

Williamson County Master Gardener Journal

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Sun City Horticulture Club Touches the Future with Gift to Jr. Master Gardener

Representing the Sun City Horticulture Club, Margaret Seals presented on September 8, 2008 a check in the amount of \$100.00 to Wayne Rhoden, President of the Williamson County Master Gardener Association, for the Williamson County Junior Master Gardener program in Williamson County schools. "The Sun City Horticulture Club is happy to support school children in our area who are interested in gardening," said Mrs. Seals, "We know that teachers touch the future of their students, and hope that we can be of service to the Jr. Master Gardener programs in our schools in the coming years by offering monetary support and our community garden site as a field trip opportunity. Gardening is a wonderful thing to learn at an early age. Many of our members learned to garden when they were children, and cherish the memory of family, friends, and teachers who instilled a love of gardening in their formative years." Since its inception late in 2007, the



program has graduated five Jr. Master Gardeners. With about fifteen Williamson County teachers now trained as Jr. Master Gardener instructors this year, the Williamson County program has six schools in Georgetown, Leander and Hutto ready to welcome approximately thirty to fifty children into the Jr. Master Gardener program.



It's coming.....

Mark your calendars for the 2009 Texas Master Gardener Association State Meeting in Marshall TX, April 23-24 & 25, 2009. Go to <http://tcaaa.tamu.edu/09statemeeting.htm> for more information.



In the News

A New Resource

With the exception of container gardening, most garden activities (oddly enough) tend to occur in someone's garden. That means that gardeners, especially Master Gardeners, spend a lot of time outside. More than most people, they have need of clothing, shoes, and equipment that are designed for outside use. They should, therefore, be particularly pleased that Williamson County now has another resource to help meet their needs.

The newest outlet of Recreational Equipment, Inc., REI, has just opened in northern Round Rock. It is located between the IKEA and J.C. Penney stores in the shopping center on the southeast corner of I-35 and University (the eastern extension of RM 1431, formerly called Chandler Road). Ordinarily, we wouldn't be noting a commercial enterprise in these pages, but REI is not an ordinary commercial business. The grand opening party, rather than being pitched at Chamber of Commerce members, had a guest list almost exclusively from community groups and local government park departments. There were even a few Master Gardeners there!

REI was founded as a cooperative in 1938 to enable its members to obtain equipment (beginning with ice axes for mountaineering) that regular businesses couldn't be bothered with. It is still a cooperative today, which means that it can continue to carry a broad range of items that might not sell to a broad audience. The variety of gadgets on offer, from birding binoculars to GPS receivers to heart monitors to cycling gear and beyond, is like a candy store for adults. The range of outdoor and recreational shoes and clothing is similarly remarkable.

REI can also afford to take the lead in "green design." features that most stores would not consider financially feasible. The Round Rock store will use only about half as much energy as a conventional design, with some of that being generated on site by solar technology and the rest purchased from wind generation. Most of the visible surfaces are bamboo paneling, a highly renewable resource, while the floors are made of bamboo or recycled materials. Shoppers can buy outdoor clothing and know exactly what color it will be under natural light, since daylight is piped

throughout the store, even into the fitting rooms.

Another thing that distinguishes REI is its degree of community outreach. The Round Rock store is arranged around a large community room that will be available for nonprofit organizations to hold meetings and educational events. REI has assigned one of the highest-level managers in each branch to coordinate outreach activities. For example, the new store is sponsoring a clean-up exercise on the Goodwater Trail system surrounding Lake Georgetown on October 11 from 9 to 12. The company has a very extensive program of grants for nonprofit organizations. The Girl Scouts and YMCA were clearly in evidence at the grand opening; both already have local programs underway with REI assistance.

Next Monthly Meeting

At our general monthly meeting on October 13th, our guest speaker will be Tricia Martin from Forever Gardens on Williams Drive, just past Sun City. Tricia will be giving us ideas on the huge range of Salvias now available. See you there.

