THE SUCCULENT ISSUE

GULF COAST Gardening

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TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Galveston County

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

Why We Like Succulents

Kathy Maines

"Life is like a succulent, full of pricks, but incredibly beautiful." – Unknown

Welcome to summer on the Texas Gulf Coast. If you are looking for something that is easy to grow from June thru September, The Succulent Issue is for you. According to Aggie-horticulture at https://aggie-horticulture.tamu.edu/databases/cactus/growingcactus/ , "Succulents are plants that have organs such as leaves, stems or roots that are capable of storing water during the rainy or wet season in order to survive extended periods of drought. All the plants in the cactus family are considered stem succulents." Sounds perfect for Galveston County.

Succulents come in many different sizes and shapes, with and without thorns, edible and medicinal. One that probably most of us have grown is aloe vera. Aloe vera has been used for different skin conditions. The prickly pear cactus was designated the official plant symbol of Texas in 1995. The prickly pear fruit is called a tuna and is edible as are the branches or pads. Red Yucca is the latest Texas Superstar. It is an herbaceous shrubby perennial succulent with evergreen foliage and can be long-lived, said Greg Grant, Texas A&M Agrilife Extension Service horticulturist, Smith County. "Red yuccas are one of those plants we should all be utilizing," he said. "They thrive in most parts of Texas in alkaline to acidic soils. It is tough to find a plant that is adapted to Texas as well as red yucca."

With thousands of different types of succulents, there is bound to be one that would be perfect for your home or yard. This time of year, succulents are a plant you can enjoy by looking at out the window of your air-conditioned home. It has been said that anyone, regardless of the color of your thumb, can grow succulents.

I hope you enjoy our succulent issue and remember not to overwater!

Kathy Maines

Save Water...Grow Succulents!

Karolyn Gephart

It is hard to ask a gardener who is passionate about succulents to name one favorite. But we did just that and for many it was a difficult question but they responded. Enjoy the many varieties of succulents they named on pages 10-11. MG Kaye Corey could not name just one so I have included one of her favorites that loves her too: the Flap Jack.

The Flap Jack (*Kalanchoe luciae*) is very easy and showy. An eye catcher! It can add just the right large filler in an arrangement of succulents.

Photo by Kaye Corey

Summer has arrived and to aid all gardeners we have also included what's new in drip irrigation and reasons to harvest rainwater (when and IF we see some!)

Thank you MG Doris Heard who shared a winning photo in black and white: the moonflower. It is certainly even more beautiful with no color to distract you. She mentioned the hummingbird moth and Hedy Wolpa provides information about it.

We hope you enjoy this issue. We suggest you grab some lemonade, turn down the AC, and sit back and enjoy Gulf Coast Gardening. It was written for YOU!

Karolyn Gephart

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Photo by Hilda Rebolledo

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Graptopetalum paraguayense
'Ghost Plant'
Cover Photo by Michelle Thompson

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Written by Galveston County Master Gardeners in cooperation with the Galveston County Extension Office of Texas A&M AgriLife Extension Service.

Succulents: Sculptural Wonders

Patricia Martin
GCMG 1998

Succulents are plants that store water and food in their leaves or stems for use during periods of drought. Almost all members of the cactus family (Cactaceae) are succulents, but not all succulents are cacti. Cacti store water in their stems while other succulents store water in their leaves or in some cases their stems if the plant has minimal or no leaves. Three percent of flowering plants in the world are represented by succulents. There are about 60 different families of succulents. Most succulents with which gardeners are more familiar are in 15 families.

Cultivation, Water and Fertilizer

The soil for growing succulents should be 1/3 each premium potting soil specifically for cacti and succulents, perlite or pumice and coarse sand. During the dormant winter season (November through February), water only every three to four weeks. Some cacti need to be kept completely dry during the dormant period. For the growing season (March to October) water every seven to ten days.

Use a slow-release fertilizer adjusted to the size of the pot or plant. You can also use dilute, readily available liquid seaweed or fish emulsion at 1/4 strength every six weeks during the growing season. Stop the use of all fertilizer by October to allow the plant to go dormant.

Many gardeners use clay pots for growing succulents. Remember to adjust the amount of water used to the type of container. Clay pots dry out faster than ceramic or plastic pots. Small pea gravel, expanded shale, crushed limestone or marble can be used as a top dressing for the container.

Problems and Pests

Plants can sunburn if put in direct sun without acclimating them first. Cacti and other succulents as a group are relatively free of insects and disease problems. Mealybugs, scale, and aphids are sucking insects that can infest succulents. Rubbing alcohol on a brush or a cotton swab that is lightly applied to the pests can kill many. Scale is more difficult to control, and superior horticultural oil or Neem oil may be considered for use. Be careful using insecticidal soaps as they can damage more sensitive plants. During the winter months, many succulents need to be protected if the temperature drops below 40 degrees.

Succulents make wonderful dish gardens, rock gardens and hanging baskets. Some examples of small or low-growing succulents are genera *Echeveria*, *Euphorbia*, *Haworthia*, *Portulaca*, *Sedum*, and *Sempervivum*. A word of caution about *Euphorbia*. A characteristic of this species and most in the related family (Euphorbiaceae) is all the plant parts contain milky latex. The latex substance causes irritation to exposed skin. The latex can lead to temporary or even permanent blindness if in contact with a person's eyes. Always wear garden gloves and extreme care should be taken when working with these plants.

Echinocactus eyriesii

Echinocereus pectinatus var. rubispina

Photos by MG Patricia Martin

"Three percent of plants in the world are succulents."

Medium sized succulents can be used in the landscape or containers as a focal point in the garden. These succulents are more shrub-like and can be from one to five feet tall. Some examples of these succulents are *Aeonium*, *Agave*, *Bulbine*, *Crassula*, *Euphorbia, Kalanchoe*, and *Sansevieria*.

Succulents are easy to grow and reward the gardener with beautiful flowers and colorful plant forms. They are easy to propagate and share with others. Try one of the many projects in which succulents are used such as a vertical wall garden, a rock garden or a geometric design in a planter. The possibilities are many!

Sources

Designing With Succulents by Debra Lee Baldwin, 2007

The Garden Succulents Primer by Gideon Smith & Ben-Erik Van Wyk, 2008

Houston Cactus & Succulent Society web site https://www.hcsstex.org

Growing Succulents on the Gulf Coast, Kevin Gibbs, Nueces County Horticulture Agent, YouTube video

Kalanchoe gastonis-bonnieri

Euphorbia lactea Cristata

Euphorbia infausta

Photos by MG Pat ricia Martin

Succulents: How to Water and Propagate

Pat Forke
GCMG 2010

There's only one problem when dealing with succulents. That problem is killing them with love. More succulents die from over watering than any other reason and it is a good option to let them dry out between waterings. Seven to ten days between watering is best. Succulents have the ability to store water in their leaves. Even if they look very dry and feel very dry, they have their own reservoirs in their leaves, stems and roots.

The next thing to consider is the soil. There are potting soil mixes designed specifically for succulents. Or, you can mix your own with equal parts of potting soil, pea gravel and coarse sand.

Propagating succulents from stem, leaf cuttings, or pups (offsets and plantlets) enables you to expand your collection and share plants with other gardeners. Decide which plants you wish to cut the stem or leaves from to propagate, or remove the pups. You should be working with a sharp knife, snips or clippers that have been cleaned and wiped with isopropyl alcohol. You also will need clean pots, open flats or liner trays. Be sure these have sufficient drainage holes. Keep in mind that clay pots will dry out faster than plastic or ceramic.

Choose the plant that looks a little leggy and make a cut right below a growth node. You will want to keep a few leaves on the cut stem. Your cut stem should be placed one to two inches deep in your potting soil. Make sure the cut stem remains upright.

If you prefer to work with leaves, leaf segments or pups, detach these carefully. Choose thick, healthy leaves near the base of your plant. Grasp the leaf and remove it with a downward motion. Your leaves, segments or pups will need to heal for a few days in a dry, cool and shady spot. They can then be placed in a mixture of 75 percent perlite and 25 percent peat. Rooting hormone is not necessary.

Place your cuttings in a bright, airy and humid spot away from direct sunlight. You will need to water deeply but infrequently. You should see your cutting beginning to root within a couple of weeks. By four weeks, you should be able to pull gently on your cutting and feel some resistance. By six weeks, you should be able to transplant your new plant into a larger container. You will not want to place your cuttings directly into your garden. You will need to pamper your cuttings at first to help assure your cuttings will become healthy rooted plants.

See instructions below for making your own succulent pizza for buds, leaves and segments.

Growing cactus from seeds is a bit more challenging and takes longer. If there is a specific cactus you cannot find otherwise, seeds might be your only option. Follow cultivation directions on your seed packet and sit back and wait patiently.

Lay pups or stems on top of media for rooting

Full grown Mother of Thousands

Photos by MG Pat Forke

"You will need to pamper your cuttings."

