpillars and popular butterfly caterpillars that are usually present in the same area in the same season. Always read and follow the label's instructions.

What I learned in the Discovery Garden...

Debris-carrying Lacewing Larvae



By Barbara Lyons
MG 2014

Every Galveston Master Gardener knows that sooner or later you will receive a request from Dr. Johnson to write about something for our *Gulf Coast Gardening* Newsletter. I have made many inquiries while at the Discovery Garden concerning the identity of various insects in my vegetable gardens, especially recently. It is wonderful to be able to have insects identified and classified on the spot as beneficial or harmful and to also be able to learn about the threshold for harm to my vegetables and when to treat them. This time I have either asked for one too many identifications or this particular creature is an interesting one which should be shared with others. I found that it is the latter.

The insect in question was observed and photographed on the leaf of an eggplant in my home garden in Friendswood that I share with my husband Ed Beazley who is also a Master Gardener. My first observation was that I had discovered a new animated Pokémon or some other cartoon or video game character. The bug was about ¼ inch long and appeared like a bunch of fuzz with an ambulation pattern like a wandering tank.

It would crawl a few jerky steps in one direction and then pivot a bit and do some more crawling in a random pattern. I was able to get a close-up photo (shown to the right) and [a video of the larva using my iphone](#).

The dorsal or upper side of the bug looked like it was tan and fuzzy with black and brown dots scattered on top. What a surprise to find out the “dots” were the carcasses of insect prey that had the juices sucked out of them and the remains stuck onto the insect’s back! I showed the video to Dr. Johnson who was happy to inform me of the identity of this roving bug-killer, the debris-carrying lacewing larvae (Family Chrysopidae).

Adult green lacewings are well known for their beneficial role in the garden and their eggs are easily identified as those on top of a slender filament. The larvae are not as popularly known. Some of the lacewing larvae are so-called naked as they do not carry the remnants of their prey on them. Viewing the anatomy of the naked larvae, it is much easier to see how the insect locates and eats its prey, usually soft-bodied insects such as aphids.

The randomness of the larvae’s movement is due to the way a larva encounters its prey which is by touch. It sways its head from side to side, grasping prey as it is found. The mandibles of the larvae are large and hollow. When a larva encounters prey, it holds it between its mandibles. It then quickly penetrates the body of its prey and injects saliva which liquefies the contents of the prey in short order. The body juices of its prey are then sucked through the hollow mandibles just as a person would drink through a straw.

The remaining carcass of each prey is then placed on the back of the insect! The debris is stuck onto bristles on the dorsal part of the larva to give it some structure to carry its load. It is an interesting note that some of the

larvae may also carry plant fibers, lichens, or even sand on their backs in addition to insect debris.

Due to the variation in the placement and contents of the debris on the back of the insect, there is considerable variation in the “wardrobe” worn by debris-carrying lacewing larvae. The reason for the novel disguise is postulated to be as camouflage for the larvae, so it is not recognized by ants which may be herding (and protecting) aphids and for the larvae itself to protect it from predation by birds.

The insect in question may be locally known by different names such as aphid lion or aphid wolf. Dr. Johnson apprised me of the common name utilized by most Texans for the larval stage of this beneficial insect: “trash-carrying” lacewing larvae.

My curiosity of insects in the Discovery Garden and the learning opportunities afforded in the Discovery Garden also feed my curiosities of the insect world in my home garden! I’ll keep asking questions even if I know I will get tagged on occasion to prepare yet another newsletter article to share with other gardeners.



Photos courtesy MG Barbara Lyons

What I learned in the Discovery Garden...

Spittlebugs



By **MG Rodger Allison**
MG 2010

One of my growing passions as a Master Gardener is photographing horticulture-related subjects. Several weeks ago, while I was working in the Discovery Garden, I was practicing taking close photographs of the various butterflies and other insects we often see in the gardening plots of the MG horticultural projects. I happened to see Dr. Johnson talking with Herman Auer and asked if they would mind giving me some pointers on better ways to capture the pictures I was trying to master.

They readily agreed and we all started on an insect quest to help make me a better insect photographer. It didn't take long to find a specimen to start my schooling. As we made each discovery, Dr. Johnson would ask me, "What's the name of this insect?" and for the first three or four times I was batting a thousand and feeling pretty good about my insect identification skills...but then my luck ran out.

There was a white splotch about one-half inch long on a rosemary stem. To me it looked to be a cottony mass, but I didn't know what insect had caused it. Dr. Johnson said, "Do you know what spittle is?" I replied yes. He said the cottony mass is called spittle and it's produced by the nymphal stages of an insect commonly called spittlebugs. I said "That sounds logical." Then Dr. J smiled at me and said "That would be a good subject for you to write an article on for the Master Gardener's newsletter." This was not the first time nor will it likely be the last time that I find myself with such a writing task as I plan on asking more gardening questions while in the Discovery Garden. It's a great way to obtain some hands-on learning...so here it goes.

Upon closer observation, the white splotch that I thought was just a cottony mass turned out to be a frothy material that looks like human spittle. It is produced by nymph or immature stages of a family of plant feeding insects called spittlebugs. The spittle serves as a protective cover for the nymphs. There are about 23 species of spittlebugs distributed throughout North America and about 850 species throughout the world. Spittlebugs, like their relatives the aphids and cicadas, suck plant juices with their needlelike mouthparts. When they occur in high populations on a plant, their feedings can distort or stunt herbaceous plants, but spittlebugs are generally not considered harmful when populations are low (we only seen two spittlebugs on the rosemary plant). Their spittle can be washed off of plants with a forceful stream of water.

The female spittlebugs lays small eggs in rows. The egg mass is not readily noticeable because they are deposited in the sheath between leaves and stems. The nymphal stage of spittlebugs is readily evidenced/recognized by the frothy white mass that surrounds them. The spittle is a mixture of watery waste; air, which is blown through abdominal openings to make bubbles; and glandular secretions. The nymphs secrete the frothy spittle to protect themselves from parasitic and predaceous insects as well as hot and cold temperatures. More than one nymph may be found in a single spittle mass.

Spittlebugs have incomplete metamorphosis which means that the young



Photos courtesy **MG Rodger Allison**

appear similar to adults (in contrast to complete metamorphosis, where the young are very different in appearance from adults). Butterflies undergo complete metamorphosis.

Spittlebug nymphs undergo about five molts and may be orange, yellow, or green. Most species have only one generation per year. They readily jump or fly when disturbed.

Adult spittlebugs are inconspicuous, dull-colored and about 0.25 inches long. The most commonly encountered spittlebug in our growing area is known as the Two Lined Spittlebug. This species is quite colorful.

It is always a good day in the Discovery Garden for me when I can ask questions about insects, plants, plant diseases and whatever else I encounter in addition to enhancing my photographic skills. Our Master Gardener maxim of "Knowledge not shared is knowledge lost" is well-based.

What we learned in the Discovery Garden...

Golden Orb Weavers or Banana Spiders



By Judy Anderson
MG 2012

Have you ever been in nature, in the early morning light, after heavy dew? As you look at the different plants, you might see hundreds of sparkling webs. Spiders are with us and may go unseen when the light disguises their home.

Recently, MG Tish Reustle and I were walking in the Gulf Coast Landscape Trees area at the Discovery Garden. Tish looked up at the Lacebark Elm (*Ulmus parvifolia*) and saw an intricate web with a large, female Golden Orb Weaver Spider and some of her trapped prey. These spiders, also known as Golden Orb Weavers and Banana Spiders are considered very beneficial because they prey on many types of insects, such as flies, grasshoppers and mosquitos. The body of female Golden Orb Weaver Spiders can be two inches long with leg spans up to five inches, making them easy to see this time of year. The bright yellow/grey color of the body with black and yellow stirpes on the legs gives them easy visibility.

The web of the Golden Orb Weaver Spider (*Nephila clavipes*) is usually about 6-9 feet above ground and has an oval-shaped center constructed much like a fish net, extending 8 to 15 feet in open areas. Golden Orb Weaver Spiders are named for their golden-colored webs and as you observe these webs, heavy strands of the yellow web appear to be much like yellow yarn.

I along with MGs Tish Restle, Wendy Lemmel, Joanne Hardgrove, and Susan Creasy were able to observe the Golden Orb Weaver Spider under the lacebark tree in the Discovery Garden over several weeks. At the opposite end of the Discovery Garden, behind the trash dumpster, is a colony of Golden Orb Weaver spiders that had constructed a mangle of webs from one end of the dumpster to other end. There are many female spiders with their male companions populating the webs... it looked like a multi-dimensional community.

Throughout the webs were the remains of numerous dead insects. These webs were connected with their anchor lines to nearby tree branches and the Discovery Garden's perimeter fence. All Golden Orb Weaver spiders are diligent in maintaining and renovating their webs. The silk is incredibly strong, even stronger than Kevlar. Each morning female spiders will focus on repairing their web. The web silks are specialized for their many needs. The strength and flexibility of the silk allow the web to stretch without breaking.

The webs are made up of anchor lines, spiral lines, sticky balls, and a drag line used for repairs. The silk produced by the spiders will also serve different purposes: housing, defense, trapping prey, egg protection and mobility. Producing the different silks require different glands producing unique chemicals including proteins, amino-acids, cellulose, and more. The silk produced by spiders is different from most other biological fiber processes such as keratin in hair and cellulose in the wall of plants. The silk fibers are produced on demand for each specialized task.

The male Golden Silk Spider is much smaller in size (about one inch, including the legs) and court their mates. He will be on one side of the web and she will be on the other side. The mating is typically accomplished upside down and face to face. The female Golden Orb Weaver spider may not eat her mate; the pair may continue living together as she grows larger with the eggs, but usually, after mating, the male dies.

When she is ready for egg-laying, female Golden Orb Weaver spiders will leave the web and find a twig with leaves where she can spin an egg case. After depositing her eggs, she brings the leaves together in a web concealing her egg case. With this task completed, she is near the end of her life. As she regains her slender form, she grows weaker and eventually dies. The eggs will hatch and the life cycle begins again for the Golden Orb Weaver. Golden Orb Weaver Spiders usually live for a year. The eggs hatch a month after being laid then spend the winter in the egg case. In spring, the juvenile spiders begin to leave the egg case making their way into the world where they spin their webs and start the next generation.