From Bob's Blog

Some Williamson County Master Gardeners may not know that our County Extension Agent, Bob Whitney, has a web log ("blog," sort of an internet diary) at <http://theagriculturalist.blogspot.com/> Here are some recent highlights:

Saturday, September 6, 2008—I have had literally a hundred calls about trees in just the four short weeks I have been in Williamson County. At least half the calls are for trees that don't get oak wilt, like Bradford Pear, Burr Oak, Sycamore, etc. Some of the calls have been about Red Oaks or Live Oaks that don't have oak wilt

but for some reason just look terrible!! It is not unusual for these sick trees to have their leaves falling off or having a dull grey to bronze look to their leaves.

What's wrong with all these trees? Simply put: it is the driest summer on record and our trees are showing us the effect of continual hot, dry weather. When a plant cannot take in enough water to transpire (sweat in human terms) it can "burn" in these high temperatures. Now I know that most of you will immediately say, "Yes... but I ran my sprinkler system every week."

I am sure you did, but you also had turf and that turf captured all the water with very little if any going to the tree. I have used a sharpshooter shovel around many of these sick trees to demonstrate that the effective water penetration is only 2-3 inches in many cases. If you still don't believe me, just remember that a mature

peach tree needs 80 gallons of water per day and a mature pecan tree needs 222 gallons per day. Raise your hand if any of you even came close to this??

So you can see that our "hottest summer on record" has hurt our trees and shown us as humans that we don't know how to water. Trees need deep watering and the only way to do that is to put a water hose on a slow trickle and leave it for hours under our trees, moving it occasionally. But all is not lost. Most—if not all—these trees will overcome our lack of understanding and forgive us by putting on lots of new growth this year and next!

Friday, September 12, 2008—Hot dry summers can sure make our water bills expensive, as anyone who survived this summer can testify. We all like a beautiful lawn but continual watering to keep it

beautiful has made many homeowners call to ask for another grass to plant besides St. Augustine grass.

In fact, some cities are banning its installation in any new home landscapes, simply because it has one of the highest water requirements of the commonly used turf-grasses. While this is true, what is the requirement? Well, Extension recommends watering St. Augustine just like you do Bermuda grass, one inch of water per week! Of course, when you water like this, the more drought-tolerant Bermuda will look better than the St. Augustine in really dry years like this one. BUT the St. Augustine will still do just fine. This is really just a matter of personal appeal, not a matter of life or death for the St. Augustine.

Here at our Extension Office on the Inner Loop in Georgetown we have many different varieties of turf, including a large area dedicated to an old turfgrass drought study. In that area is a patch of St. Augustine that has not received any water except for rain. In August is looked dead, really dead. I thought it would not come back, but after a couple of small rains and cooler weather this area is full of new leaf blades. It is certainly not pretty but it is not dead either. What does this tell us? First St. Augustine grass is very drought tolerant, not as much as some other turf grasses, but still more than enough for this area. Second, with just a few irrigations this summer it would be in very good shape. Third, we water our St. Augustine too much!

Last, I want to ask a question that most people just can't answer. If we don't have St. Augustine, what turf grass are we going to plant in shade? Some of the zoysias have shade tolerance, but still nothing to compare with St. Augustine.

Friday, September 26, 2008—The calls have been pouring in about armadillos this week. As an Extension Agent, I am obligated to answer all calls but I am about to decide no more armadillo calls! It seems that we all want to live in the country but no one wants the country to come live with them.

Armadillos, or more specifically the Nine-banded Armadillo, is a cat-sized, armored, insect-eating mammal. Prolific diggers, armadillos dig many burrows, as well as dig for food. Distribution is often determined by soil conditions, since the animal will not survive in areas where the soil is too hard to dig (our drought is the reason they love wet lawns). Their burrows are usually 7 or 8 inches in diameter and up to 15 feet in length. Burrows are most commonly located in rock piles or around stumps, brush piles, etc. Armadillos dig a number of burrows within an area for escape. Many other wildlife species use and benefit from these abandoned burrows.

More than 90 percent of the armadillo's diet is insect matter. They also feed on earthworms, scorpions, spiders, snails, etc., as well as on fruit and vegetable matter such as berries and tender roots. Although occasionally considered a nuisance by homeowners, the armadillo's habit of digging up lawns is driven by its appetite for grubs, which can also harm lawns.