A Scrumptious Succulent Pizza
(just kidding – do not eat it)

I like to use clay saucers – they come in so many sizes and are inexpensive. Fill with 75 percent perlite and 25 percent peat. Place your leaves, segments or pups in the saucer – same way you would put pepperoni on your pizza. Set these segments or pups on top of your soil mixture. Again, be sure to not overwater. Avoid direct sunlight at this point. I prefer misting these little ones until they are large enough to be moved to a larger pot. This pizza idea came from Paula Spletter. Paula is a certified Texas Master Gardener from Dallas County and presented an awesome program for Galveston County several years ago.

Leaves can be propagated

Kalanchoe daigremontiana Mother of Thousands

Small "pizza"

Photos by MG Pat Forke

Favorite Succulents of GCMG's

Fran Brockington - GCMG 2018
Carrion flower *(Stapelia gigantea),* soft, spineless, upward growing, produces HUGE star shaped flower (smelly, but amazing). (Common name comes from the malodorous flower aroma which resembles the smell of rotting meat).

Penny Bessire - GCMG 2012
Dragon Fruit. (*Hylocereus undatus*) They only bloom at night and smell so grand. The blooms are huge (8-12 inches across).

Debbie Brizendine - GCMG 2015
I have Agave. Several pots & lots of babies. I usually nip off the sharp tips with clippers before I handle them.

Sharon Zaal - GCMG 2015
Pencil Cactus *(Euphorbia tirucalli)* Charmingly quirky appearance and easiest plant to thrive on neglect . . . My kind of plant!

Alice Rogers - GCMG 2013
Snake plant - mother-in-law tongue (*Dracaena trifasciata*)
I like them...just because. They grow tall. I can cut in 2 inch cuts and plant the cuts and voila, propagation! Fits anywhere, inside and outside.

Kaye Corey - GCMG 2001
I enjoy mistletoe cactus *(Rhipsalis baccifera)* derived from the Ancient Greek word for "wickerwork," referencing the plant's form. There are over 35 different species of this plant, so *Rhipsalis* can come in all different shapes and sizes.

"GCMGs each enjoy special varieties."

Patricia Martin - GCMG 1998
The sand dollar cactus *(Astrophytum asterias)* has a lovely sculptural shape and beautiful flower which lasts several days while blooming. This cactus is long lived and has interesting spines and markings making it a favorite. I always look forward to it blooming in the early summer.

Sandra Gervais - GCMG 2011
Buddha's Belly
(*Jatropha podagrica*)
The more shade the bigger the leaves. An attention grabber, this plant propagates easily with an exploding seed pouch that scatters them.

Tish Reustle - GCMG 2008
My favorite succulent is Madagascar Palm (*Pachypodium lamerei*) which is neither a palm nor a cactus but a succulent. I love it in spite of its killer spines and the fact that I have to risk my life to get it into the garage every time there's a freeze. It has a wonderful modern look to it and a crazy top knot of leaves that remind me of a Dr Seuss character. Once outside it tolerates heat and drought so is easy to care for……until I have to bring it inside again! I'm eagerly awaiting "fragrant white flowers"

Stacey Phillips - GCMG 2017
Orchid cacti (***Epiphyllum*** spp.) because they thrive in our high humidity and have very low maintenance requirements (they even prefer being root bound). Pictures don't do this beauty justice, but this photo is one of the best I captured this spring. I ended up with 62 blooms this year!

Joyce McMillan - GCMG 1994
Coral reef sedum *(Sedum Tetractimum)*. Grows both in shade and/or sun. When grown in full sun turns little orange. It's under my outside bench & grows well in between pavers. Very easy to grow.

Cheryl Brueggeman - GCMG 2014
Aloe vera
So easy to propagate. This pretty and functional succulent is perfect for beginners because it can tolerate the occasional forgotten watering.

Heritage JMG Kids: Flower Show Terrariums

Kay Corey
GCMG 2001

The Heritage Junior Master Gardeners always enter Heritage Gardeners of Friendswood's bi-annual flower show. This is part of the JMG program teaching design principles and landscape design. The 2022 show was a horticulture show entitled The Very Hungry Caterpillar and was held May 12-14 at the HG Garden Clubhouse in Friendswood.

I used this teaching opportunity for the JMGs to create an environment for a collection of compatible plants using enclosed clear containers called terrariums.

Plants transpire moisture through their leaves, which then condenses on the inner surface of the container and flows back to the soil. This 'rain effect' allows the terrarium to go for weeks without watering.

The Kids began their terrariums in February for a May show. About an inch of pebbles topped with another inch of deactivated charcoal were placed in the bottom of their containers. Moss was added to separate the charcoal from two inches of potting soil.

Selected plants included Earth Star (*Cryptanthus sp.*), Dwarf Inch-plant (*Tradescantia fluminensis*), and a variety of succulents. All were plants with low water requirements. The Kids watered using a spray bottle after planting. The terrarium container was covered with plastic wrap while the Kids created permanent tops. If condensation on the inner surface of the container was not experienced, I suggested ice cube watering to prevent over watering which might result in fungus or rot. Too much condensation could be controlled by leaving the top open a few hours.

For the show in May, the terrariums were topped with dish type containers that allowed the Kids to create their own hungry caterpillar scenes. They made clay caterpillars and we thank Flower Show Judge Corrie Ten-Have who made a pebble caterpillar for each Kid.

Their homegrown horticulture was also entered in the show. Pots of fruit bearing peppers, strawberry plants, etc. were included in their show.

A big success was experienced with Youth Awards and blue ribbons for all!

First Place winner

Caterpillars on top

Display of Terrariums

Junior Master Gardeners

Photos Courtesy of JMGs

Gardeners Tasks

Patricia Martin
GCMG 1998

Sow zinnia seeds in July. Photo by Karolyn Gephart

July

- Try solarizing raised vegetable beds for the next two months. Solarization helps control soil-born pests including disease caused by pathogens, insects and weed seeds. Use clear plastic to cover the area after plants and debris have been removed and the soil has been watered deeply. Steam will be produced using the sun's heat. Leave the plastic on the area for four to six weeks in the summer months, then remove the plastic. Because solarization kills most organisms, compost needs to be added to the soil to replenish the beneficial worms and other organisms to the soil before planting in the fall.
- Plant cantaloupe, summer squash, watermelon, Lima pole beans.
- Sow tomato seed inside in late July in a cool area for planting in the fall garden.
- Sow seeds of the following annuals for late summer and fall flowering including marigold, Zinnia, periwinkle, Petunia, Cosmos, Portulaca, and Ageratum.
- Stop pinching back mums and poinsettias to allow plants to fill out and flower properly.
- Sow seeds of snapdragons, Dianthus, pansies, and Calendula in flats to transplant outside in mid to late fall.
- Do not spray pesticides during the heat of the day in the summer to avoid burning the leaves. Early morning or late evening is the best time.

August

- Mid-August is the beginning date for planting wax and Lima bush beans, pinto beans, cucumbers, kale, and collards. For Galveston County gardeners, pepper transplants and Irish potatoes may be planted this month.
- Fertilize tomato plants weekly with a dilute solution of water-soluble fertilizer.
- Plant these seeds - southern peas, corn, and okra.

Pepper transplants can be planted in August. Photo by Karolyn Gephart

- Begin planting cauliflower, Brussel sprouts, cabbage, and broccoli seed in a cool place to produce fall transplants.
- Continue to water fruit trees as they are setting next spring's fruit buds now.
- Caladiums require plenty of water during hot weather periods to keep them looking their best. Other large leaved plants like Hydrangea, coleus and Chrysanthemum need extra water this time of year due to hot dry wind.
- Many spring flowering shrubs will be forming flower buds in late July and August. Not enough moisture can reduce the quantity and quality of spring flowers. Monitor these plants for adequate rainfall and/or irrigation — azaleas, Camellia, peaches, pears, forsythias, and other similar plants.
- Check plants for mulch. Add more mulch when needed to retain soil moisture and prevent weeds.
- Continue to maintain plants like cape honeysuckle, firebush (Hamelia patens), firecracker plant (Cuphea ignea), cypress vine (Ipomoea quamoclit) or pineapple sage (Salvia elegans) to attract butterflies and hummingbirds.

Sources

Spade to Spoon by GCMGA

Garden Checklist for July and August by Dr. William C. Welch, July 2002

Texas A&M AgriLife Extension publication EHT-087, "Soil Solarization" by Joseph G. Masabni and Jose G. Franco

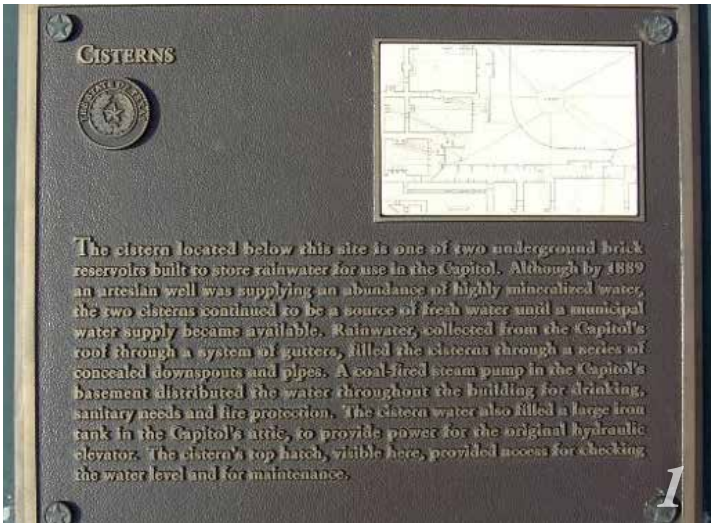
Rainwater Harvesting Increases in Popularity

Nat Gruesen
GCMG 2004

Rainwater is a valuable and free source of nearly pure water. In fact, its quality almost always exceeds that of ground water or surface water since it does not come into contact with soil or rocks where it can dissolve minerals, salts or pollutants such as chemicals or fertilizers. For this reason, many consider rainwater to be the gold standard. For non-potable uses such as watering landscapes or home gardens, rainwater is ready for use as it falls from the sky.