This spider is considered harmless but the bite of the spider is described as like that of a bee sting. I look forward to volunteering in the Discovery Garden...it is a labor of love. I and my fellow Master Gardeners are often presented with many learning opportunities which we gladly share with other gardeners.



Photos courtesy MG Judy Anderson



Female

Male

What I learned in the Discovery Garden...

Fall Webworms



By Judy Anderson
MG 2012

Tish Reustle and I were taking a break in the shade of the Serenity Garden during mid-August and as we were looking at the Butterfly Garden, our attention was drawn to a large web enclosing the leaves at the end of a branch of the Texas Star Hibiscus. It was suggested the branch could be removed. The web was opened exposing the caterpillars to their predators – among them, birds and wasps.

We walked over to look closely at the web and saw chewed up leaves, leaf debris, hairy white caterpillars about an inch long, and black specks of frass. The caterpillar population inside the web was several dozen hairy little crawling bodies. The large web was on a medium-sized branch growing in the center of the tree. Removing the branch did not affect the appearance of the tree, but it did remove access to the healthy leaves by the caterpillars. The branch was removed from the Butterfly Garden and placed near the perimeter of the Discovery Garden, with the web open giving the birds and wasps access to the caterpillars. These caterpillars are Fall Webworms (*Hyphantria cunea*).

The Butterfly Garden was not the only area in the Discovery Garden to be visited by the fall webworms. Persimmon, Pear and Pecan trees throughout the garden were seen with the cloudy webs on the end of their branches. These trees exhibited the highly visible web at all locations in the trees; some webs were on branches that would be easily accessible and easily removed, while some webs were high in the trees and difficult to treat. In the orchard, the webbed branches were removed, placed in bags, and taken to the dumpster.

During the heat of the summer is when the fall webworms make their appearance. Though the elaborate webs get all the attention, the insects inside are busy munching on the leaves nearing the end of their photosynthesis. This native insect has numerous predators and parasites that help control it. The fall webworms do not eat the buds of next year's leaves. When the leaves return the following spring, the tree appears undamaged from the fall webworms.

Young caterpillars munch the leaf area, leaving the veining intact, while older caterpillars will devour the entire leaf. Because these insects appear after the tree has produced and stored enough food, even with heat and reduced rainfall, damage to the tree is limited.

As the caterpillars grow secure in their web, they will molt six times with the shed skins and droppings all becoming part of the web. As the growth continues, new leaves will be engulfed in the web and it

may become several feet long. As the caterpillars mature, they will crawl down to the soil beneath the tree where they spin cocoons and pupate in the mulch and soil. As the webworms remain snug in their cocoon during the winter, the webs will disappear with the winter weather. As webs are established they are white and as they grow older their color changes to a dirty white.

The fall webworm pupates into the tiger moth. The tiger moth can be white, but also have brown or black spots and is about 2 inches from wingtip to wingtip. After winter, the moth appears in May through July when she lays up to 500 eggs on the underside of the leaves of deciduous trees. The eggs hatch within a few days and the larvae begin spinning their web as they eat. The caterpillars do not leave the protection of the web until they are reach maturity.

Minimizing the impact of fall webworms can be done by removing leaf litter and mulch from affected trees. Pecan and fruit trees can be impacted most by fall webworms as the leaves are critical for the fruit production and the ripening fruit can be trapped in the web thereby reducing the yield. Any chemical treatment for the fall webworms will need to be focused on healthy leaves near the web; sprays cannot penetrate the dense web.

Those webs that can be reached can be removed and the web exposed to predators or bagged and disposed with trash. When the fall webworms begin to appear, it is a reminder that summer is coming to an end and the webs will disappear during the cooler weather.



Photos courtesy GCMG Digital Library

What I learned in the Discovery Garden...

Growing Peanuts



By Sue Jeffco
MG 2013

We tend to grow the same vegetables in the same beds year after year. This often results in a buildup of insects and diseases that plague those vegetables. I'm always on the lookout for something to grow that will break the insect/disease cycle. Hopefully the "new" vegetable will be unique and fun to grow. Earlier this year I was enjoying some raw peanuts I had purchased from the grocery store and I thought "Hmmm... I wonder if I can grow these. How well will they do in Galveston County?"

Peanuts are actually legumes, not nuts, according to strict botanical definitions. Like their cousins English peas, southern peas, and other members of the legume family, they typically have nitrogen-fixing nodules on their roots that can add nitrogen to the soil. Peanuts grow in the soil, not on trees, and so are sometimes called "ground nuts". Seed peanuts are available from several seed companies and often are sold at local feed stores. I planted the raw peanuts I got from the grocery store on June 1, although they could have been planted as early as mid-April. They were shelled nuts but I could have planted them in the shell. They were planted in a raised bed of sandy loam that was heavily amended with compost. No additional fertilizer was added. The bed is in a location that receives 6 to 8 hours of sun per day. They were planted ½ to 1 inch deep, 4" apart. Peanut plants actually need more room than that, so next time I will plant them 8 to 10" apart. They germinated within a week, and within a month they were 10 to 12 inches high and blooming cheerful yellow flowers. The plants and flowers were gorgeous and would have been at home in my ornamental flower bed. They also would be happy growing in large containers.



Peanut blossoms

Each individual flower didn't last very long – only a day or so – but they continued to bloom all summer as the plants continued to grow. The flowers are self-pollinating. After the petals drop, the flower stem thickens, elongates, and drives the fertilized ovary into the soil where the peanuts grow. This process is known as "pegging" and the elongated flower stems are called "pegs." You can see why loose, sandy soil is ideal for growing peanuts. Commercial growers hill soil up around the plants to encourage more peanut production. Home growers can do the same by hilling up soil, compost, or mulch.



The soil is scraped away to show the peanuts and pegs.

All summer long the peanut plants were remarkably pest- and disease-free. There was some very, very minor leaf damage from caterpillars on just a couple of plants out of the 20' row – not even enough to warrant spraying with Bt.

At around 120 days after planting, I carefully loosened the soil and pulled up each entire plant and WOW! Each plant had clusters and clusters of mature peanuts! Any clinging soil was gently washed off with a hose. When fresh-picked the peanuts have a high moisture content and, when eaten, have a texture reminiscent of fresh celery. Many people enjoy boiled peanuts. Put the freshly picked peanuts, shell and all, into a pot of water. If desired, add salt, sliced jalapenos, Cajun seasoning, or whatever flavoring you like. Boil gently for an hour, drain, cool, and enjoy.

Or, follow the more traditional route and set the plants aside in a dry well-ventilated spot to dry the peanuts. After 2-3 weeks (or when dried to your preference), remove the peanuts from the plant and eat raw or roast at 350 degrees F for 15 to 20 minutes. Enjoy!



Peanuts just harvested. Note the nitrogen-fixing nodules on the roots.

Photos by MG Sue Jeffco

What we learned in the Discovery Garden...

2017 Interns' Tomato Variety Performance Trials



By Briana Etie
MG Intern 2017

The 24 members of the Galveston County Class of 2017 Master Gardener Interns conducted a field study entitled Tomato Variety Performance Trials in the Spring of 2017. Tomato transplants were planted in the Discovery Garden in Bed #25 and Bed #26 which are raised beds. Each bed was 8 ft. in width, 26 ft. in length and 1 ft. in height. The Performance Trials was started on February 28. Twelve varieties of tomatoes were tested with two plants of each variety included

in the trial. Each Intern was assigned two plants of one variety to plant and maintain. Harvesting and data collection were conducted on an assigned basis during the trial.

Each tomato plant was grown on 2 in. x 2 in. x 8 ft. stakes. Harvested tomatoes were donated to several local food banks. In teams of two, each Intern plants a tomato plant, one horizontally and one vertically. In Tomato Test Bed #25, six determinate tomato varieties were planted. "New Big Dwarf" was the only heirloom variety. "New Big Dwarf" produced 10-12 oz. fruit on sturdy 2-foot tall, bush-type plant. "Park's Season Starter" produced one of the season's first tomatoes, producing 6-8 oz. round red fruit. "Bush Champion" was a heavy producer of flavorful, 12 oz. tomatoes. "Floradade" was a heat-tolerant variety, producing 8 oz. round, red fruit. "Bush Beefsteak" produced 8 oz. round tomatoes. "Red Rocket" was a prolific producer on a sturdy, bushy plant, producing 10 oz. round red fruit.

In Tomato Test Bed #26, four indeterminate varieties, one determinate and one semi-determinate variety were planted. "Mater Sandwich" lived up to its name, with tasty sandwich-sized 10 oz. fruit. "Fourth of July" produced the first tomato of the season (Figure 1 shows MG Intern Stephanie Hendrickson proudly displaying the first "Fourth of July" tomato harvested April 20). "Fourth of July" produced abundance clusters of globe-shaped, 2-3 ounce size tomatoes.

"Celebrity" is a semi-determinate variety that is an old favorite. "Siletz" is a determinate variety that produced 10-12 ounce round red tomato. "Big Bunch" was the tallest and the bushiest variety, producing 8-10 oz. fruit. "Fireworks" was a sight to see. This variety produced 6-8 oz. cluster-type tomatoes. The Interns voted the "Fourth of July" variety to be the winner in flavor and production.

Q1: What were the time intervals among varieties for production of the first flower and harvest of first tomato?

A1: "Fourth of July" had shortest time period (39 days) between its first flower produced (March 12) and its first tomato to be harvested (April 20). First flower to first harvest time periods for other varieties were as follows:

- 41 days for "Red Rocket"
- 42 days for "Bush Champion", "Park's Season Starter" & "Fireworks"
- 46 days for "Bush Beefsteak"
- 46 days for "Celebrity", "Mater Sandwich" & "Floradade"
- 46 days for "Big Bunch"

The average first flower to first harvest time period for the 24 tomato plants tested was 43 days.

Q2: "Celebrity" is the most widely grown tomato variety by home gardeners in Galveston County. What was the average yield per plant and the average number of tomatoes per plant produced by Celebrity plants?

A2: The two "Celebrity" plants produced an average of 85 tomatoes per plant with an average weight of 35 pounds of tomatoes per plant.

Q3: How did the most heat-tolerant tomato variety perform in the study?

A3: "Floradade" is marketed as setting fruit under high temperatures. It was developed in 1976 in Dade County, Florida. "Floradade" is a determinate plant reaching 48 to 60 inches tall. The time period from planting date to first harvest date was 77 days. The first harvestable fruit was produced May 11th. "Floradade" did not perform well under our Upper Texas Gulf Coast growing conditions.