One method to control an armadillo is to trap them (the other is to wait up at night and shoot them but the police don't particularly like this in our neighborhoods). Trapping is easier said than done. Since they are somewhat blind, setting out a live trap just anywhere in your yard will not work. It is best if you can find its burrow or trails that the armadillo uses. Once you've located these areas, your chances of having the armadillo stumble into your trap are much greater. You can use plywood or lumber about 6 inches wide or wider and about 8 feet long to funnel them into a live trap. In the trap it is good to use rotten fruit as bait and since the armadillo can feel the wire of the trap on its feet you may want to use some type of mulch laid down at the entrance. This hopefully will keep the animal walking straight in. With a little patience, determination and a lot of luck anyone can catch an armadillo! Remember, once it is in the trap it is yours...

Friday, September 26, 2008—What can you do with a 300-pound pig in your yard?

Feral Hogs or "wild hogs" have made the news recently as they have taken up residence in some of our nicer housing additions. As we continue to struggle with our lack of rainfall, our wildlife population is moving into those areas where the vegetation is the best... and that happens to be our landscapes. If you think an armadillo is bad, just have a 300-pound pig digging in your yard or flower beds; the real problem is not one pig, it is the 10-20 that show up all at once.

Feral hogs are nothing but domesticated swine that have escaped domestication and returned to the wild. They have no trouble finding the wild a great place to live, and they have done so well that their numbers are becoming staggering. For years they have caused havoc to farmers and ranchers, but now they are moving closer and closer to population centers and finding an even better home. Part of this is due to the way we are building our new homes. We love the great outdoors and so are building homes with lots of open spaces or "wild" areas close by and most lots don't have fences anymore. This proximity to nature means feral hogs have easy access to our landscapes and can cause hundreds of dollars in damage overnight.

What to do? This is the hard question because we can't poison them, shooting them is impossible, and fencing is impractical. The only solution is to trap them, which takes a cooperative effort. Most homeowners call the city and say, "What are you going to do?" Unfortunately most cities are not equipped to trap feral hogs or even dispose of feral hogs. What is needed is for homeowners associations and cities to get together much like rural county landowners do and work as a group to trap and take them away. Traps are easy to build (check out feralhogs.tamu.edu for a design) and if done properly it is not difficult to trap the whole herd in one night.

If you would like me to keep "From Bob's Blog" as a regular feature let me know!

Worm Composting

"The plough is one of the most ancient and most valuable of mans inventions; but long before he existed the land was in fact regularly ploughed, and still continues to be thus ploughed by earth-worms. It may be doubted whether there are many other animals which have played so important a part in the history of the world, as have these lowly organised creatures."

Charles Darwin

At the general monthly meeting of the Williamson County Master Gardeners on September 8th, our very own Jeanne Barker gave a comprehensive presentation on Worm Composting. She began by pointing out that there are several options for disposing of household organic waste like vegetable peels and offcuts.

We can put them into our regular trash collection, from whence they go to a landfill. Because modern landfills are covered daily, the material will decay very slowly (if at all) and will occupy space within the landfill indefinitely. As the population grows, using this method for garbage disposal can cut the lifetime of the landfill by years, requiring the condemnation of additional productive lands for replacement facilities.

A second option is to put the waste down our garbage disposal. This puts this additional organic material into our private disposal system or a public sanitary sewer system. That requires expensive

additional capacity if the system is to avoid overload. Overloaded systems can overflow, and nobody likes spilled sewage. The same health issues can arise from simply burying organic waste, assuming that the soil is deep enough to allow this without blasting rock out of the way.

That leaves some form of composting. One of the fastest and most effective ways of doing this is vermicomposting, using worms to eat your garbage. This produces worm compost, also known as worm castings or vermicompost. This has been called "black gold" because it has such a high nutrient and biotic content. It can be used as a soil amendment or as a major constituent in a potting mixture.

Done properly, this requires little effort and produces so few odors that it can be done indoors. Jeanne demonstrated how a large Tupperware or similar plastic storage bin can easily be converted into worm composting equip-



RED WIGGLERS...

As Mary Appelhof comments in *Worms Eat My Garbage*, "Many people think 'a worm is a worm is a worm.' In fact, there are many kinds of worms and they have different jobs to do." The common earthworms found in most gardens (often the nightcrawler, *Lumbricus terrestris*) are adapted to dig tunnels through soil and simply cannot handle typical composting conditions. Those used in vermicomposting have a different native feeding habit near the surface in manure, compost, or decaying leaves, so they tolerate disturbance much better, have a higher breeding rate, and tolerate a wide range of conditions.