In modern society, many believe rainwater harvesting is a relatively new concept and practice. Numerous new subdivisions and commercial developments now incorporate rainwater collection in their communities. However, rainwater harvesting has been around for thousands of years. In more recent history, our forefathers who settled the frontier depended on rainwater collected and stored in cisterns for their survival. Historic structures like the Texas State Capitol, which was constructed during the 1880s, had two underground cisterns built to store rainwater for use in the capitol. (photo 1)

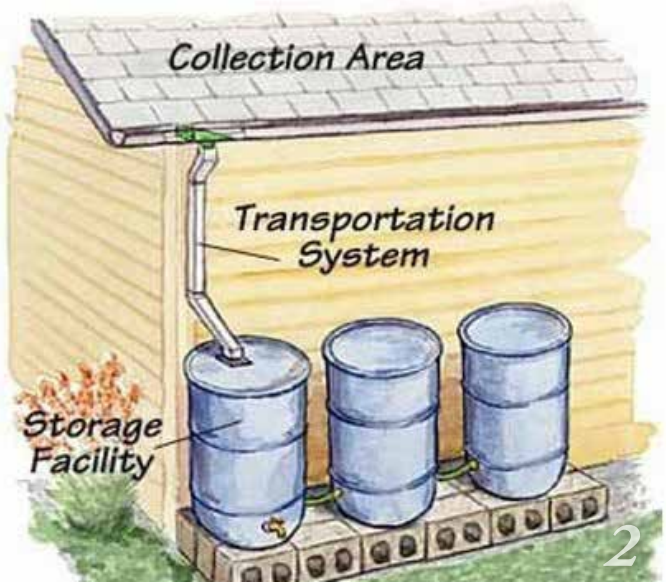
Today brings a renewed interest in collecting rainwater. There are many and varied reasons for this renewed interest such as conservation and drought. This is especially true during the dog days of summer. However, the Texas Gulf Coast receives an average annual rainfall in the range of 42 inches to 48 inches. So there is certainly ample rainwater to be collected. Unfortunately, for our area all that rain can occur in a single rain event. For this reason it is all the more important to collect rainwater in order to manage and reduce storm water runoff and flooding. Although it may seem insignificant to the typical homeowner, just imagine if every home had a rainwater collection system!



It is relatively easy for the typical homeowner to install a simple rainwater collection system. A simple water collection system consists of a catchment surface such as roof, downspout and a rain barrel. Gravity moves the water from the roof through the downspout to a different location, diverting the water to a collection container (photo 2). Actually, a catchment is any area from which water can be collected, including roofs, paved areas and the soil surface. The best catchments have hard, smooth surfaces such as concrete or metal roofing material.

For today's purposes, let's discuss a simple rainwater collection system and making a rain barrel. Rain barrels can be made from a variety of containers. You can even convert a trashcan (new of course!) into a rain barrel (photo 3). In order to convert your trash can into a rain barrel there are a few basic tools that you will need to get started. These items include a power drill, 3/4-inch paddle drill bit and a 2-inch hole saw (photo 3). You will also need a 6-inch hole saw, a jig saw and some caulk. As you can see from the diagram (photo 4), the supplies needed to construct your rain barrel are minimal and relatively inexpensive. All of the items can be purchased at your local hardware store. For a slightly larger system, several barrels can be connected or daisy chained together (photo 5). This can be done by connecting the overflow from one barrel to the next. As the barrel fills to capacity, the overflow will fill the next barrel and so on.

It's amazing how much water can be collected from even a relatively small rain shower. For example, for a one-inch rain event approximately 940 gallons of rainwater can be collected from a 1500 square foot roof. That's a lot of water! In order to estimate how much rainwater you may be able to collect, remember this

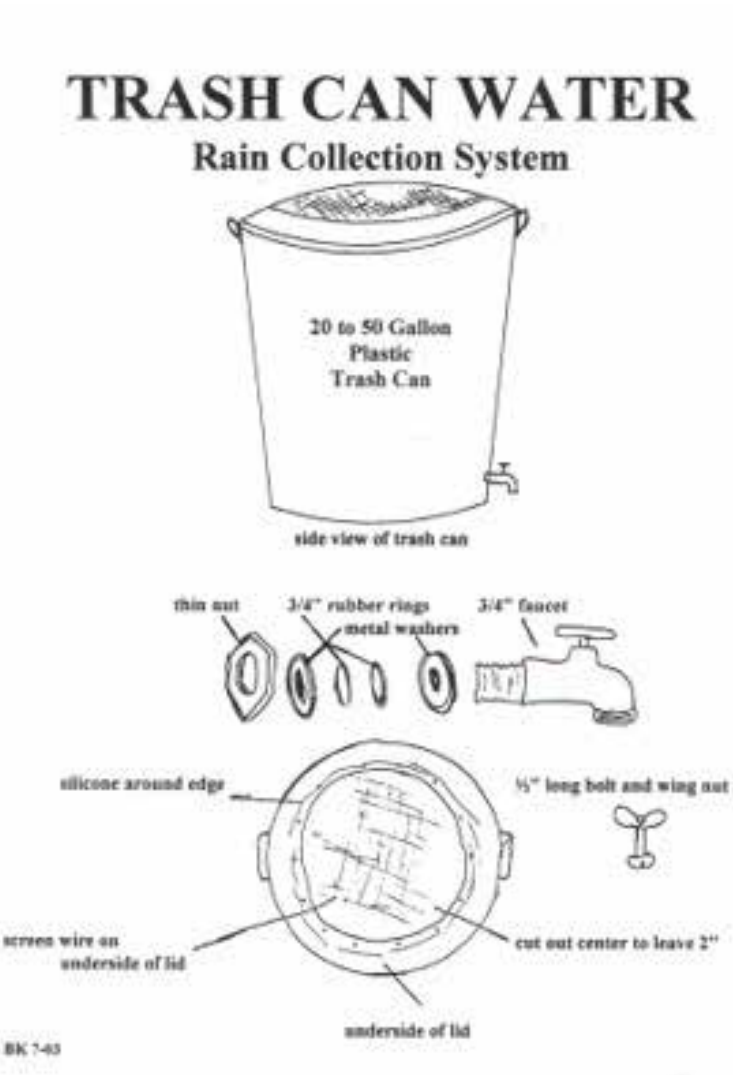


"Today brings a renewed interest in collecting rainwater."

simple formula: Water Collected (gallons) = Catchment Area (sq ft) x rainfall (inches) x .623 (conversion factor).

As water becomes a vital concern it is imperative that we are good stewards of our resources. For this reason, rainwater collection is gaining in popularity with many homeowners. It is relatively easy to install a simple rain barrel with little time and money invested, and at least some of the water is able to be collected before it becomes storm runoff.

If you are considering installing a rainwater barrel or collection system, be sure to check if there are any deed restrictions that would prohibit this. If not, the sky is the limit! Happy collecting!



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Sources:

Rainwater Collection for the Mechanically Challenged: Suzy Banks and Richard Harrison

Rainwater Harvesting Manual: Billy Kniffen, Menard County Extension Office

Resources and Publications:

Agrilife Bookstore: https://agrilifelearn.tamu.edu

AgriLife Rainwater Harvesting home webpage: https://rainwaterharvesting.tamu.edu/; and publications webpage: https://rainwaterharvesting.tamu.edu/publications/


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Building Raised Beds

Stewart McAdoo
GCMG 2012

Raised beds make sense for the casual gardener because of their convenience and productivity. Along the Gulf Coast we have our garden areas on flat lots, common for the Gulf Coastal Plain geology. The soil is usually what is commonly called gumbo clay. Residential lots often have a thin layer of sand spread over the gumbo. The upshot is this isn't the best environment for growing flowering plants, vegetables, or herbs, etc. Most of these plants require a layer of thick relatively loose, friable soil. One can obtain bags or truckloads of garden mix from nurseries or soil providers.

You do not want to just spread a layer over your gumbo because it will wash away during a good rainstorm, and the layer would be too thin for heathy root systems of plants to grow. An example of what can happen is that if you plant carrots in a thin 3 to 4-inch layer of garden soil you will get carrots that are 3 to 4 inches long. They will not easily penetrate the gumbo. So, what to do? You provide raised beds for your gardening endeavors. For vegetable and herb gardening, a raised bed that constrains the soil allows you to have a thick layer of soil in which to grow these plants.