Q4: Based on the results of the 2017 Interns' Tomato Trials, what varieties of tomatoes would you recommend to extend the harvest season?

A4: This data strongly support recommendations by A&M Extension Horticulturists that home gardeners should plant several tomato varieties with varying production periods to extend the tomato harvesting period. A family can consume only so many tomatoes in a given time period to extend the harvest season. The following varieties are recommended. The harvest period for "Fourth of July" occurred from April 20 to June 29th (a total of 70 days). The harvest period for "Park's Season Starter" occurred from April 27th to June 29th (a total of 63 days). The harvest period for "Celebrity" occurred from May 4 to June 27th (a total of 60 days). Therefore, if a gardener planted at least one (or two or more as space permits) of the aforementioned varieties, their tomato harvest season would extend for early May to late June.

Q5: Which variety produced the largest, single tomato?

A5: "New Big Dwarf" produced the largest, single tomato, "New Big Dwarf" was the only heirloom variety tested and produced a determinate bush type plant. "New Big Dwarf" yielded our largest tomato weighing in at 1 pound. The tomato's shape resembles a beefsteak variety.

Q6: What was the harvest period (i.e., first day of harvest and last day of harvest) for "Celebrity"?

A6: The first "Celebrity" tomato was picked on May 4. That's 68 days from planting (Days to Maturity). The Days to Maturity listed on



Figure 1

the seed packet for Celebrity is given as 70 days. “Celebrity” plants produced more heavily from the middle of May to the middle of June. We picked the last “Celebrity” tomato June 23.

Q7: Which variety was judged best by the Interns based on flavor and production?

A7: Over all, our Interns judged the “Fourth of July” variety to be a winner based on flavor and production. This variety produces a small 2 to 3 ounce globe tomato. We harvested an average of 358 tomatoes per plant, weighing 30 pounds per plant.

Q8: Based the results of 2017 trails, which tomato variety would Interns not recommend to home tomato growers in Galveston County?

A8: Based on our 2017 Tomato Variety Performance Trials, we would not recommend “Siletz” for home gardeners. This Russian variety was weak. It did not grow vigorously or produce well. One of the two “Siletz” plants died early and the remaining plant struggled and was very susceptible to root-knot nematodes.

Q9: Which variety showed the best resistant or tolerance to root-knot nematode damage?

A9: At end of our study, we dug up the test plants and evaluated their roots for infection/damage caused by root-knot nematodes. MG Ira Gervais, our Master Garden Association President and Tomato Variety Study Advisor/Mentor, pointed out that the root system on both “Celebrity” plants did not show any evidence of infection by root-knot nematodes.

Ira also impressed upon us that of all the tomato varieties included in our study, “Celebrity” has the most genetic resistance of tomato available to gardeners. The disease codes listed on seed packets for “Celebrity” are VF1F2NTAS_t. These codes reflect excellent genetic resistance to infection for the following plant pathogens: Verticillium Wilt, Fusarium Wilt (races 1 and 2), Nematodes, Tobacco Mosaic Virus, Alternaria (a fungal leaf pathogen), and Stemphylium (Gray Leaf Spot).

Q10: Which variety exhibited the most root-knot nematode galls?

A10: The root systems of “Mater Sandwich” and “Siletz” showed signs of heavy levels of root-knot nematode damage. “Mater Sandwich” performed well during the height of the season; then one of the two “Mater Sandwich” plants exhibited signs of a weakened plant just before the end of the season. One of the “Siletz” plants died early and the other plant struggled the entire season. One of our “Fourth of July” plants exhibited symptoms of root-knot nematode damage. “Bush Beef Steak” exhibited a small amount of root-knot nematodes damage.

Q11: How many pounds of tomatoes were collectively produced by the 24 plants? How many tomatoes were produced by the 24 plants?

A11: In the eighteen week study period (February 28 to June 29), the 24 tomato plants produced 1,801 tomatoes with a collective weight of 476 pounds.



What we learned in the Discovery Garden... The Canna Conundrum



By Tish Reustle
MG 2008

It was a typical work day on Thursday in mid-August for most Master Gardeners involved with maintaining the Discovery Garden in Carbide Park. My own contribution is in the North section in the Serenity Garden. At this time of year, mornings are usually filled with weeding, watering and fellowship activities. However, in recent weeks we have added spirited debate and downright argumentative discussions (all friendly of course) to our morning activities.

The subject of all this discussion? The horrible appearance of several clumps of cannas growing in one of the flower beds surrounding the clumps of bamboo. The usually attractive variegated leaves of most of the cannas were chewed up, rolled up, and in many cases, completely destroyed, leaving an ugly mess in plain sight. Inside some of the rolled-up leaves we found a greenish-colored, worm-like caterpillar... obviously the cause of all this plant damage to the leaves.

With the on-the-spot insect identification provided by Dr. Johnson and further reading material courtesy of Google, we were able to learn about the biology of the Greater Canna Leafroller (*Calpodex ethlius*) which is one of two species of canna leafrollers. The Lesser Canna Leaf Roller (*Geshna cannalis*) is much more common in this area; this caterpillar species is smaller and a creamy color. Both species of caterpillars roll themselves up inside leaves, holding the edges together with a white thread. When they run out of food they move to another leaf and repeat the process.

Canna leafroller caterpillars eat and grow through five molts/developmental stages called instars. They then spin cocoons to form a pupa, also known as a chrysalis similar to butterflies. After about 7-10 days this chrysalis breaks open to release the adult stage of the Greater

Canna Leafroller which is a moth commonly known as the Brazilian Skipper. This Skipper is a small, brown moth with white markings on its lower wings. It is often hard to see and very hard to distinguish from other Skippers.

Skippers are interesting members of Order Lepidoptera because they seem to be part butterfly and part moth. Like butterflies they fly during the day, appearing to “skip” rapidly from one plant to another, but, like moths, their coloring is drab and their antennae are clubbed at the end. Having discovered the cause of all the damage to our flower bed, we needed to decide what to do next, and this is where the debate became heated! The caterpillars could be removed with thumb and forefinger and then squashed. (We found no volunteers willing to take this job on.) Spray from a hose or insecticidal soap might help but it’s hard to get at a caterpillar that rolls itself up in a leaf so effectively!

Since the last generation of Leaf Rollers can overwinter in dead leaves and debris, it is helpful to remove and destroy (not compost) all dead material in the Fall. *Bacillus thuringiensis* (Bt) works by destroying the caterpillar’s ability to eat and would kill the insect without harming the plant. A systemic foliar spray of an insecticide containing imidacloprid as an active ingredient would also kill the caterpillars.

With both of these products care must be taken to spray the underside of the leaf as well as the top and repeat applications are often needed. Even spraying on a calm day cannot always prevent a chemical from drifting to other plants and affecting other caterpillars or beneficial insects. STOP! WAIT! Twenty feet away from our damaged cannas we have a beautiful Butterfly Garden that attracts many different types of butterflies as well as bees and other insects. Volunteers monitor the plants and have been known to move a monarch caterpillar from one milkweed plant to another to increase their chances of survival.

Photos courtesy of Dr. William Johnson



So here is the dilemma! How does it make sense to carefully nurture one species of butterfly while planning to destroy another species attempting metamorphosis a few feet away! It is certainly true that monarch butterflies are both beautiful and endangered (even the caterpillars are attractive!) while skippers are not endangered and rather ordinary but should we really be playing favorites in the Land of Lepidoptera?

The way out of this difficulty, I think, lies in the old gardening adage, “put the right plant in the right place.” If a homeowner is looking for an attractive plant for a flower bed in front of their house where it can be readily seen by the entire neighborhood then perhaps cannas are not the best choice even though they do grow well in this area. But if a gardener wants to encourage moths into their back yard, then cannas are obviously just the thing! The caterpillars don’t seem interested in the flowers so they can be planted at the back of the bed where the unsightly chewed-up leaves will be less noticeable.

So we have allowed our un-charismatic caterpillars to roll, eat, pupate and hatch and when the feast is over we will cut off all the unattractive dead growth and let our plants recover. Two to three weeks is not so long in the life of a garden and hopefully our cannas will return, ready for the next cycle of life.

P.S. I think I will move the cannas to the back of the bed in the spring and plant something a little less prone to being eaten in the front!



Members in the News



The Galveston Historical Foundation (GHF) recently awarded Mary Lou Kelso, MG 2000, as their 2017 Outstanding Historic Homes Tour Volunteer.

The award is given to a member of GHF for volunteer efforts to the 2017 Annual May Homes Tour which took place the first two weekends of May in Galveston. Mary Lou was the House Chair for Mikey Isbell (MG 1992) and Allen Isbell home. She had over 67 docents to volunteer for both weekends.

Mary Lou pointed out, the award should be given to all the wonderful MG’S who so generously donated so much time, helping her put so many volunteers in place. Mary Lou felt that Master Gardeners were the REASON for her winning the award.

“Repel Mosquitos Effortlessly with Garden Plants”

Reprint from *Galveston Monthly* -August 2017



By Jan Brick
MG 2001

Mosquitos are an irritating nuisance of the summer months. Mosquitos are pesky pests that are difficult to control and usually managed with sprays, fogs, smoky candles or a slap of the hand. There are several plants that can accomplish the same task with a positive influence on your environs and no negative impact on the environment.

Plants that repel mosquitos include the following.

Basil: Plant basil in containers by your entry doors and in outdoor areas where you relax or entertain.

(Recipe for basil insect repellant: 4 ounces of boiling water, 6 ounces of fresh clean basil leaves with stems, steep for several hours, remove leaves squeezing the moisture into the mixture. Mix in 4 ounces of cheap vodka, store in refrigerator and apply as a spray when going outdoors. Keep spray away from eyes, nose and mouth.)

Bee Balm: Crush the leaves to release the fragrant oils.

Cat Mint: Cut off flowers and boil to make a spray like the basil spray. Studies show one main ingredient in cat mint is ten times stronger than DEET.

Clove: Plant around the yard as a natural repellant.

Garlic: Cut up garlic and sprinkle around outdoor living areas or mix with natural aromatic oils for use as a body spray.

Lavender: Plant in gardens or mix with oils and apply to skin.

Lemon Balm, Lemon Grass and Lemon Thyme: Grow in your garden and crush a handful of leaves, rub on skin as a natural repellant.

Mints: All species of mint both wild and cultivated contain properties that are repulsive to insects.