The most common species used in worm composting is the red wiggler, *Eisenia fetida*, also known as the redworm, manure worm, fish worm, stink worm, and a host of other names. There are some related species often mixed into the stock of commercial worm farms. In addition to the use of red wigglers in composting, the high breeding rate makes them inexpensive for use as fishing bait. Because the species is so adaptable, they can be ordered by mail at most seasons of the year. Best not to order them in a Texas summer, however!

Worms prosper best on organic waste such as vegetable cuttings. Meat and animal waste (particularly human waste) is not appropriate for composting, because the temperatures produced will not kill pathogens or stop foul odors that will attract vermin. As a rule of thumb, a pound of worms (600 to 1000, depending on size) needs about a cubic foot of bin volume and can eat half a pound



Christine and Jeanne discuss the pros and cons of various worm composting systems.

ment. Holes near the top for air and near the bottom for drainage can provide the necessary circulation. An opaque top and sides are necessary to keep out the light that worms dislike. Shredded newspapers can be dampened and used as a bedding medium. Shredded coconut shells (Gro-Bricks) will also work. All that is necessary is to add worms and food material.

Red wiggler worms can be ordered on the Internet or from a worm farmer. Ordinary earthworms cannot be used for vermicomposting because they are not surface feeders. A pound of worms can digest about a half-pound of garbage per day. If the amounts are kept reasonable, there should be no problem with odors or insects. The only other issue to be watched is moisture level, since the medium must be about as damp as a squeezed sponge, no wetter or dryer.

Once the worms have digested most of the food and bedding material, they can be sorted out of the finished compost and placed on fresh bedding. People who don't

want to touch the worms can push the compost to one side of the bin, put fresh bedding and food on the other side, and let the worms migrate on their own.

There are also prepared "worm farming" setups on the market, such as the Can O'Worms demonstrated at the meeting. These may save some work and provide some convenience. Some of these handle drainage with a faucet, so the drained fluid can be used as a compost tea.

To paraphrase Mr. Darwin ... "earthworms are more powerful than elephants and more profitable than cows," so however one approaches it, worm composting is a valuable alternative to putting your organic waste down the drain or into the trash. It produces a valuable product while disposing of unsightly waste. Jeanne left many of the Master Gardeners in attendance ready to go home and move towards having worms eat their garbage.

"Worms have played a more important part in the history of the world than most persons would at first suppose. In almost all humid countries they are extraordinarily numerous, and for their size possess great muscular power. In many parts of England a weight of more than ten tons (10,516 kilogrammes) of dry earth annually passes through their bodies and is brought to the surface on each acre of land; so that the whole superficial bed of vegetable mould passes through their bodies in the course of every few years..."

Charles Darwin

of garbage per day. So, if your household produces 7 pounds of waste per week, it will eventually require 2 or 3 pounds of worms.

Composting worms reproduce sexually, but the sexes are not separate. Each worm produces both sperm and eggs. During mating, the sperm from each worm's testis moves to a sperm storage sac in the other through channels that prevent self-fertilization. Later, a cocoon forms around each worm. As it backs out, sperm and eggs are deposited into the cocoon, which closes off at each end to form a lemon-shaped capsule about the size of a matchhead. After about three weeks, from two to four new worms crawl out of the cocoon.

After about eight to ten weeks of growth, the young worms can themselves begin producing from two to three cocoons a week, and can continue doing so for six months to a year. So, eight individuals could produce about 1500 descendants over a six-month period. If there were no limits to the food supply, an original pound of worms could grow to 17 tons in a year! Of course, the food and space available in a real-life compost bin is quite limited, and reproduction slows down as soon as those limits are approached (at around one pound of worms per cubic foot). You need not fear being overwhelmed by worms, and they rarely make any attempt to escape.

Master Gardener Finds Great Finds Gaye Kriegel

I thought every brain worked like mine: seeing one thing and immediately thinking, this would be a great...something else. Over the years, friends have chuckled and told me, no, I didn't envision a bookcase when I saw that oak telephone booth. Or, no, I didn't think side/storage table when I saw that set of library card filing drawers. I was shocked! There's even an official name for this morphing; it's called adaptive reuse.