Raised bed frames can be made of stacked stones, low concrete walls, landscape timbers, or treated dimensional lumber. Stacked stones are expensive and a lot of work. Low concrete walls are also a lot of work. Landscape timbers are prone to rot. There are also commercially available products for providing walls for raised beds (see the article contributed by Kevin Lancon in the newsletter's 2022 March-April issue).

Let me point out a concern about the materials if you choose treated lumber. Traditionally, for many years pressure treated lumber was treated with chemicals that were unhealthy for consumption, such as arsenic and heavy metals. If you have a stash of older treated lumber from before 2004, DO NOT use it! The newer treated lumber is much friendlier to gardening. An organic gardener could use plain untreated lumber but expect to replace it periodically. Other materials to use for organic gardening could be brick, cinder blocks, and natural stone.

A bed for a Junior Master Gardener Chapter

Back in 2017, my wife, Gayle (MG 2005), asked if I would help the faculty sponsors for the local elementary school's Junior Master Gardener (JMG) chapter. They wanted a raised bed about 8 to 10 feet long. I proposed a bed design like the ones which had been previously built in the Discovery Garden (our GCMG demonstration garden). It would not be as deep because the JMG budget was a consideration as well – the deeper the bed, the more costly.

Moving forward, a faculty sponsor and I went shopping at the local big box store and purchased two 2x8x12s and one 2x4x8, all treated lumber and a box of Phillips head 3-1/2 inch deck screws. Back at the school, I cut the 2x4 into 4 pieces 2 feet long and cut 4 feet off the end of the 2x8s. Next, we dug 4 holes at the corners of the bed location 2 feet deep. We assembled the frame using the two 2x8 8-foot boards for sides and the two 2x8 4-foot boards for ends. A 2x4 was used at each corner to hold the structure together (see the illustration). The frame was placed into the holes and checked for square after which the holes were backfilled. All told, the project took the two of us two hours including the trip to the store.

Photos by MG Stewart McAdoo

"Anyone can easily construct a raised bed..."

How to Build Your Own Raised Bed

Based on the experience with the JMG bed, anyone can easily construct a raised bed for their back yard gardening activity:

Review the lay out at your location to check best fit. It is best that you keep the dimensions to 4 feet wide. This width allows you to work your garden from both sides with ease. Length should be seven feet long (e.g., 8, 10, 12…) to match available board lengths.

Remove the grass and weeds from your selected location.

Purchase the lumber you need. In the example above we wanted an 8-foot bed, so we purchased two 2x8 treated 2x boards 12 feet long. As for the board width you want at least 8 inches but if you want a deeper bed you can opt for 10 or 12-inch wide lumber. For the corner posts I would recommend a 2x4x8. Purchase a box of 3-1/2 inch Phillips head deck screws.

Cut the 4-foot bed ends from the long boards and cut the 2x4 into four 2-foot lengths.

Dig four 2-foot deep holes in your bed location where the corners of the bed will be. This will allow the legs at the corners to set in place in the soil so the bed frame will not slide around or shift in shape.

Screw the sides of the bed frame to the end of the end pieces. Use at least 2 screws, 3 will be better.

Set end posts in the corners just created and screw them into place from the outside of the frame. As before, use at least 2 or 3 screws in each direction.

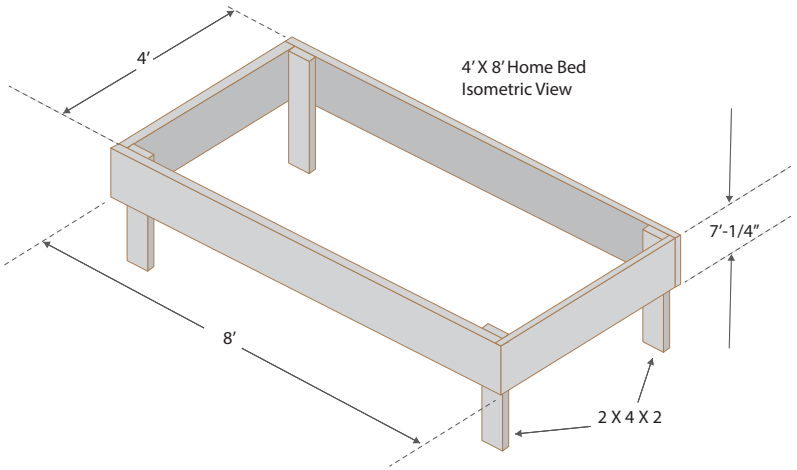
Set the frame at the location with the corner posts in the holes previously dug. Fill in around the posts.

Calculate the amount of soil you will need by multiplying the length by the width by the depth to get the number of cubic feet. Then divide that number by 27 to get the number of cubic yards.

You can go to the store and buy soil in bags by the cubic foot or order the soil by the cubic yard delivered. Either way, fill to the upper edge with soil.

Plant and enjoy!

https://agrilifeextension.tamu.edu/library/gardening/building-a-raised-bed-garden/



Photos by MG Stewart McAdoo

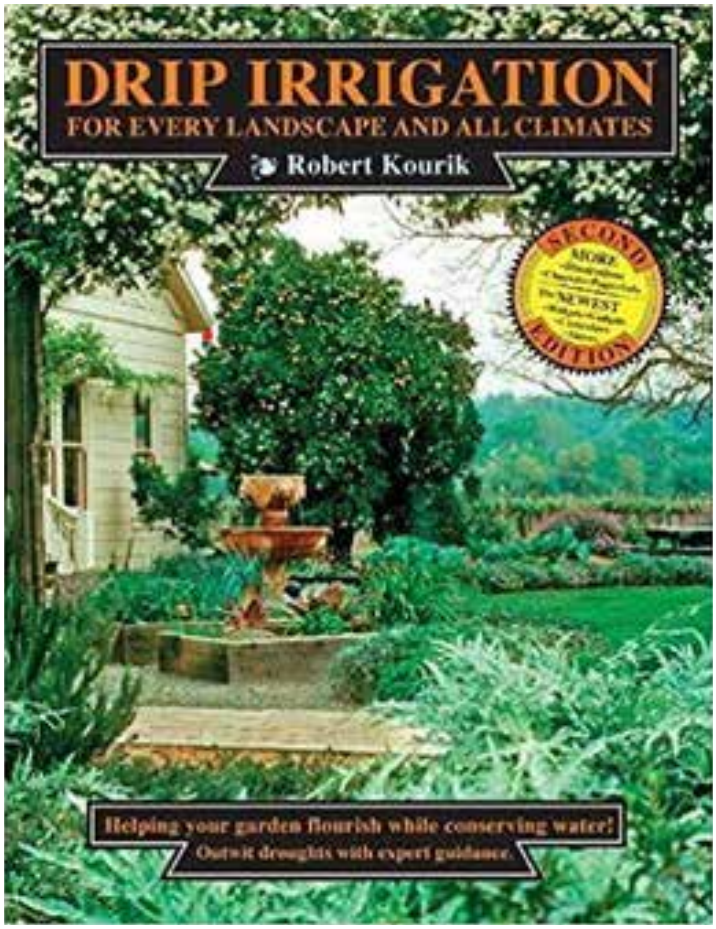
Drip Irrigation - Then and Now

Laurel Stine
Administrative
Assitant
Horiculture

Many years ago when I resided in Southern California, we experienced our first very serious drought. Immediately, we were subject to water restrictions, including what day of the week we could run our sprinklers. The only form of watering we could use at will was something called drip irrigation.

We had been hearing about drip irrigation in the newspaper (this was before the lightning-fast, all-encompassing internet), but home improvement stores had little or nothing on the shelves for it, and there was specialized information about it only for folks such as Master Gardeners. Drips of water onto the soil? Such a concept seemed so foreign that no one felt much urgency.

That all changed with our sudden water shortage, and I had a yard full of wonderful plants which I wanted to water when I needed to. This was Southern California, and it's not like I could wait until the next rain. I had some quick learning to do.



Fortunately, the University of California provided well for its Master Gardeners when it came to information. One tip that came my way was about a book called Drip Irrigation for Every Landscape and All Climates by Robert Kourik. It's still in publication (in updated form) today. From it I learned about the basic concepts underlying drip irrigation. It included comprehensive information about drip irrigation components and parts.

So which parts did I need? Who was Netafim*? What catalogs should I order?

At this time the Master Gardeners fortuitously presented a basic drip irrigation class, held by a pioneering landscaper who was beginning to specialize in drip irrigation. I learned that the place to acquire the various parts was an irrigation supply store (couldn't buy it online!).

So I discovered the irrigation store in Encinitas, CA that consisted of a large, dimly lit building with stools in front of a wooden counter and girlie calendars on the wall. You see, this was the place professional landscapers came for their parts. And, I was usually the only woman present.

With many setbacks and a steep learning curve, I learned how to acquire and assemble the basic parts found at the start of a drip system into something called a manifold, and how to attach the various sized tubing, emitters and sprinklers to it. At that time there was hardly anything which would attach to a hose, so I learned about gauging water pressure from the street and how to more or less manage pvc pipe and glue.