Petunias: Thought to be nature's natural pesticide, plant in gardens and containers.

Rosemary: Plant in garden beds or containers, mix with oils and lotions for use as a mosquito repellant on the body.

Few creatures arouse the ill will that mosquitos do. Their inflamed, irritating stings can spoil a backyard gathering or a simple walk through the garden. The only somewhat silver lining to that cloud of mosquitos in your garden is that they are a reliable source of food for thousands of birds, bats, dragonflies and frogs and the fact that humans are really their second choice of a meal; they much prefer horses, cattle and birds! But simply including insect repelling plants does not guarantee that your landscape will become mosquito free; the best practical approach is the elimination of standing water, the breeding ground itself.

All mosquitos must have water to complete their life cycle; mosquitos breed in standing water found around the home...buckets, pools of rainwater, plant saucers, birdbaths, and clogged rain gutters, anything that can hold



Basil



Lavender



Bee Balm



Lemon Balm



Cat Mint (Cat Nip)



Mint



Clove



Petunias



Garlic



Rosemary

stagnant water. Eliminating even small amounts of standing water can help to reduce the number of mosquitos breeding. During the day, most but not all mosquitos will rest in grass, weeds, shrubbery and brush awaiting the dusk and twilight hours, then emerging with a voracious appetite for the blood of humans and other mammals in addition to birds. Female mosquitos bite to secure a blood meal (attracted to their prey by the heat and carbon dioxide emitted by the hosts) while the males feed on plant nectar. Female mosquitos can live for as long as three weeks during the summer months and several months in the winter months and laying their eggs in the spring; the mosquito season itself is longer due to a changing climate that has brought warmer and more humid conditions.

Sidebar The Life Cycle of the Mosquito

There are four stages in the life cycle of a mosquito: Citronella...Mosquito Control or Myth?

- Egg Stage...most eggs are laid in clusters called “rafts” that float on the surface of the water hatching within two or three days into larvae.
- Larval Stage...the larvae rise to the surface to feed on small organic particles and microorganisms in the water, molting four times over several days (depending on species and temperatures) to become pupa.
- Pupal Stage...pupa breathes through tubes on its back while the adult mosquito grows inside; when fully developed the adult splits the pupal skin to escape.
- Adult Stage...the newly developed adult rests on the surface of the water until it is strong enough to fly away and feed.

The Life Cycle of the Mosquito

- Certain scents stun and confuse the mosquito’s carbon dioxide sensors (mints, fruits, chocolate).
- Mosquitos buzz around our ears, attracted to our exhaling carbon dioxide through our mouths and noses.
- Female mosquitos feed on animal blood while the males gather nectar from flowers.
- Mosquitos are especially attracted to people with Type O blood.
- A drop of saliva containing histamines is secreted by the mosquito as she sucks the blood causing the familiar itching sensation
- Mosquitos fly at one to one and a half miles per hour making them one of the slowest flying insects
- More human deaths are caused by mosquitos than any other lethal creature. Mosquitos serve as vectors for human pathogens that cause a variety of diseases including malaria, dengue fever, yellow fever and encephalitis.
- Mosquitos are attracted to dark colors and are most active at dawn and dusk.
- The oldest known mosquito was found in a fragment of amber from 79 million years ago.

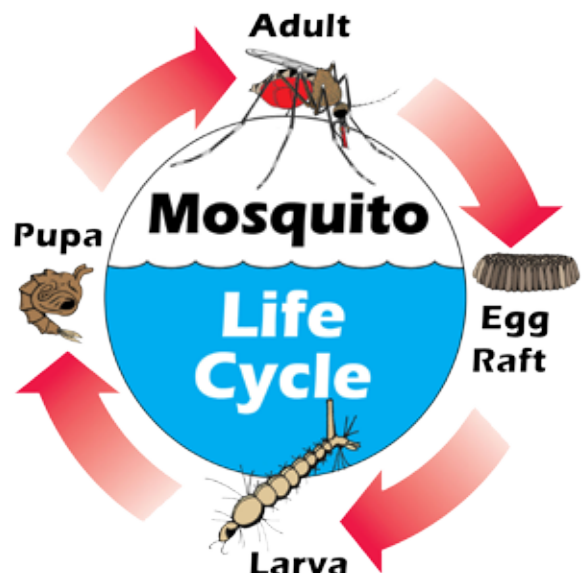
Citronella plant, citronella oil, citronella candles and all things citronella have become the most popular go-to products for mosquito control. “*Pelargonium citrosum*” is marketed as the “mosquito plant.” Apparently this plant is not the plant that produces citronella oil at all but a geranium that is unrelated to the citronella plant that sort of smells like citronella and indeed mosquitos rather enjoy alighting on this plant in watch for a convenient victim to nibble. Citronella oil is actually extracted from various species of lemon grass, a perennial clumping-type grass that can grow to a height of six feet.

Is the plant or the oil an effective mosquito repellent? Two schools of thought: Research in North America has shown that citronella oil may be helpful and is a registered insect repellent in the United States; however, in Europe studies have failed to validate its effectiveness and the oil has been banned as an insecticide. As for the candles, “The amount of oil in candles is extremely small and citronella candles don’t work any better than regular candles-neither works well.”

Some research suggests that explorers that often encountered millions of mosquitos and black flies may have created a concoction of bear grease and skunk urine to use as a repellent; another source proposed necklaces of spruce tree bows might have been useful.



Photos courtesy GCMG Digital Library



Best Shots - Shade Plants



By **Elayne Kouzounis, MG 1998**

Shade gardening is very simple. You just have to learn to think like a plant! Plants need light to carry on photosynthesis. Different plants need varying degrees of light. Some must have bright sunlight to do well, others tolerate or prefer part shade, while a few even grow in full shade.

Before I plant, I try to have a good idea of what the plant's light requirement is so that I can choose an appropriate site. The different levels

of shade are usually described in these terms: partial shade, dappled shade, filtered shade, full shade and deep shade. Shade can also be described as morning or afternoon shade. Be aware of how the level of shade changes in your garden from season to season.

Because of deciduous trees, you might have more shade in the summer than you do in the winter. Also, remember that morning sun is far milder than the stronger afternoon sun. I try to watch the plant as it grows, to be sure I have made the right choice in placement. If a plant has too little light it might let me know by putting out fewer leaves than normal or by remaining short and stunted. The plant may send out long, leggy shoots or lean in an attempt to reach more light. If the sun is too strong for a plant, it will wilt; the leaves may look pale and scorched.

Daylilies, azaleas, and mountain laurel may grow perfectly well in shade but have very few blooms or no blooms at all. A variegated hosta will thrive in shade but the color will be less intense. Coleus may do well in sun, but its leaf variegations will be much less striking than they would be in the shade.

In the Texas Gulf Coast area, a shade garden can be such a pleasant sanctuary from the scorching summer heat. A garden in dappled shade can provide a certain magic; a place for meditating, laying in a hammock, or just watching the shadows dancing about the plants and tree branches as the soft wind gently blows.

A shade garden is a garden whose trees have blocked the sun from most of the day or perhaps all day. Full shade on the north side of a house may be bright enough to grow plants like hostas; however, full shade under a deciduous tree might be appropriate for ivies and shade-loving ferns and ground covers if the tree limbs are high enough off the ground.

Under my magnolia tree, I have monkey grass and wedelia happily growing and blooming. Under large overhanging branches of large evergreen trees, you may find that mulch is your only choice to having bare soil. Thankfully, I have evergreen pine trees and use the pine



Monkey Grass • Photo courtesy of GCMG



Wedelia • Photo courtesy of Dr. William Johnson



Begonia • Photo courtesy of Dr. William Johnson



Plectranthus coleoides • Photo courtesy of GCMG

needles as our mulch. Shade gardens typically prefer flowers in the light tones as they reflect the subdued light and brighten up the garden more than deeper tones can.

Variegated foliage is also another possibility that can lighten up a shade garden. Partial shade begonias, impatiens, and Plectranthus do bloom well. Deep shade is much more of a problem but not an impossibility. Few flowering plants bloom in dense or deep shade, but many plants including ivies, ferns, and Aspidistra (cast iron) do very well. The beautiful leaf colorings of *Solenostemon scutellarioides* (coleus), caladium bicolor (caladium), and *Strobilanthes dyerianus* (Persian shield) also do well. You can even use potted plants in mass to add texture and color to your deep shade garden. When these potted plants have finished blooming, you can effortlessly replace them. In a deep shade garden, you can use potted plants to cover your tree roots instead of planting directly in the ground.

Although, there is no substitute for spending time in your garden, gardeners sometimes fail because they are absent or do not pay the attention necessary for their garden to succeed. Much of what plants need to do well comes from the soil. Establishing a good soil is the most important thing you can do for your plants. And of course, we must not forget water. You can see what happens to a plant when it dries out. The leaves shrivel, the stems flop, and the roots (exposed) look like a hand full of limp spaghetti.

It is just as unfortunate if you over-water. Below ground, roots that grow in water-logged soil, robbed of oxygen that is needed, soon die and turn into a rotting mess as does the rest of the plant. Above ground, plant stems and crowns that sit in puddles and soggy ground, also rot. Leaves that stay too wet are much more susceptible to disease.

Among the turf grasses St. Augustine will grow in partial shade if it has at least 6 hours of sun. Many types of groundcovers [e.g., *Ophiopogon* spp. (monkey grass and Mondo grass)] grow well in partial shade and shade. They are also much more low maintenance than a lawn.

Picking the right plant depends on making a match between what a plant needs and what you and your garden can provide. No matter how appealing a plant may look in a nursery or a catalog, it will not thrive in your garden if you do not have the climate and gardening conditions it favors. Fortunately, success and satisfaction are within reach for everyone who considers climate and conditions by using the seven principals of plant selection: Light, Type of plant, Height, Hardiness, Soil and Moisture, Care, and Interest. Your success starts with matching the light requirements of each plant to the conditions in your garden.



Ivy • Photo courtesy of GCMG



Bird Nest Fern • Photo courtesy of Dr. William Johnson



Coleus • Photo courtesy of Dr. William Johnson



Persian Shield • Photo courtesy of MG Tim Jahnke

Trowels and Tribulations

Hanky Panky? In our backyard?