My latest inspiration stemmed from the desire to register my yard as a certified wildlife habitat; however, I was lacking a freshwater source. A friend, discussing her bathroom remodel with me, was getting rid of her sink decorated with a charming, hand-painted cactus. Bingo! After a rubber stopper was permanently affixed in the sink's drain using aquarium seal, I dug a hole and sunk the sink into a flowerbed, level with the soil. Tossing in a piece of mosquito dunk to ward off those annoying pests, my fresh water source was ready for the birds. My husband was thrilled that I was not simultaneously inspired by their toilet!



A Master Gardener Builds

If you build it, they WILL come

Christine Powell

I know it is an over used cliché but “if you build it, they WILL come.” I have the proof!

For many years now I have wanted a pond and for the last three I had let my husband in on my secret. It goes without saying he was not thrilled at the thought of yet another one of Christine’s “projects” and despair doesn’t even begin to describe how he felt when he learnt we were going to do it ourselves. I was all for getting in a contractor but “we will never be able to afford it.” Dale thought I should go it alone and dig my own hole... Needless to say the pond waited to be built. Every now and again I would go out, try and dig a hole, strike limestone, and give up. About two years ago I had a change of attack—I bought the water plants. They have grown and expanded in my two portable bog gardens and a children’s play pool. I have had several resident Southern Leopard Frog (*Rana sphenoccephalas*) since the very



beginning and they have formed a very close relationship with my dogs. I am not totally sure the relationship goes both ways but my dogs love them, especially when they call and hop out of the undergrowth!

I guess it is safe to say Dale was now getting worried. Clearly I was not to be deterred. So I waited, dug a few more test pits, hit more limestone and waited some more. At the beginning of this year I caught the flu, was very ill, but was happy pottering around my makeshift pond. But then something wonderful happened, one, we got a bigger tax refund than we expected and two, I volunteered at Jim and Lynne Webers’ for the Lady Bird Johnson Wildflower Center garden tour in May. I spent a superb day meeting and greeting people as they went round this magnificent garden and preserve. One person I met was Russell Womack from Capitol Landscaping, who had put in their pond and done most of the rockwork. If any of you have been to Jim and Lynne’s you know what a wonderful place it is.

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This was what Russell had to work with, a very uninspiring hillside. When it rained the grass acted as a lubricant to send you headlong down the hill to the trees at the edge of a small cliff. The grass was impossible to cut due to the incline and the lower slope is bare from erosion.

As you can see from the picture left my pond plants are actually very happy where they are—the children’s paddling pool. They will be rehoused in the near future after I have got over the first flush of the pond, oh, and the waterfall!

The first day of construction (below) brought mounds of stones, ranging from small to large and, even, enormous. I love stone and so I would have been happy to just have the boulders piled up around the yard for a while! The small “digger” stayed around for nearly a week and was very aluring. There was even a palate of concrete, a very scary thought.



My next challenge came when I had a particularly bad case of pneumonia (is there a good case?) and Dale realized I was never going to make it through the limestone alone. We called Russell, he came out, saw I really needed help, and the next thing I know is we are getting a pond!

In just two short weeks Russell had turned my steep and deadly hillside into a glorious retreat. My—I am not sure they are not pet—cardinals were bathing and drinking within minutes of the workmen leaving. Within three days of completion I had Cliff Chirping Frog *Eleutherodactylus (Syrrhophus) marnockii* move in. Dragonflies are there too. In fact every day more come. I do have one problem, the neighborhood herd of deer come to drink each night which means the water levels drop quite substantially but that is the least of my worries—it will be keeping them off the plants that will be the real challenge.

I can't tell you how much the pond has made both of us so happy. Dale thought it was just another one of my crazy ideas but really loves it. While I am just so happy sitting there watching all the wildlife, you need to have fun. Go on, build it and they will come to you, too.



The first few days of construction (above) meant a lot of concrete and stone manipulation. In fact it required a great deal of faith as first the hillside was stripped and then, what seemed like, tons of concrete was poured. As the days went by it seemed to get worse before it got better but I kept the faith and was rewarded.