A few tips if you are considering installing your own drip system:

Always have an extra screen filter insert for your filter, in case you cannot immediately flush or clean the one in use. Drip parts work with small orifices, which can easily clog

Always buy extra one-fourth inch tubing parts, such as plugs or connectors, because they will drop and get lost in whatever you have below your project (spoken from sad experience).

Always flush your lines as you construct through the different size tubing. It's amazing what can get into them, and nothing is more frustrating than multiple clogs in emitters.

Fast forward to today, where I found myself needing to irrigate some large containers while I traveled. What a difference! I easily found an irrigation store online, where lo and behold, there was a section just for homeowner container gardens, with all kinds of parts suitable for attaching to a hose bib.

"Hurray for progress!"

With help from my strong-handed husband, I was able to assemble the system in about half a day.

For the ultimate in convenient irrigation, there are myriad hose-end timers that will automatically do the watering for you. My hose bib is connected to my in-ground sprinkler time clock.

We've come a long way, and the planet (as well as homeowners' gardens) is certainly the better for it. Hooray for progress!

*Netafim is one of the original pioneers in drip irrigation engineering, founded in Israel in 1965. Today, they are a global leader in the field.

https://digital.hbs.edu/platform-rctom/submission/netafim-grow-more-with-less/

https://www.netafimusa.com/agriculture/about-us/

Parts in order from the hose bib: a) Filter b) Pressure Regulator c) Spin lock attachment to one-half inch tubing

Adjustable drippers attached to one-fourth inch tubing

Plant of the Month: Gregg's Blue Mistflower

Pam Hunter
GCMG 2018

If you're looking for a perennial for your flower bed, consider Gregg's Blue Mistflower *(Conoclinium greggii).* It is a palm-leaf mistflower that grows up to 2 feet tall with palmate leaves deeply divided into three lobes which are again pinnately dissected. Small, purplish-blue flowers cluster together to form puffy, 2 inch, cushion-like flower heads.

Common Name(s):

Gregg's Mistflower, Palmleaf Thoroughwort, Palm-leaf Mistflower, Palm-leaf Thoroughwort, Purple Palmleaf Mistflower, Purple Palmleaf Eupatorium

USDA Hardiness Zone(s):

Zones 7a through 10b

Plant Characteristics:

Type: Perennial

Family: Asteraceae

Height: 1 to 3 feet

Spacing: 2 to 3 feet

Bloom Information:

Bloom Color: Purplish-blue

Bloom Size: Small, 2-inch cushion-like flower heads Bloom Time: March through November

Culture:

Exposure: Sun, partial shade

Soil Moisture: Dry

Soil Description: Gravelly, calcareous soils Water use: Medium

Tolerates Deer: This plant provides deer browse.

Native Habitat: Frequent along stream beds and overflow areas in the Trans-Pecos, east to Edwards plateau and the Rio Grande Plains.

Propagation:

Rhizomes & seeds

Benefits:

Good ground cover. Butterflies love the interesting divided flowers.

According to Galveston County Horticulture Extension Agent Stephen Brueggerhoff, "While Gregg's Mistflower has been noted to grow aggressively in its natural habitat, one can cultivate this butterfly magnet in containers and take advantage of profuse nectar production and food source for pollinators." *

Ref: UT, Lady Bird Johnson Wildflower Center (Wildflower.org)

*Stephen Brueggerhoff, Galveston County Horticulture Extension Agent

Conoclinium greggii; Courtesy Joseph A. Marcus, Lady Bird Johnson Wildflower *Center*

Conoclinium greggii; Courtesy Bruce Leander, Lady Bird Johnson Wildflower Center

Conoclinium greggii; Courtesy Lee Page, Lady Bird Johnson Wildflower Center

Moonflower

Doris Durbin Heard
GCMG 1990

I wanted to share this photograph of a Moonflower (*Ipomoea alba*, Morning Glory Plant Family Convolvulaceae) with my fellow Master Gardeners and friends. The photo was taken with my iPhone for a recent Garden Club of Houston Flower Show titled *Color*.

The Photography Class that I entered was named *Black and White, Absence of Color*. Reading about the physics of light, I found that white objects look white because they reflect back all visible wavelengths of light that shine on them. If no light is reflected, it is all absorbed and you see black.

Last year I planted this vine in the alley behind my house. It has beautiful large white, fragrant flowers that open at night and attract moths for pollination. It's an annual plant, but it can grow quickly – even climbing to the top of a telephone pole before cold weather arrives. If you plant Moonflower seeds in your garden, you might be fortunate enough at dusk to see a hummingbird moth visiting it.

You can find packets of these seeds at most garden centers. I used Moonflower variety Giant White. You can sow the seeds outdoors directly into the soil from March to May. Full sun is recommended. This year I started a few of them in polystyrene cups using store-bought potting mix with great success. Try growing Moonflower, you will have fun sharing these seedlings with friends and neighbors.

Photo by Doris Durbin Heard

Hummingbird Moth

Hedy Wolpa
GCMG 2018

Beautiful, extra-large moths are fascinating to watch. There is a family of moths called Sphingidae that grab our attention, not only because of their broad wingspan and super-long proboscis, but also because the unique larvae have a horn protrusion on the rear end, thus the name hornworm.

The adult moth resembles a large bee and behaves like a small hummingbird, and you can find either hummingbird clearwing moth (*Hemaris thysbe*) or snowberry clearwing moth (*Hemaris diffinis*) here in Texas. The hummingbird clearwing is distinguished by a burgundy abdomen and yellowish legs. The snowberry clearwing is golden colored with a black-banded abdomen and black legs. Emerging from their cocoons in spring, adult clearwings have fully dressed wings with soft scales. Then as they begin to fly, their rapid wing movements actually beat the scales off, leaving their wings almost transparent. They also emit an audible hum like hummingbirds.

Hummingbird moths hover over flowers and plants to feed on nectar with their long proboscis, which can be 1-2 inches or longer. Flower preferences are varied, and include lantana, honeysuckle, phlox, verbena, and deep-throated flowers. Their hovering movements give the appearance that they can move backwards, too. The hummingbird moth has a stout, spindle-shaped body, and the tail tips appear to open like a fan. Their wings can be two inches or longer.

The female hummingbird moth lays her pale green eggs on the underside of host plants. Green larvae emerge from the eggs with a well-developed anal horn. The caterpillars eat the leaves of the host plant, then pupate into dark brown cocoons that remain hidden in leaf litter through winter.

Now, here is where things get confusing for gardeners in regard to the Sphingidae family. The hummingbird moth caterpillar is often mistaken for the tobacco hornworm or the tomato hornworm. All of these caterpillars are called hornworms because of the horn appendage at the rear end of the body. But they are quite different in their feeding behaviors. One is good for your garden, the other one is not, especially if you are growing tomatoes, peppers, eggplants, and potatoes. The tobacco hornworm and the tomato hornworm DO NOT turn into the nectar-loving hummingbird moth. They instead pupate into the veggie-destroying sphinx or hawk moth.

Here are the physical characteristics of these caterpillars:

Hummingbird moth hornworm:

- Green body
- Black dots across each side of body length
- Single tail horn has black tip
- Black tipped feet
- 5 pairs of primary feet
- Black underbelly
- Can be 2-3 inches from wing tip to wing tip

Tomato and tobacco hornworm:

- Green Body
- White chevron stripes with green margins (tomato hornworm)
- White diagonal stripes with black margins (tobacco hornworm)
- Single tail horn with black tip (tomato hornworm)
- Single tail horn with red tip (tobacco hornworm)
- Solid green feet
- 5 pairs of primary feet
- Green underbelly
- Can be up to 5 inches from wing tip to wing tip

Many people find the sphinx or hawk moth to be just as remarkably beautiful as the hummingbird moth. Their brown-gray bodies are marked with geometric or zigzag white patterns and yellow and pink bands and spots.

Should we love only the hummingbird moth for its services as pollinator in the garden? And how do we manage the hungry hornworm caterpillars in our veggie beds?

Here are some suggestions for managing the pests:

Consider turning or tilling garden soil to destroy pupae that have overwintered in the bed.

Leave the caterpillars alone and let parasitic wasps to lay their eggs on them. Lady beetles and lacewing insects will eat hornworm eggs and baby caterpillars. These are biological control methods of pest management.

Pick the caterpillars off plants and drop them in soapy water, or snip them in half with clippers.

"They emit an audible hum like hummingbirds."

Apply a non-systemic topical pesticide product with active ingredient Bt or Spinosad.