By Donna Ward
MG 1996

Evidently there was a whole lot of 'hanky-panky' going on in our neighborhood this spring and summer. There were babies, babies, babies in abundance in my back garden. My back yard is a Certified Texas Wildscapes, Backyard Wildlife Habitat. There's no grass, just pathways between shrubbery, fern beds, vines, hollow tree stumps, and just anything to make the wildlife feel safe and comfortable. It all became apparent in early spring when Posy Possum gave birth. She delivered at home in her den under the tool shed.

She has lived here for some time, and if I'm up early enough in front of my computer I can spot her perusing the thick fern *Polypodiopsida* Sp. growth outside of my office window. I don't know how many babies she had, as I only saw one at a time. Because of its size I was pretty sure that it was barely weaned from mama. I saw it at once or twice each day for about 3 weeks, and then apparently it left to find its own habitat perhaps. I found it uncharacteristic that it roamed in broad daylight, but the thick fern growth must have given this tiny critter a sense of safety. When you mention possum to many folks, their first response is "Eww" - but their attitude changes when I tell them that possums because of their low body temperature are mostly immune to, and 8 times less likely to carry rabies. They eat insects, rodents, carrion, snails, slugs and will kill snakes and cockroaches if found in their territory. So if you have a resident possum, encourage him or her to hang around.

Soon the feathered youngsters appeared. It's not uncommon to see baby cardinals, blue jays or rose-breasted woodpeckers, but house finches arrived a couple of years ago and I've delighted in seeing parents and babies on the feeders. They are pretty little birds and the males are dressed in vibrant red and brown, and slightly smaller and more slender than a cardinal. There is no shortage of Carolina chickadees, titmice, wrens, collared and white-wing doves. Pileated woodpeckers visit occasionally, and they love rotting tree stumps and the cuisine they provide. I was really excited when in early July I spotted a robin under a Chinese fringe shrub (*loropetalum chinense*) feeding its baby in the rain soaked, newly mulched BBB (birds, bees, butterflies) garden. When I clean and refill the birdbath, it's not long before the robins appear and splashing commences. I especially love robins. Growing up and raising my family in Missouri, some of my happiest days

were when I spotted my first robin of the season. Often there would still be patches of snow on the ground when the earliest arrival appeared in my yard. I felt it was my personal sign from a higher power that winter was soon to be over and the snow shovel could be put away. I'm not the only one who suspect that robins are adjusting to our climate, as a neighbor tells me that she has occasionally seen them during summer, and a friend in Katy tells me a pair nested in her yard this spring.

In the middle of my BBB garden grows probably a 12-foot-tall sunflower (*Helianthus annuus*) with a multitude of branches, each sporting yellow blossoms. I'm guessing that it was planted by a blue jay as jays are known for being 'planters.' The flowers will produce seeds and I can't wait to see the seed-eating birds feast naturally from the producing plant instead of a plastic feeder. Mocking birds seem to relish the red fruit of the Barbados cherry (*Malpighia emarginata*) in this garden and also occasionally snack on the Savannah holly berries *Ilex x attenuata*.

Lo and behold, in mid July there appeared another tiny baby possum. Posy Possum apparently is very conjugal, but I suspect dad is a roaming ambassador.



Photo courtesy MG Margie Jenke

I've seen him on occasion, he's a big fella, and doesn't seem to be in any hurry to avoid me, just saunters away, very unconcerned at my presence.

Have you considered turning your back yard into a setting that attracts wildlife? I find mine to be a source of daily enjoyment and education. Do you realize how much your children or grandchildren could learn if they could wander through a private backyard wildscape?

Wildlife has three basic needs, food, water and shelter. Shelter should provide a place to breed and raise their young. Native plants are preferable to attract wildlife, and who knows more about native plants than the Native Plant Society of Texas? Check out their website at www.npsot.org. Take time to do a bit of research. You might want to start with Texas Parks and Wildlife. Because there is currently a freeze on hiring, Wildlife Backyard Habitat Certification is not available at this time, but I'm told this department hopes to be up and running in the next few months. In the meantime, you can go to tpwd.texas.gov/publications. In the Search box, type in 'backyard wildlife habitat,' and you'll find much material to get you started.

Believe me - If you plant it, they will come.

Amazing Bats



By Kaye Corey
MG 2001

Granted bats aren't cute or cuddly and we cannot keep them as pets but contrary to popular misconceptions they are highly beneficial mammals. Bats account for almost a quarter of all mammal species in the world and play key roles in keeping a wide variety of insect populations in balance. Yet they rank as our most rapidly declining and endangered land mammals.

The primary reasons for the decline of bats include exaggerated human fear, persecution, loss of habitat, environmental pollution and wanton destruction by humans. Google the word "bats" and the first sites will be how to exterminate them.

As insect predators, bats are our agricultural allies. They save farmers and foresters billions of dollars annually. The installation of agricultural bat houses that can host as many as 2,000 insect-eating bats has proven vital in crop protection thus reducing the need for costly pesticides.

Bats are the only mammal capable of self-propelled flight. They have been clocked at 60 mph at extreme heights. But how do they fly around in the dark? They are not blind and see as well as most mammals. But, at night, they use a special sonar system called echolocation. They make high frequency calls and listen for echoes to bounce from objects in front of them. This enables them to maneuver and capture insects in total darkness.

There are over 1,100 different species of bats in the world and 11 species live in our area. The most common bat species occurring in Texas is the Mexican free-tailed bat (*Acarida brasiliensis*). A single Mexican free-tailed bat can eat up to two-thirds of its body weight in insects each night. Bats like humans, are warm-blooded, have hair and produce milk to nurse their babies (known as pups). Adult female bats bear only one live young each year live. Bats congregate in colonies under bridges and in old buildings, trees and caves.

Do you have palm trees? Thousands of Southern Yellow bats (*Lasivurus ega*) roost in the dead fronds of palm trees in Texas year-round. Female bats give birth in the fronds of palms from April to July. The young can fly in a few weeks. You can help protect these bats by leaving the fronds intact or by waiting until August to trim the dead fronds from your palm trees.

People all over the world use bat guano (droppings) as fertilizer. It can be purchased locally at a variety of outlets including Home Depot, Lowes and Walmart.

My first experience with a bat fly was at Carlsbad Cavern in New Mexico. Tour the cavern then sit at the mouth of the cave to witness a most deafening and exciting flight of millions of bats.

In Texas, outside of San Antonio, is the world's largest concentration of flying mammals (bats) at the Bracken Cave. Fifteen (15) million Mexican free-tail bats seek insects for the night. Also, the Congress Avenue Bridge in Austin advertises the world's largest urban bat colony.

No need for us to travel long distances when the Houston Waugh Drive Bridge treats us to an estimated 300,000 Mexican free-tailed bats at sunset. Bat and Boat Tours are offered on buffalobayou.org. In Pearland, we can view the 10,000 Mexican free-tailed bat colony emerges at sunset from the Fite Road Bridge.

Bat viewing etiquette is most important. Stay a good distance from the bridge. Bats do drop wastes prior to flight in the evenings. Observe quietly. White light bothers the bats. Do not use the flash on your camera. If you need light to walk, place red cellophane over the flashlight lens. Do not pick up a bat. A bat that can be caught is most likely sick and should not be handled.

The Bat Conservation website www.batcon.org is most educational. They have even made bats cute and cuddly. All questions can be answered, like why do bats hang upside down and what is their lifespan? I hope to have a backyard bat house soon.



The Birmingham, England *Garden and Flower Show*



By John Jons
MG 2003

I travel quite a bit and in my travels I purposely seek out roses, as I enjoy growing and hybridizing them. Recently, I happened to be in England at the same time the Birmingham Garden and Flower Show was being held from Thursday, June 15, through Sunday, June 18.

England has some fantastic “Garden / Flower Shows” with possibly the Chelsea Flower Show in London being the most famous; however, there are other outstanding garden/flower shows held in England. Possibly the second continuous and most famous is the Birmingham Garden and Flower Show. This year’s show was primarily sponsored by the British Broadcasting Corporation (BBC) and Gardeners’ World magazine. It was held at the National Exhibition Center (NEC) which is located in Birmingham, England. The NEC is a major international exhibition venue that stages events from the Crufts, a dog show similar to Westminster’s in the US, to international car shows and many professional conferences. The NEC is conveniently located in the center of England, the Midlands, with easy access to an airport, motorways and trains, with lots of hotels and parking.

The Birmingham Garden & Flower Show is always a very large event; this year being held in conjunction with the BBC’s “Good Food Show.” It covered many acres of indoor and outdoor exhibition spaces which included a floral marquee (a very large tent) packed with plant and floral displays, outside display and border gardens, an exhibit hall full of vendor supply booths, and many ongoing gardening lectures and demonstrations.

The show guide for the Floral Marquee described it as “one of the largest Floral Marquees in the county, this provides the ultimate gardening shopping experience – akin to a gardening encyclopedia that you can shop from!” When entering the Marquee, one could be overwhelmed by the number of fantastic displays that featured plants and flowers at their best. The displays illustrated incredible plant and floral design artistry from over 90 different plant nurseries. Each nursery that had a plant display also had the displayed plants for sale and plant-related advice. The plant displays included almost every kind of plant that can be grown in England (and some that cannot) from shade gardening to almost



Plant Village Garden Display



Plant Display - Hostas



Floral Display



Plant Display - Grasses



Floral Display - Roses



Garden Show Exhibit Hall

desert-like conditions. Plant societies also had booths inside the Marquee providing expert advice from flower arranging to bonsai. Also inside the Marquee was a sit-down area with ongoing garden lectures and demonstrations.

Between the Floral Marquee and the NEC’s exhibition halls was a large open area that contained about 20 beautifully designed display gardens and a variety of about ten different raised border gardens. A border garden is a long narrow, enclosed bed that is planted with flowers, shrubs or trees. There was also a unique display of about 20 specialty gardens, i.e., herbs, vegetables and such, in wheelbarrows. Like the garden displays inside the Floral Marquee, they were designed and provided by gardening vendors who were showcasing their wares and skills.

Inside the exhibition hall were many gardening vendor supply booths and five different gardening lecture areas. Featuring a wide variety of speakers on gardening topics, the lectures were often under an hour long and began at ten in the morning and continued to after four in the afternoon. Famous gardening television personalities or authors provided the lectures; some were even broadcast live on the BBC.