As soon as the major stone work was completed the small digger was removed and the stone steps up the hill were started. I knew right away that these steps would change how we used the garden.



The rocks lent themselves to deep steps with low risers—very elegant. They are almost my favorite part of the new landscape as it means we can now visit our whole garden in any weather.



Each day Russell and I would discuss how things were going. Initially I wasn't sure where we were going as Russell's vision was different to mine. However, I had complete trust and was completely rewarded.



Finally, a pond! It is a joy to sit by and we both love it. So does all my wildlife. The deer drink every day, and, well, why not. I am now planning my next pond further down the hill!

A Master Gardener Remembers

Ponds and Waterfalls

Lisa LaPaso

Ponds and waterfalls can be a beautiful way to add both natural sound and natural design to your landscape. Ponds are a wonderful way to encourage wildlife, birds, butterflies and Dragonflies into the yard. Goldfish live for many, many years in a pond and require little to no feeding. Koi are both expensive to buy and to feed and it can be very painful on the pocketbook when a stray crane has one for lunch. You can buy your goldfish at a bait shop for pennies, or buy them at a pet store for \$.25 ea. They will accommodate the space they are given and give hours of pleasure watching them. They will also reproduce in a pond and give you opportunities to share the experience.

Many people are intimidated by the thought of installing a large feature but may over look the readily available do-it-yourself kits and pre-formed ponds. Today there are many books and free classes offered by nurseries who sell the products. Hill Country Water Gardens offers classes weekly on disappearing ponds as well as the traditional ones.

The cost is as individual as the feature itself and can be customized to suit your needs by purchasing less expensive kits and forms instead of the expensive liners. Pumps can be purchased at many big box stores, and while you should not scrimp on a good pump, you can save a lot on a good one by buying it at a larger store.

Should you chose to create a large water feature, make sure you account for the water you will be pumping and buy a large enough pump. The nurseries can calculate this for you. The life of

your pump depends on how overworked it will be. Cleaning the pump can be made easier by using proper filtration and a pump housing that allows easy access to the filters. These can be made or purchased.

When buying a liner for a large project, don't skimp on the material you use. This, like the pump, is as good as you pay for. Well worth getting it right the first time. You will measure the depth x length x width of your pre-dug pond and the the seller will give you the proper dimensions of the liner you will need to use. Always dig your pond hole first prior to buying the liner. You would never want to run short of liner and have a piece you couldn't use.

Aside from the monthly or semi monthly cleaning of your pump you may need to preform for the success of your pond , your plant selection has a lot to do with how well your water and fish thrive. Oxygenating plants, water lily's and decorative plants are not only attractive but necessary for the oxygen and filtering of the water. They also serve as protection from predators for your fish and prevent too much sunlight which can cause algae and fungus problems in your water.

You can create a finely tuned ecosystem with minimal effort that adds sound deflection from the outside environment, a tranquil meditation spot to relax, and a delight to the senses. Starting with a small feature can give you courage to try something larger. Once you have the basics of water gardening you will be hooked. Water Gardens are an invaluable asset to the garden landscape.

Moonflowers

Moonflowers are a beautiful addition to the garden. They are a fragrant collection of larger than average trumpet shaped flowers that have a fragrance much like a Gardenia. The name Moonflowers comes from the early evening opening of the bloom. The white flower attracts moths who feed on its nectar. The plant remains open in the evening until the heat of the next day. It is a cousin to the Morning Glory who opens in the morning.

The Moonflower is a *Datura* species and part of the Nightshade family. It comes in a variety of colors including pink, lavender and white. The white is the most common and hardiest of the family. The plant comes in both vine and stem form and is a prolific bloomer from spring until fall.

You can purchase the plants from many nurseries, but the plants seed so easily you can save money by sowing the seeds your self. They can be sewn or planted in poor, dry soil, have little to no pest issues, and use very little water once established. They can be a great solution to a tough garden spot away from your water source. The Moonflower thrives in full sun but will do well with morning sun as well. You can simply throw out the seeds, cover them with a quarter inch of soil, water in and you will have Moonflower blooms throughout the growing season.