Sources:

The Texas Standard

Texas A & M AgriLife Extension

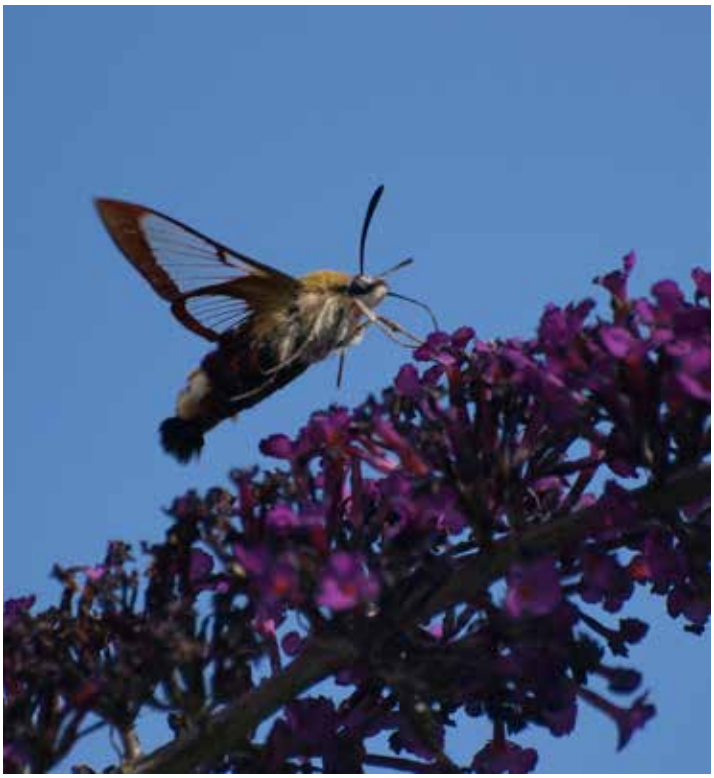
University of Illinois-Urbana, Illinois Extension

University of Wisconsin-Madison, Division of Extension

Texas Parks and Wildlife

USDA-US Forest Service

Sphinx Moth Courtesy of Pixabay.com



Clearwing Hummingbird Moth Courtesy of Pixabay.com

Tobacco Hornworm Courtesy of Pixabay.com

Meet a Master Gardener: Sheila Brown

Donna J. Ward
GCMG 1996

When I first met Sheila Brown, it was 1998 and she was a member of the Parks Board serving our City of El Lago. I had just joined the board and very soon became aware of Sheila's horticultural knowledge - but little did I know the extent.

Earning her Texas Master Naturalist Certification in 2010 was just the beginning of her connection to Galveston County AgriLife Extension. Receiving her Texas Master Gardener certification in 2019 was just more icing on the cake of a long teaching career.

Growing up on the Chesapeake Bay, her first job while in high school was as a life guard and swimming teacher. Then on to the University of Maryland where she earned her teaching certificate in 1981 and, for 10 years taught in Annapolis, Maryland. If that wasn't enough, she went on to get her Master's Degree in School Administration and Supervision at Loyola University in Baltimore. Her husband Gordon was working for Exxon in Houston, and in 1991 Sheila joined him. She soon connected with El Lago's Ed White Elementary where she taught 4th grade. This STEM school is named after the late Gemini astronaut Ed White. By now we can see a pattern; teaching apparently is in Sheila's DNA.

Behind the school was an unutilized, mostly barren piece of land with a few trees, and plans for this unproductive area began to form in her head. Why not turn it into a wildlife garden and feature native plants, a great teaching tool for the students?

With a grant of $500 from the University of Houston, the Ed White Elementary Wildlife Habitat was born. A shallow wetland pond was dug, and diverted rainwater created a welcome habitat for mosquito eating fish, tadpoles, and other creatures who find water a hospitable place to live and procreate. The students eagerly anticipated the time they could spend with their nets and basins dipping to see the pond residents up close. Sheila was always on hand to help with identification of the creatures and the plants that thrived in the pond. Still to this day, the habitat is used for educational purposes, not only for Ed White students but other various groups who schedule a tour.

While employed at University of Houston, she served as the School Habitat Curriculum Specialist. Under her supervision, the Ed White Habitat expanded significantly with the addition of native plants, each that Sheila can identify by name. She commandeers Boy Scouts, students, occasional parents and their children, neighbors, and other various groups for planting, weeding, and other horticultural endeavors. She directs them in the maintenance and building of flowerbeds, birdhouses, etc. -whatever it takes to attract wild life to this verdant native addition to the school grounds. Sacks of bird seed in bulk from a local feed store keeps the migrating and feathered residents happy.

The cinder block wall that had been constructed to conceal a dumpster was an eyesore. She convinced an artist (a former Ed White student) to paint a mural on the wall. This watershed mural features a roseate spoon bill, flying birds, butterflies, and assorted local creatures which all appear in gorgeous colors. Can you believe 370 of the school's students glued individual pieces of tree bark to the tree painted on the mural? This mural is the only piece of original art work in the city, and last summer the school district planned to remove the wall to create a larger driveway. Sheila was upset and angry to think that this would be destroyed, so she began to crusade for its survival. I can personally attest to her diligence in receiving a reprieve for this fabulous artistic creation – and it didn't come easy.

Walking the habitat's trails, you will be overwhelmed by the number of native flora she has planted there – gaillardia (*Gaillardia pulchella*), cosmos (*Cosmos sulphureus*), green milkweed (*Asclepias viridis*), and many more. Of course, she planted her favorite native flower, Black-eyed Susan (*Rudbeckia hirta*) which is the state flower of Maryland. You might also notice the covered gazebo designed and built by two of her engineer friends. In case of rain students can stay dry while they have class or maybe just do some art work while enjoying the natural surroundings.

Now you might ask who keeps Mother Nature under control in this habitat – Sheila does, and it takes much of her time to do so. If you visit, and you should, you won't see unwanted weeds rearing their ugly heads in a bed of flowering natives. Recently she taught a group of young boys that covering some unwanted out-of-control ruellia (*Ruellia simplex*) with cardboard they cut from a large box would eradicate them. It was a lesson in how depriving a plant of light can lead to its demise – she seems to have the ability to turn a simple job into a teachable moment.

Recently, the National Garden Clubs, Inc. of the Southern Central Region received a substantial donation from our local Dig 'n' Design Garden Club to the SCR Scholarship Fund in honor of Sheila and her contribution of sharing her time,

"Teaching apparently is in Sheila's DNA."

her knowledge, and gardening experience with her city and its residents. She has also been instrumental in the establishment of the Native Pollinator Habitat at the garden in conjunction with the Native Plant Society of Texas. We can all agree the title Texas Master Gardener doesn't even come close to describing Sheila Brown.

Bench for rest and contemplation

Butterfly Mural

Sheila Brown

Discovery Garden Update

Tom Fountain
GCMG 2008

Summer is here! The very warm conditions that our area experienced during May extended into June, and averaged three to five degrees above normal. Galveston County experienced the warmest May of record and set or tied many record highs. Records were broken that stood for more than 100 years.

Rainfall across Texas continued below normal, resulting in moderate to severe drought conditions across southeast Texas. The extended forecast from NOAA continues to indicate temperatures will likely be warmer than normal with rainfall lower than normal. Also, the Climate Prediction Center's hurricane outlook is predicting above average hurricane activity this year. So, plan to stay prepared and stay safe.

Summer like other seasons in the garden is a busy time with many projects. A problem with the water leak near the Discovery House was a hard one to find and repair. Ronnie Corley and Kevin Lancon have finally completed that task. Ronnie is pictured (fig. 1) surveying his finished concrete repair.

During the late spring freeze almost all of the Aquaponics fish died. Then, when new replacement fish were introduced into the tank, all the new fish died. However, I understand that they now have acquired new replacement tilapia and they have all been successfully introduced into the tank.

Our gardeners have been out taking care of the vegetable beds and keeping them looking good. On one hot sunny day (fig. 2) Bobby Ivey was out picking green beans and weeding her bed. She is a real trouper and knows much about gardening. Gene Speller (Fig 3) was spraying his pepper plants' bed with a soapy solution to deter insects from nibbling on them.

Earlier this summer as the Louisiana Iris blooms were starting to fade, Monica Mar-

Photos by Tom Fountain

"Summer in the garden is a busy time."

tens (fig 4) was out working in the iris beds labeling and tagging each plant so that the bulbs could be sorted as to color and kind. She is very passionate about the Louisiana Iris and she is willing to share her wealth of knowledge on the topic

Despite the heat and dry weather, we have continued to host visitors and have hands on demonstrations. In (fig 5) Ira Gervais and Gene Speller are showing a few visitors around the Aquaponics Garden. On another day Herman Auer and David Eskins are conducting a workshop on pruning peach and plum trees (fig 6).

This summer we received exciting news. Our Texas Master Gardener program was named the Outstanding Master Gardener Association. Our competition consisted of large associations like Tarrant County Master Gardeners (Fort Worth) and Dallas County Master Gardeners. There were also four other outstanding awards earned by our amazing Master Gardeners. A good part of our mission is to share the love and knowledge of gardening. To that end, visitors are welcome to come out and visit our garden between 9 and 11 am on Thursday workdays.

I hope to see you in the garden soon. However, remember during this hot weather to drink plenty of water, take frequent breaks out of the sun and stay safe.


4


5


6

Photos 1-6 by Tom Fountain

Seasonal Bites: Simply Delicious!

Sandra Gervais
GCMG 2011

Summer is here; the thermometer tells us that. So, what do we feel like doing? Not much. A little yard work, preferably in the shade. Watering. But like young children, plants always need tending. The coleus is suddenly infested with mealy bugs, roses are trying to develop black spot, and there's a blizzard of white-fly on the Confederate rose *(Hibiscus mutabilis)*. So even an avid gardener spends more time in the garden than planned.