Since Gardeners’ World magazine, one of the sponsors of the garden show, was celebrating fifty years in business, one vendor displayed a fifty-year-old olive tree. Another vendor built a very large three-tier birthday cake made of peonies. Some vendors used the event to introduce new plants and flowers that they had hybridized. The Birmingham City (England) Council brought their Chelsea Flower Show award-winning exhibit to this show.

Needless to say, the event took nearly all day to walk around and try to see everything. This event is one of those that is difficult to adequately describe so I took lots of photos and converted them into a YouTube video. If you would like to see my YouTube video on the overall garden show, it’s titled “[Birmingham, England Flower Show](#)”.

I hope you enjoy the video as much as I enjoyed the gardening show. If you would like to see more gardening videos, consider subscribing to my YouTube Channel.

Photos by MG John Jons

Meet Master Gardener -

Genevieve “Ginger” Benson, MG Class 2015



By Trish McDaniel
MG 2001

It was a true pleasure to meet Genevieve “Ginger” Benson, MG Class of 2015, in her office at the County AgriLife Extension Building where she has served as Executive Assistant to Dr. J (the boss) since July of 2015. Knowing she worked closely with Dr. J., it figured that she’d have a fair sense of humor, and happily, she did not disappoint. Possessing the sharp, spicy/sweet qualities of a favored rhizome, she was also perfectly nicknamed after her great, great aunt.

As one’s office can be a suggestion of one’s spirit, Ginger’s revealed that of a highly energetic, organized character. One “tell” lives under her monitor – her “To Do” list. Carefully jotted tasks, past and ahead, highlighted in yellow, underlined in red; written with a pen topped by a bright purple hydrangea, clearly indicating - hands-off!

Ginger describes her favorite part of the job as helping people, a passion she sprouted early on. As a youngster, she possessed a natural eagerness to help in any way that presented itself. Fondly, she tells of assisting her father in his service as priest with Grace Episcopal in Galveston. He, no doubt, considered her a dependable and enthusiastic hand.

With a degree in Human Nutrition and Foods and minor in Psychology from the University of Houston, Ginger found joy in using her skills at the St. Christopher’s Community Garden in League City where she volunteered to teach kids about the pleasures and benefits of vegetables. It was here that she became aware of the Master Gardener program, and one wonderful thing lead to another.

Ginger lives in Friendswood with her boyfriend, Brad, and her 16-year-old girl, Elizabeth. She sees in her a reflection of her young self - a highly independent old soul, struggling for patience with her contemporaries - and this has Ginger feeling the twinges of an empty nester. Discomfort aside, it’s evident that she is immensely proud of the young woman her daughter is becoming.

Q&A:

History in a Nutshell: Ginger’s family is from Texas but she was born in Tennessee where her father attended seminary. When the boyfriend and daughter give her a hard time for not being a “True Texan”, she reminds them to cut her a break. She got here as fast as she could, age 18 months, not to mention that her mother had her baptized with the hallowed water of the San Antonio River – “and you can’t get more Texan than that!”

Favorite Books, Gardening: *The Dirty Life: A Memoir of Farming, Food and Love*, and *The Cook and the Gardener: A Year of Recipes and Notes from the French Countryside*. Ginger also noted that “Anything that incorporates my love of cooking is a winner with me.”

Favorite Books, General: She chuckles, telling of her fondness for “take me away” selections of trashy romance novels and murder mysteries.

Favorite Garden Visited: Boone Hall Plantation, Mt. Pleasant, S.C. One of America’s oldest working farms.

Gardening Style: Heartless. On her overly shaded, half-acre lot in Friendswood, she prefers demo to cultivation activities - a continuing horror for tenderhearted Brad.

Favorite MG Project: Community gardening because of the teaching opportunities and their contributions to food banks. “They are one of the best aspects giving back to the community.”

Favorite Dr. J Anecdotes: “There are a lot...” Top of the list is his ability to read people. When he speaks of a successor, he has suggested that, “It should be someone with a degree in psychology. They can learn the horticulture along the way.”



MG October Plant Sale...*an amazing well-oiled machine that puts **Fall Color** into Galveston County*



By Karolyn Gephart
MG 2017

The recent Master Gardeners of Galveston County Fall Plant Sale wasn't just a big plant sale: for many it was the beginning of a nice landscaped yard again after Harvey, for others it was a new herb garden or a first citrus tree for the family and to 24 Master Gardener Interns..... it was the LAST REQUIREMENT that the majority would have to accomplish to get the title of Master Gardener.

The plant sale is a wonderful event that doesn't happen by magic. It takes many, many people and lots of hours of hard work.

The majority of the people who do it are Master Gardeners whose only paycheck for this is satisfaction of a job well done along with the great feeling of helping buyers select what is best and providing them with information to care for the plants.

Plants are selected for Galveston County which is an area of Texas that is either sandy soil (Galveston) or clay mixed soil (mainland). Months before, the plants for the sale are discussed, considered and placed on a list to order.

With Hurricane Harvey so recent, the fall plant sale being postponed was debated but plant wholesale nurseries count on the two sales each year and many in the county were ready to work on their lawns.

Varieties of plants are so abundant at the sale, many gardeners wait to purchase what they want at the Fall or Spring MG event. It was decided to hold the sale, order the plants and help those who were ready for a fall garden or landscaping project.

If a Master Gardener is willing, a job is waiting for them regarding preparing for the show or hosting it. Red vests and red aprons are made ready for the event.

I was given a new job to present the educational seminar before the sale that showcases what plants are available for purchase. Like a bobblehead, I motioned my head up and down, agreeing to do the presentation when Dr. Johnson asked me. Yes, I know how to do PowerPoint. Not a problem....I thought.

It's only a PowerPoint of plants....what trouble could that be?
I work best at night when my husband and all pets are sleeping soundly. No one calls or texts late and I can get work done.

The plants had been ordered and I had the lists...the LONG, LONG lists. So many plants! Would we really have so many? Each needed slide space, photo and info. Each photo needed to be of that plant and not a variety of it. (Sometimes Pineapple Sage gets cilantro in its pic....I learned that the hard way). (MGs can be very helpful when they see a photo and want to be sure it is right).

The weekend before the show I found out that the following Tuesday I would have to present a practice test of giving the seminar...a good idea for timing, etc. BUT it was TO REAL MASTER GARDENERS. These are people who know plants from seed to flower, from genus to variety. All I could say in a desperately worded e-mail was, "DO I HAVE TO?" The reply e-mail was, in short, "SEE YOU ON TUESDAY AT 2 PM AT THE EXTENSION OFFICE!! BRING YOUR FLASH DRIVE". I finally finished the slides but still waited for some updates on the website that I would need. Harvey put a big delay on so many things.

Then suddenly I was working nights replacing plants (sorry, not coming) with new plants that we would receive (maybe). Then a new plant would drop off and several others would be added.

We had the mysterious disappearing celery that I removed, put back, removed and finally added again! Then there are gingers in herbs, gingers in perennials, some to eat, some to not eat, get it straight. Learn the difference (wearing that red apron puts much pressure on an Intern to at least ACT LIKE you know stuff).

The night before the sale there were still changes. I wondered what time was it safe to go to bed the night before a show?

While I was learning about Bat Faced Cuphea and Little John Bottlebrush, other teams of MGs were unloading plants, getting them organized for transfer to Jack Brooks Park, making signs for plants, planning where MGs would work and assist others, cleaning and prepping the arena at the park and getting equipment ready for my presentation. The cooking team was planning a Food Network worthy lunch and gathering head counts, making sure our 4-H volunteers were included.

So much work and all of us, like pieces in a jigsaw puzzle, working away on the pieces of our area. I mentioned that there were multiple teams of MGs involved in making the plant sale a success—in fact, there were 30 teams with responsibilities ranging from advertising to wagon collections. I would be amiss if I did not express my appreciation to members of MG Plant Sale Support Team #28 (Seminar Set Up and Take Down) which was led by Alice Rodgers. Team Member Jim Waligora transported laptops, projector screen, extension cords, etc. needed for the PowerPoint presentation. Team Members Kathy Maines and Terry Earl set up 250 chairs in the seminar room. Alice coordinated, even conducted a mike test to ensure that everything was in operational order to provide the presentation.

The plants this year were incredible. So healthy and interesting. So ready to be part of Galveston County. Those attending the sale seemed to know what they wanted and MGs seemed to be asked more questions, providing more information and helping throughout the sale.

I followed in the steps of a great MG presenter and rose specialist, Jon Johns. John had given the presentation several sales before this. He had

moved on to other areas of the plant sale. He had previously met with me to prepare me for what I had agreed to do. His schedule of work was precise and his slide shows were well laid out and very informative. He tried to warn me how much work I was facing.

After 70-plus hours of preparations and numerous PowerPoint versions later, John and I had an opportunity to meet again to compare notes. Suddenly, his words made sense. He gave me advice for the future and helped me determine what photos to take that might be helpful for the next plant sale. His help was so appreciated!

All my plant questions or photo needs were met by Yvonne, a true plant enthusiast and of course, all pre-program nerves were calmed by Ginger. Thanks to Dr. J, Mary, Judy, Ann, Ira, Briana, and the cast of 1000s it seems like who were there for me at every one of my "I NEED, GOTTA HAVE, WHERE IS, WHAT IS, WHY IS, HELP ME" moments.

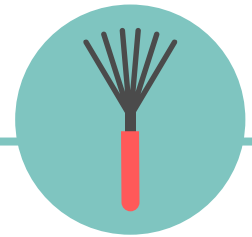
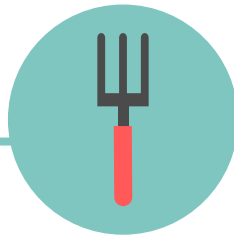
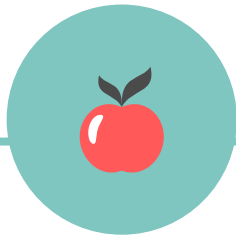
We now face the Spring Sale in February. A group of different plants for spring planting will be arriving and the whole process begins again. As the presentation becomes familiar to me, I hope to be able to provide more info for those attending. But my true goal is to show the sale items and finish in time for the crowd to get in line and hit the plant sales as early as possible.

When we realized in April that the October sale would be our final assignment to reach Master Gardener status and no longer be an Intern, the sale seemed so far away.

Now that we are in the know on sale how-to's, February seems dangerously close! Time to begin that PowerPoint.

The questioning begins.....will there be celery?





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.

<i>Date</i>	<i>Name of Program</i>	<i>Speaker</i>	<i>MG CEU's</i>
1/5/2017	Collection of Dormant Graftwood	Herman Auer & Sue Jeffco	1.25
1/5/2017	Veg of the Wk.: Broccoli & Cauliflower	Barbara Lyons	0.50
1/7/2017	Wedge Grafting	Sue Jeffco	2.50
1/7/2017	Propagation of Plants by Cuttings	Bill Cummins	1.00
1/11/2017	Highlights of Soil Solarization Study	Gene Speller	0.25
1/14/2017	Growing Great Tomatoes (Part 2)	Ira Gervais	2.00
1/14/2017	Successful Spring Vegetable Gardening	Herman Auer	2.50
1/17/2017	Gardening by the Square Foot	John Jons	1.50
1/19/2017	Fig Tree Pruning & Propagation	Terry Cuclis	0.50
1/26/2017	Veg of the Wk.: Cabbage & Brussels Sprouts	Barbara Lyons	0.50
1/28/2017	Growing peaches in Galveston County	Herman Auer	3.00
1/28/2017	Kitchen Gardening	Mary Demeny	2.50
1/31/2017	Anyone Can Grow Roses	John Jons	1.50
2/4/2017	Growing Backyard Citrus	Robert Marshall	3.00
2/4/2017	Growing Blueberries	Dr. David Cohen	1.25
2/10/2017	Spring Plant Sale Pre-Sale Preview	John Jons	1.00
2/11/2017	Growing Avocado & Papaya	Jerry Hurlbert	2.00
2/11/2017	Soil Health & Evaluation	Jim Gilliam	2.00
2/23/2017	Rose Pruning	John Jons	1.25
3/9/2017	Veg of the Wk.: Radishes	Barbara Lyons	0.50
3/11/2017	Bonsai	Clyde Holt	2.50
3/11/2017	Composting	Jim Gilliam	2.00
3/18/2017	Tomato Stress Management	Ira Gervais	2.25
3/18/2017	Culture & Care of Palms	O.J. Miller	2.00
3/25/2017	Turning Dirt Into Soil	Jim Gilliam	2.75
4/13/2017	Grafting Pecan Trees	Herman Auer & Sue Jeffco	1.25
4/25/2017	Beneficials in the Garden	Dr. William Johnson	1.50
5/4/2017	Veg of the Wk.: Potatoes	Barbara Lyons	0.50
5/6/2017	Tool Time	Tim Jahnke, Henry Harrison	3.00
5/11/2017	Veg of the Wk.: Okra	Barbara Lyons	0.50
6/1/2017	Veg of the Wk.: Sweet Corn	Barbara Lyons	0.50
6/3/2017	Plumeria	Loretta Osteen	2.00
6/15/2017	Veg of the Wk.: Squash	Barbara Lyons	0.50
6/20/2017	Current Challenges in Horticulture	Dr. Mike Schnelle	1.00
6/29/2017	Veg of the Wk.: Green Beans	Barbara Lyons	0.50
7/13/2017	Veg of the Wk.: Eggplant	Barbara Lyons	0.50
7/15/2017	The Great Pepper Extravaganza	Gene Speller	2.50
7/22/2017	Arranging Fresh & Artificial Flowers	Jackie Auer	3.00
8/1/2017	Gardening by the Square Foot	John Jons	1.50
8/15/2017	A Homeowner's Guide to Weed Control	John Jons	1.50
10/7/2017	Fall Bulbs 101	Margaret Cherry	1.50
10/7/2017	Favorite Fall Vegetables	Gene Speller	1.75
10/7/2017	Smart Start Fruit Trees	Herman Auer	2.00
10/7/2017	Post Harvey Recovery of Landscape & Gardens	Dr. Johnson & Various MG	1.25
10/21/2017	Composting	Jim Gilliam	2.00
10/21/2017	A Passion for Plumeria	Loretta Osteen	2.25
10/28/2017	Monarch Butterflies & Milkweed	Barbara Willy	2.25
2017	Recertification Hours for MG's	Total CEU's	75.25

Last Updated: October 31, 2017



easy recipes

Seasonal Bites



By Sandra Gervais
MG 2011

It's just too hot to even think about cooking. When the temperature doesn't drop below 90 degrees in the shade until after 6:00 p.m., what should we eat? Too bad our appetites don't decrease in the heat as well. Sandwiches and salads can only keep our interest for so long. Then we start looking for something easy and tasty with a minimum of time in the kitchen. So here are a few ideas to try until the weather cools off. The first comes from Master Gardener Intern Briana Etie and was a hit at one of the monthly meetings. She calls it an appetizer, but it's a hearty one.

Below are a couple of cookies that my family enjoyed when we were all younger and not watching what we ate. Outside of melting chocolate in the microwave, there is no cooking involved.

Buffalo Chicken Dip (spicy)



Ingredients:

2 (10 ounce) cans chunk chicken, drained
2 (8 ounce) packages cream cheese, softened
¾ cup hot sauce (Briana uses Louisiana Hot Sauce)
½ teaspoon granulated garlic
½ teaspoon black pepper
1½ cups shredded Colby Jack cheese
½ cup blue cheese crumbles

Directions:

In a bowl, combine chicken, softened cream cheese, and hot sauce until large lumps are smoothed out.
Add garlic, black pepper, and shredded cheese.
Spoon into a shallow oven-proof dish.
Sprinkle top with blue cheese.

Bake at 350 degrees for 20 minutes.

Serve with crackers, pita chips, or vegetables like celery sticks, carrots or red pepper strips.

Note: for those who like really spicy foods, add more hot pepper sauce, habanera sauce, etc.

Bake Free Brownies



Ingredients:

¼ cup butter/margarine (I use mark on sticks not soft in tubs.)
12 ounces semisweet chocolate chips
3 cups graham crackers, crumbled
1 (14-ounce) can sweetened condensed milk
¾ teaspoon vanilla

Directions:

Melt butter and chocolate for 1 minute in microwave on high.
Remove and stir until smooth.
Grease an 8-inch baking dish thoroughly.
In a large bowl, mix graham crackers, condensed milk, vanilla and chocolate mix. (Mixture will be stiff). Pour into prepared dish and smooth top.
Let stand at room temperature for at least 2 hours.
Do not refrigerate.
Cut into squares.

Note: again, chopped nuts can be added when mixing.

Or it can be topped with chocolate icing.

Chocolate Crescent Cookies



Ingredients:

16 ounces of milk chocolate bars
8 ounces of Cool Whip
2/3 cup fine crumbs of vanilla wafers

Directions:

Melt the chocolate bars carefully in the microwave. Don't burn.
Cool to room temperature.
Fold together with Cool Whip.
Chill mixture for at least one hour in refrigerator.
Make into balls.
Roll each in the fine vanilla wafer crumbs.
Keep chilled until served

Note: they can also be rolled in crumbs and finely chopped pecans.

This last cookie, called a "brownie," is not a true brownie. However, it's rich in chocolate taste and needs no baking, so it fits our summer requirements.

The Discovery Garden Update



By Tom Fountain
MG 2008

Garden temperatures have continued in the 90+ degree mark through July and August! This with our high humidity has continued making it a bit challenging to working outside, so limit your time in the heat, wear a hat, and drink plenty of water.

Around the Galveston County area, temperatures have continued a few degrees above normal all summer. Rainfall has been spotty, but on average slightly above normal. The long-range weather outlook also indicates above normal temperatures and rainfall until the end of this year. We also have an active hurricane season that will continue through November.

This time of the year most of our Master Gardeners are busy cleaning out garden beds. Weeds and vines have enjoyed growing in the high heat, so now is the time to get those garden plots ready for fall planting. The greenhouse crew has already started sowing and growing plants for our annual MG Fall Plant Sale and now they are busy taking care of them. The fruit orchard crew has spent a lot of time replacing some of the older trees and improving the orchard beds. Phyllis weeded the flower beds in the fruit orchard **Fig. 1.**

Our construction crew spends a lot of time improving the garden by replacing old benches, adding new ones and helping to make the Discovery Garden grow.

Their latest project has been the new aquaponics unit. It began about a year and a half ago with Robin Collins's interest in the process. She started researching how to build and run an aquaponics operation. After several designs were considered, the current configuration was chosen. A second hoop house was constructed to house the aquaponic unit.

Fig 2. Sharon and David dig a trench for water in the hoop house. **Fig 3.** Sharon, Robin, Bill, Robert and others pull the shade cloth on. **Fig 4.** Henry, Robert, Bobby and Joe running conduit. **Fig 5.**



1



2



3



4

Photos courtesy of Tom Fountain



5

Robin connecting the grow beds. **Fig 6** Gene, Bill, Briana, and Robin laying out the aerators. **Fig 7.** Sharon, Robin, and Mary having lunch and trying to work through a problem start-up problem.

The aquaponics unit **Fig 8** is now completed with all the tanks **Fig 9**, grow beds **Fig 10 & 11**, and pumps in place. Robin and crew are currently conducting cycling trials. A cycle is a chemical process that balances out the pH in the water tanks and the grow beds so plants and fish can be added. Cycling also gives the crew a little time to identify possible problems and find solutions. So, production should begin soon after all the diagnostics have been completed.

Amazingly, it was all accomplished because of the tireless efforts of many, many Master Gardeners. A major project like aquaponics unit always need helpers, so if you have some interest in aquaponics or can lend a hand now and then please contact Robin. It will be appreciated.

Are you a Master Gardener and wondering how you can become part of the garden crew? Just come to the Discovery Garden on a Thursday...you can become part of any crew you want to work with. There are always lots of interesting things you can experience and learn about.



Upcoming Events - Nov thru Dec 2017

Galveston County Master Gardener Educational Programs for Interested Gardeners

The following 2017 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>

NOVEMBER

SOIL HEALTH & EVALUATION
Saturday, November 18
1 – 2:30 p.m.

galvcountymgs@gmail.com
to pre-register

Galveston County Master Gardener Jim Gilliam will present the 18 most important indicators that can reveal your soil's health. It has been estimated that 75-80% of plant problems begin with the soil in "the plant root zone." A soil assessment to identify soil problems can be done with only a shovel and a wire flag. Strategies to improve your soil's health for a better garden will be addressed.

DECEMBER

TURNING DIRT INTO SOIL
Saturday, December 2
1 – 3 p.m.

galvcountymgs@gmail.com
to pre-register

Galveston County Master Gardener Jim Gilliam presents a program that covers soil structure and characteristics, pH, nutrients, sources and strategies for soil amendment, testing and cultural practices, with an emphasis on how to improve your existing soil.