To help out, here are some quick and tasty recipes that are family pleasers.

Any Time Strata Preheat Oven to 375°

6-8 ounces of cooked bacon or ham, chopped
2 cups chopped yellow squash, cooked, drained and mashed
2 cups chopped white onion, sautéed until soft
2-3 tablespoons of butter
2 cups cornbread, crumbled
2 eggs, beaten
1 can cream of mushroom soup
Salt, pepper and hot sauce

Boil or steam chopped yellow squash until tender.
Drain and mash squash.
Sauté chopped onion in 2 tablespoons of butter until soft.
Mix all ingredients together.
Add salt, pepper and hot sauce to taste.
Place in greased casserole dish.
Bake for 30 minutes or until top is browned.

Note: Bacon or ham bits work well in this recipe.

Tortellini, Sausage and Tomatoes

1 tablespoon olive oil
1 lb. bulk Italian sausage
2 thinly sliced garlic cloves
4 cups reduced-sodium chicken broth
12 ounces dried cheese tortellini
14 1/2 ounce can fire roasted tomatoes
Salt and pepper to taste
Toppings as desired: Parmesan cheese, chopped fresh basil, sliced mushrooms

Directions:

Heat oil in large pot over medium heat until hot.
Add sausage and cook until no longer pink.
Break up sausage while cooking.
Add sliced garlic and cook about 30 seconds, until fragrant.
Add in the chicken broth, tortellini, and fire roasted tomatoes.
Bring to a boil then lower heat to medium.
Cook, stirring occasionally, until pasta is tender, about 13-15 minutes.
Add salt and pepper to taste.
If too thick, add water, 2 tablespoons at a time.
Top with grated Parmesan and chopped fresh basil.

Note: Try using different stuffed pastas, adding mushrooms or other Italian seasonings.
Use more tomatoes for more sauce.

Photo Gallery Travel Photos

The following are favorite memories of flowers/plants/trees seen through the eyes of travelers and their lenses.

By Linda Steber
White Kauai rosemallow *(Hibiscus waimeae)*
A species of flowering plant within the okra family
Endemic to Kauai, Hawaii

Photo by Joyce McMillan
Pieris formosa var. *forrestii* 'Wakehurst'
Royal Botanic Gardens, Madrid, Spain

By Karolyn Gephart
Lupines *(Lupinus polyphyllus)*
Ushuaia, Argentina
Variety of colors, larger & grander than their 'cousins,' Texas Bluebonnets

By Tom Fountain
Cherbourg, France at Park Emanuel.

By Lisa Davis
Begonia odorata 'Red Glory'
Kilkenny, Ireland

By Barbara Lyons
Coastal Redwood *(Sequoia sempervirens)*
Armstrong Redwoods State Natural Reserve, Guerneville, California
Colonel Armstrong, over 1400 years old

Send in a photo to be considered for this page.
Next Photo Gallery Topic will be Colors of Fall. Send photos of fall plants to get us in the mood for cooler weather (will be in Sept/Oct issue) Send with plant name(s) to kbgephart@comcast.net.

Please send photo in a size that will reproduce sharply and give name and scientific name of plant(s) shown along with where you took the photo and any information you would like (Maximum 30 words) and your name as you want it in the PHOTO BY.

Name that Succulent!

Lisa Belcher
GCMG 2014

Look familiar? Is the common name on the tip of your tongue? Try to guess these cacti and succulents. *Answers on page 34*

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

GCMG's Celebrate 40 Years of Community Service

It was an award filled night with a big crowd of GCMGs June 14, 2022 on the beautiful grounds of Mikey and Allen Isbell in Galveston.

GCMGA President Kathy Maines and Extension Agent Stephen Brueggerhoff shared the MC duties and welcomed all, including Galveston Mayor Craig Brown and new County Commissioner, Dr. Robin Armstrong. State President Robin Collins presented the awards.

History, award presentations, and wonderful food made it a memorable event that captured the spirit and enthusiasm needed for the next 40 years of GCMG service.

Written Education (Online Store) 1st place

A Passion for Plumeria 3rd place

GCMGs with 25 years and more

Judy Anderson with new County Commissioner, Dr. Robin Armstrong

Milestone Award of 20 and 30 years

Outstanding Individual Kathy Maines, 2nd place

Phil Cone MG Emeritus

Stephen Brueggerhoff served as MC

Galveston Mayor Craig Brown delivers proclamation

Tomato Trials Research 1st place

July - September 2022 GCMG Calendar of Public Educational Programs

Unless otherwise noted all programs are conducted at the Galveston County AgriLife Extension Office located inside Carbide Park at 4102-B Main Street (FM 519), La Marque, 77568

JULY

ARRANGING FRESH AND ARTIFICIAL FLOWERS
Saturday, July 9, 2022 / 9 to 11 a.m.

Galveston County Master Gardener Jackie Auer will demonstrate and explain the basic techniques of fresh and artificial flower arranging. She has produced arrangements for the retail market, as well as for individuals. ***NOTE: Bring your choice of flowers and a vase for hands-on arranging. Class is limited to 20 attendees. You must pre-register in order to attend.

*** Register here: https://txmg.org/galveston

BLACKBERRY PROPAGATION
Saturday, July 16, 2022 / 9 to 11 a.m.

Presented by Horticulture Agent Stephen Brueggerhoff, we will explore blackberry cultivation including varieties (thorned and thornless), growth habit and seasonal pruning, trellising systems, and fertilization. You will learn about soil preparation and planting, as well as disease and pest management.

Register here: https://txmg.org/galveston

FABULOUS FIGS
Saturday, July 16, 2022 / 1-3 p.m.

Join us for a presentation exploring fig culture in Galveston County. It will cover the history of fig production in our county, the discovery of growth habit, fruiting and varieties, and maintenance. Included will be a visit to the Master Gardener Discovery Garden Orchard to check out the collection of figs, and if the fruit is willing, you will sample varieties. Register here: https://txmg.org/galveston

SAVE THE DATE!
SUMMER SUNDOWN SALE

AUGUST

GROWING UPWARDS: VERTICAL GARDENING
Saturday, August 20, 2022 / 9:00 - 11:00 a.m.

Galveston County Master Gardener Kevin Lancon will explore benefits of vertical gardening. Kevin will discuss different structures and systems just right for limited space, veggie varieties that climb to the top of the list, and best approach for getting started.

To register, visit online: https://txmg.org/galveston or call 281-309-5065.

SEPTEMBER

Summer Sundown Sale
Noon Friday, September 9, 2022 to Noon Saturday, September 10, 2022

We will have fruit and citrus trees, tomatoes, and perennial varieties available for purchase. Shop NOON TO NOON September 9 – September 10 online.

Visit the Galveston County Master Gardeners' online store for more details and to shop: https://store.galvestonmg.org

ONIONS & GARLIC
Saturday, September 10, 2022 / 9-11 a.m.

Learn about ideal growing conditions to successfully raise onion and garlic. Explore starting your own transplants, managing diseases and pests and choosing the right varieties for your garden. Register here: https://txmg.org/galveston

T-BUD GRAFTING
Saturday, September 24, 2022 / 9-11:30 a.m.

Late summer/early fall is an ideal time to perform T-bud grafting on citrus. Explore tools, grafting methods and more at this engaging workshop. Register here: https://txmg.org/galveston

Penny Besssire speaks at Plumeria workshop.


A group from Moody Methodist School visited the Discovery Garden June 29, 2022. Stations were set up through out the garden for fun activities that taught them about Aquaponics, Orchards, Pollinator Gardens, Rainwater Harvesting, Growing Vegetables, Insects, and Growing Plants from Seeds.

2022 Master Gardener Recertification Hours

Date	Name of Program	Speaker	MG CEUs
1/8/2022	Wedge Grafting	Hazel Lampton, Herman Auer	2.50
1/11/2022	MGA Jan. Meeting - Looking Ahead in 2022	Kathy Maines, Stephen B.	1.00
1/13/2022	Discovery Garden Lunch & Learn - Pollinator Garden	Sue Bain	0.25
1/15/2022	Planting Fruit Trees	Herman Auer	2.00
1/15/2022	Fruit Tree Selections	Robert Marshall	2.00
1/22/2022	Growing Great Tomatoes, Part 2 of 3	Ira Gervais	2.50
1/22/2022	Successful Spring Vegetable Gardening	Kevin Lancon	2.00
1/29/2022	Growing Peaches in Galveston County	Herman Auer	2.00
1/29/2022	Garden Bulbs for Galveston County	Lisa Davis, Fran Brockington	2.00
2/5/2022	Growing Irish Potatoes	Kevin Lancon	2.00
2/5/2022	Growing Avocados	Hazel Lampton	2.00
2/8/2022	MGA Feb. Meeting - *Citrus Problems in Texas*	Janis Teas	1.00
2/10/2022	Discovery Garden Lunch & Learn - Pergola	Pam Hunter	0.25
3/3/2022	Discovery Garden Lunch & Learn - Louisiana Irises	Monica Martens	0.25
3/8/2022	MGA Mar. Meeting - *The Native Plant Conundrum*	Stephen Brueggerhoff	1.00
3/12/2022	Growing Great Tomatoes, Part 3 of 3	Ira Gervais	2.50
3/19/2022	Cucurbits - The Squash & Cucumber Family	Kevin Lancon	2.50
3/19/2022	Successful Container Gardening	Karolyn Gephart, Kaye Corey	2.00
3/26/2022	Irises for the Gulf Coast Garden	Monica Martens	1.50
3/26/2022	Rainwater Harvesting	Nat Gruesen	1.00
4/23/2022	Looking Down on Insects	Hedy Wolpa	1.50
4/23/2022	Incredible, Edible Herbs	Briana Etie, Karen Nelson	1.50
5/14/2022	2022 Fruit Orchard Tour	Stephen Brueggerhoff, Herman Auer, Robert Marshall, Bill Verm	3.00
5/28/2022	Summer Pruning Fruit Trees	Stephen Brueggerhoff, Robert Marshall	2.00
6/4/2022	Growing Strawberries	Robert Marshall	2.00
6/4/2022	Plumeria Propagation Workshop	Loretta Osteen, Penny Besire	2.00
2022 Recertification Hours for MGs		**Total CEUs (Hours)**	**44.25**

Last Updated: June 27, 2022

Reminder: 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 means.

Galveston County Master Gardener Bulletin Board

Master Volunteer Entomology Advanced Training
This course is designed as an Advanced training for Master Naturalists and Master Gardeners.

https://tamu.estore.flywire.com/products/master-volunteer-entomology-advanced-training

Over the course of 8 weeks and 30+ instructional hours, you can gain a greater understanding of entomology, integrated pest management, be able to identify common insects, spiders and arthropods in Texas, learn about butterfly gardening and native pollinators and much more. iNaturalist training, invasive insects to watch for in Texas, medical entomology, using dichotomous keys for identification will also be covered.
Email Stephen Brueggerhoff directly (sbrueggerhoff@tamu.edu) if interested.

Photo by Karolyn Gephart

GCMG David Cooper (2016) provided a Lunch and Learn recently on Growing Grapes. The Lunch and Learns are given during Thursday lunch in the Discovery House.
Great job, David!

Farewell Roxanne Rosson (GCMG 2020). Roxanne is moving to Seattle. She has been instrumental with her service at Libbie's Place Senior Day Program. Thanks Roxanne for your work!

Best wishes to Laurel Stine who retired as Administrative Assistant on Tuesdays and Thursdays at the Extension Office in the Horticulture and Master Gardeners Program. Laurel was the building's Horticulture Sherlock Holmes and would help determine the identity of mystery pests, beneficials, plants and plant diseases that the community would bring in for identification. Fortunately, Laurel will still be part of the crowd as she is a GC Master Gardener (2002)

Advanced Training Course on Plant Propagation
September 1-3, 2022
hosted by Tarrant County
https://txmg.org/events/advanced-training-plant-propagation-3
Email Stephen Brueggerhoff directly (sbrueggerhoff@tamu.edu) if interested.

Welcome Jill Jessen as Administrative Assistant to Stephen Brueggerhoff, CEA-Horticulture, Galveston County Agrilife Extension. Welcome Jill!

TEXAS MASTER GARDENER
TEXAS A&M AGRILIFE EXTENSION
Galveston County

Galveston County Master Gardeners have a NEW WEBSITE
txmg.org/galveston

Last Word: Fabulous Figs

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

I celebrate mid-summer fruit culture with a bounty of figs. Varieties in the demonstration orchard at our Discovery Garden in La Marque are beginning to mature and harvest will be coming soon. We host several recognized varieties like Brown Turkey (also known by the name Texas Everbearing) and LSU Purple, others offering unique qualities like green skin Lattarula Italian Honey and unique Banana. Even though each fruit variety is different in taste, I wish to impart basic cultural information that may assist in your pursuit of fig happiness.

With a little preparation and planning, figs can be grown quite successfully in the home landscape. Figs are adaptable to differing soil types, especially soils with higher salt content and are a good fruit tree for home landscapes located close to the coast. The trees should be planted in well-drained soil and spaced 15-feet apart from any other tree or landscape feature. They can get quite large at 20-feet tall and wide, and are often grown as a spreading, multi-trunk specimen. If your tree is newly planted or less than three years old, I encourage you to prune your tree and control lateral growth and height to a manageable harvesting stature. Fig trees have fibrous, shallow root systems and must be protected from water loss, winter temperature fluctuation and soil compaction with an adequate mulch layer. Remember that fig trees are generally not cold tolerant, limited to regions with mild winters well above minimum 10-degree temperatures. Mulching is also good practice to minimize weed growth and aid in keeping the orchard floor clean. Most varieties produce once a year in mid to late summer on new annual growth and are often pruned in late winter. A few varieties like Celeste and Alma have two crops, producing additionally in spring from previous year's wood and referred to as a breba crop. Varieties with a breba crop should be pruned less vigorously to induce spring fruiting.

One question that pops up every year is how to keep varmints out of the orchard. Squirrels and birds notoriously use the fruit of our labor for sustenance, and baffles placed around the trunk to exclude squirrels is impractical with a multi-trunk tree. If practical and directly related to your pruning regime, you can try a temporary shroud of fine mesh netting to exclude these critters. Another potential that will take a bit of time and is used in small orchard fruit production are fruit bags, gauze or thin paper bags that are lovingly wrapped around individual fruits. Clemson Cooperative Extension offers a version for sale, or you can search online for alternative companies. One resource recommended constructing your own out of small gift bags made of organza fabric. Let your imagination lead you on this effort. Eating figs is more pleasurable than picking them, and summer harvest encourages early work in the day to avoid heat stress. Protective gear like gloves and long sleeves should be worn to lessen contact dermatitis from the fine, short and coarse hair-like bristles on the leaves, and possibly eye wear to avoid exposure to fig latex, a milky, mildly toxic sap expressed from cut branches and fruit stems. Fruit production may begin when an established tree reaches two years old. Figs must be harvested when ripe and will not continue to ripen once picked, prompting preservation via canning or drying with a bountiful harvest.

Figs are truly a part of our coastal culinary culture, a fruit high in natural sugars, minerals and soluble fiber. Information about fruits and vegetables support the Texas A&M AgriLife Extension Service initiative Path to Plate, a research-based education program that helps consumers understand how food choices impact their health.

Fig out, my friends and I'll see you in the garden.

Photos by Stephen Brueggerhoff

A unique variety called the Nagle fig, originally cultivated by the late Dr. Stewart Nagle, was a friend of Bob Randall's. This is an unknown variety that was collected locally and is a green fig with a strawberry taste.

Judy's Corner and Galveston County Monthly Meetings

Judy Anderson
GCMG 2012

July

The Galveston County Master Gardeners will be celebrating summer with a Fish Fry in the Discovery Gardener. Chef Briana Etie, assisted by hubby Adrian, will be doing a fish fry on the patio. Please bring a favorite dish to share. The festivities will begin at 6:30 with dinner planned for 7 pm. The Discovery House will be open for an air-conditioned dinner.

Feel free to come early or stay late to show your guests the garden. Summer may not be the best time to tour the garden, but the Texas Tough plants will be in their glory.

Prior to the dinner a walking tour will be held to update members about the Dr. Johnson Outdoor Classroom. This is your time to ask questions about the plans, but it will be a great opportunity to hear about activities and events being created for the area. Be sure and bring your imagination along for the walk.

August

The Galveston County Master Gardeners often visit a local tourist site for the August Monthly Meeting. This year the August Meeting will be held at Moody Gardens. First on the agenda will be a group tour to the Greenhouse/Nursery led by Donita Brannon, the Moody Gardens Horticulturist. Followed by a buffet dinner in the Visitor's Center Garden Restaurant available for the GCMG members and guests. More details will be available with the invitation.

September

Please note a change in schedule. Pam Hunter is having back surgery in June and will be unable to host the September meeting, but Tish Reustle has volunteered to welcome the GCMG Backyard Meeting to her home. Her yard was on the Heritage Garden Walk this past Spring so she is ready for the visit. More information will be available in the invitation. We all wish Pam a speedy recovery!

2022 GCGA Monthly Meetings

July
GCMG Fish Fry in Discovery Garden

August
Moody Gardens

September
Backyard Meeting hosted by MG Tish Reustle

October
The Great Chicken Coop Tour

November
Annual Meeting

December
Holiday Party hosted by MG Mikey Isbell

Home of MG Tish Reustle

Answers to Quiz on page 28

1. *Tradescantia zebrina* Common name: Spiderwort
2. *Graptopetalum paraguayense* Common name: Ghost plant
3. *Parodia magnifica* Common name: Balloon cactus
4. *Echinocactus grusonii* Common name: Golden barrel cactus
5. *Sempervivum montanum* Common name: Mountain houseleek
6. *Euphorbia trigona* 'Rubra' Common name: African milk plant
7. *Senecio rowleyanus* Common name: String of pearls

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