CITRUS SEMINAR & TASTING
Tuesday, December 5
Begins 6:30 p.m.

galvcountymgs@gmail.com
to pre-register

Texas A&M Extension Specialist Monte Nesbitt covers such topics as rootstock, variety selection and establishment, production, cultural practices, and typical disease and insect pest problems. An update on Citrus Greening and Citrus Canker issues in Galveston County and surrounding counties will be included.

GROWING TOMATOES FROM SEED
Saturday, December 9
9 - 11:30 a.m.

galvcountymgs@gmail.com
to pre-register

Galveston County Master Gardener Ira Gervais' presentation will include seed variety selection and the care needed to have tomato plants of your choice ready to plant in the garden in February for a bountiful crop of tasty tomatoes. This is the first in a series of three presentations on growing tomatoes. Seating is limited to 90 persons.

**JOURNEY OF TWO FRUGAL MASTER GARDENERS:
IN THE BEGINNING – PROPAGATION**
Saturday, December 9
1 – 3 p.m.

galvcountymgs@gmail.com
to pre-register

Galveston County Master Gardeners Nancy Langston Noh and Brenda Slough will present the various types and techniques of propagation, helping you to discover which type(s) will give you the best results.

SAVE THE DATE

2018 ANNUAL

SPRING
PLANT SALE
Seminar & Craft Sale

Saturday, February 17, 2018

Galveston County Fairgrounds | Hwy 6 | Hitchcock, TX | Galveston County Master Gardeners

8 am Educational Seminar Ed Pickett Hall

9 am Plant Sale Rodeo Arena

1 pm Close

Master Gardener Association Meeting Minutes



By Mary Lou Kelso
MG 2000

September 8 Minutes

Members of the Galveston County Master Gardener Association (GCMGA) met at Moody Gardens Visitor Center to hold their special meeting held for the past several years.

The afternoon started with a visit to the Moody Gardens Greenhouse led by Rainforest Curator Donita Brannon.

That activity was followed with a guided tour by Donita of the Rainforest Pyramid. GCMGA members then attended a 3D movie presentation. The Master Gardeners went to dinner at the Garden Restaurant with Chef Andres Casteneda serving a bountiful buffet.

Special guests attending were Laura Elder, Managing Editor of the *Galveston Daily News* and Michael Smith, Editor of the *Galveston Daily News*.

Allen Isbell, husband of Mikey Isbell, drove in from Houston to be in attendance, only to return that evening in order to be in court the next morning with his clients. Thank you Laura, Mike and Allen for making the evening so special by coming to the event!

After dinner the party continued at the Viewfinders Terrace on the 9th floor of Moody Gardens Hotel, Spa and Convention Center. A dessert party was held under the guidance of Richard Ternstrom, Director of Food and Beverage at the Hotel. The evening ended with a multitude of door prizes donated by Donita and the grand prize of a stay at the Moody Gardens Hotel along with dinner at Shearn's Restaurant given by the General Manager.

Luke Speller, grandson of Martha and Gene Speller and Joey Steber, grandson of Linda and Rich Steber, assisted Mary Lou Kelso with the door prizes.

September 12 Minutes

The GCMGA meeting was held at the lovely home of Gail and Armin Cantini in Galveston (see photos to the right). Everyone enjoyed touring the beautiful garden beds with Gail who does an excellent job keeping them so lovely. A short meeting followed discussing preliminary info regarding the upcoming October Plant Sale. Dinner followed with Gail and Armin cooking up a very special recipe of brisket to go along with all the delightful offerings MGs brought. It was a special evening with the Cantinis who live not far from the beach and everyone enjoyed hanging around to visit with each other!



Photos courtesy of Herman Auer





bulletin board



Volunteer Opportunities

For the **Master Gardener Hotline** contact Ginger Benson
bye-mail at galvcounymgs@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 Brack Collier at bcollier@tlc-galveston.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 www.moody.org/libbies-place-senior-day-program. 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.

SPECIALIST AND OTHER MG RELATED TRAINING

Please see the Texas Master Gardeners Website for details. By visiting the website you can find up-to-date information on Specialist Programs that were added in between editions of the newsletter. txmg.org. You may download the application forms from that website. **Note** all applications for the Specialist Training courses must be approved and signed by Dr. William M. Johnson. **Note** fees do not include lodging or food unless specified otherwise.

VOLUNTEERS NEEDED

Tour Guides for "First-Thursday-in-a-Month" Public Access and Tour of our Discovery Garden

Long-winded title but it says what we will be doing. Our Demonstration Garden will be open for touring by the general public on the first Thursday of each month from 9:00 - 11:00 am. MGs are needed to serve as tour guides for our demonstration Garden.

Contact MG Robert Marshall 281.993.5595, email rbrtm01@att.net or MG Bobbie Ivey 713.748.8564, email blivey@sbcglobal.net 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 Gardener's. 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 galvcounymgs@gmail.com to find out the schedule and join her team.



Don't forget to put the link for our weather station on your smart phone and computer:
www.weatherlink.com/user/gcmga



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



Welcome to
The Discovery Garden

Knowledge Not Shared is Knowledge Lost

GALVESTON COUNTY MASTER GARDENERS



Open on Thursdays, 9-11 a.m. • Other Days by Appointment • 281-309-5065

the last word... Gardeners checklist for November

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

One of the most difficult tasks for a gardener is thinning seedlings in the vegetable garden. Gardeners tend to over-plant vegetable seeds, especially small ones like carrots, radishes (shown above) and most salad greens. Seedlings should be thinned according to the spacing distance recommended on the seed packet before they are 2-to-3 inches high.

Upon awakening on Thursday morning last week, I noticed that the real-time temperature on the house thermostat was two degrees below the set point temperature. Perhaps after several false starts, fall has at last arrived.

However, I know we are in the Upper Gulf Coast region of Texas and we are likely to get a few more rounds of non-fall like weather. The upside to this matter is that we have very mild winters in most years. Another matter is more definitive: day length is becoming ever so shorter with each passing day.

As the fall season settles in, take advantage of the cool days and the slower pace of gardening to prepare your plants for winter. Be sure to perform any needed activities in the home garden and landscape and check our upcoming educational programs as follows:

Citrus Seminar:

This year's Home Citrus Production Seminar is scheduled for 6:30 p.m. on Thursday, November 19, at the Galveston County AgriLife Extension Office in Carbide Park. There will not be a show of locally grown citrus for this year's program. Additional details will be provided in a later column.

Compost Leaves:

Oaks, pecans and other trees in the landscape will soon start dropping their leaves. Start collecting leaves for the compost pile. Be sure to have extra soil available so that each 6-inch layer of leaves is covered with a shallow layer of soil (or compost). Always moisten each layer of leaves thoroughly before adding the soil. Shredding the leaves beforehand with a lawn mower will help speed the process of decomposition, but it is not essential.

Inspect landscape trees and shrubs:

Make periodic inspections on recently transplanted landscape trees and shrubs for soil moisture level. Their root systems will not become well-established for some time. While rainfall amounts have been very generous in most areas, be sure to water new transplants regularly to avoid stressing plants in the event an extended period of dry weather conditions occur.

Plant cool season vegetables:

Cool season vegetables to plant include English peas, radishes, spinach and turnips throughout November.

Thin seedlings:

One of the most difficult tasks for the fall gardener is thinning seedlings. Gardeners tend to over-plant vegetable seeds, especially small-seeded vegetables like carrots, radishes and most salad greens. Seedlings should be thinned according to the spacing distance recommended on the seed packet before they attain 2-to-3 inches height. If you do not thin them, you will likely be disappointed by lack of production.



Photo courtesy of Dr. William Johnson

Cool-season annuals:

This is an ideal time to plant cool-season annuals to provide color in the landscape. There are many types of annual flowers that bloom only in cooler weather. Pansies are a favorite choice as they are on the list of Texas' top-selling annual flowers.

Pansies are hardy and will bloom over a long season. The old-fashioned face varieties have been steadily improved for better garden performance, and many new varieties with solid or bi-colors without a face are now available.

Pansies are available in a wide array of colors ranging from bold yellows, oranges, and reds, to pale pastels. Miniature pansies are also becoming popular.

Delay pruning woody plants:

Don't get in a hurry to prune woody plants. Late December through February is usually the best time to prune them.

Sanitation in the garden:

November is a good time to reduce the insect and disease potential in next year's garden. Remove all dead or diseased plants. This will help ensure that disease-causing fungi do not have a place to overwinter.

Divide perennials:

In order to increase your stock of clumping perennials, divide spring and summer bloomers during the fall and winter. Those which are fall bloomers can be divided in the spring, or season opposite to bloom time. Most perennials left in the ground in the same place for more than 3 years are likely to become overgrown and overcrowded. Passing favorite plants along to friends or trading for a prized plant is a favorite part of perennial gardening.

Plumeria:

As the days lengths become shorter, some lower leaf yellowing and drop is normal for plumeria plants. Some plumeria varieties may produce blooms into December when weather conditions are favorable. But watch out, an early frost can damage or kill the plant. Plumeria stop growing when the average ambient temperature drops below 65 degrees Fahrenheit. Stop fertilizing and reduce water to encourage plants to go into its natural dormant period. It is difficult to predict the weather and therefore it's difficult to give a date by which your plumeria should be safely stored for the winter. By all means, if temperatures are expected to fall into the lower forties, the plants should be protected.

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

2017 MGA Monthly Meetings



By Judy Anderson
MG 2012

December

Please join the Galveston County Master Gardeners for the December Holiday celebration at the home of Allen and Mikey Isbell. Get into the seasonal festivities by participating in the White Elephant Gift Exchange; bring a gardening gift valued under \$5.00 for a man or woman. Also, unwrapped children's gift will be collected for a local shelter. Bring a pot luck dish for the holiday feast. Dress up in your festive attire and join the party.

New Galveston County Master Gardener officers will be installed during the evening

MG Judy Anderson thanks MGs for hosting backyard meetings.

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

January

Kick off the 2018 Year as the Master Gardeners gather for a traditional New Year meal. It will be an opportunity to hear the outgoing GCMG President review the past year and the incoming GCMG President will identify the upcoming MG activities. Join all of your Master Gardener friends as we begin another year of gardening.



FEEDBACK

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