The Moonflowers were once used to make a hallucinogenic tea and received a bad rap by gardeners for many years. While all of it's plant parts are toxic and should not be ingested, this plant is a show stopper in the garden. It should be used for it's evening attractions as well as the interesting spherical spiky seed pods that look much like something from outer space.

They will live until the first hard frost and will sometimes regrow from the same plant. They are an annual however. Keep seeds from your spent blooms and not only will you have more planting opportunities next year, but great gifts for your gardener friends who will enjoy the experience as well.



Lisa La Paso

Meet Your Master Gardeners

Winola van Artsdalen

Each month we will be spotlighting one of the Master Gardeners in our group. Getting to know each other is something that we don't really seem to have time to do, so hopefully, this will be a way to make some more "connections" with the people in our group.

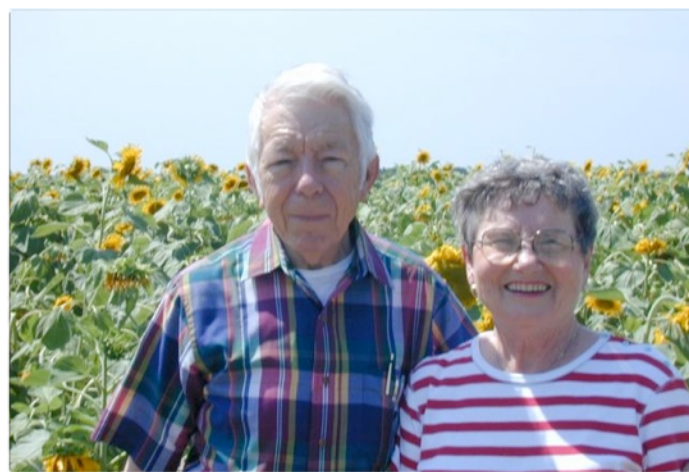
I knew this would be a fun interview when I called Winola, and she said, "Oh, I'll have to think of something shocking!" She is delightful, bubbly, fun---and one of those enthusiastic teachers who truly have made a difference in young lives.

Winola taught fifth grade classes in both science and language arts in Clear Lake, Texas. She had the "NASA kids" and frequently had the astronaut parents in for talks or lectures. At the end of each year, buses took all the kids to Winola's home where they observed (in wonder, I'm sure) all the wonderful things in her garden, including the compost pile. At the end of the morning, she would dig up a pecan tree seedling and would enjoy their delight when they saw the pecan still attached as the seed. Wow!

While teaching she also wrote curriculum for the Armand Bayou Nature Center in Clear Lake and became very interested in native plants at this time. In Brenham she was a volunteer at the McAshen Gardens at Festival Hill Institute in Round Top and was fortunate to spend time with Madalene Hill as they worked together in the gardens.

Winola and husband Jim now live in Sun City. Jim has worked as an engineer, an attorney, and a judge. Winola says that he has retired three times, but this time it seems for good. They have two sons - one in Berkley, California, and one in Austin.

Winola grew up on a wheat farm in southeastern Kansas. There was no water, no electricity, and she walked three miles to school—really! One of her loveliest memories is walking hand in hand with her grandmother in the mornings through the flower gardens. Later she walked through her own gardens every morning before school. She also learned that her great-grandmother had had a nursery on Pumpkin Creek in Kansas and had sold seeds and plants to neighbors and family. There could be no better



inheritance from her family than this love of the land and love of gardening.

Nowadays, Winola still goes into her beautiful gardens every morning and often remembers those early morning walks with her grandmother. She also enjoys cooking and using herbs. She and Jim have put together some impressive family cookbooks. (Maybe that would be a good project for the master gardeners.) She enjoys working with the Junior Master Gardeners and hopes to continue taking other classes. Winola also thinks that children's thinking skills could be taught and improved through learning gardening processes - both concrete and abstract - and she is hoping to work with this idea in the JMG.

Growing up on a wheat farm with a family who appreciated and loved the land so much has been a special gift to Winola and she, in turn, continues to share her knowledge and appreciation with many others.

Sandra Rosen

Submissions?

If you would like to contribute to the *Williamson County Master Gardeners Journal* please send your articles, item, and photographs to Christine Powell at xtinepowell@verizon.net by the 25th of the month. Remember to include captions and attribution details. The Editor is grateful to all those who have submitted items in the past and would like to thank those who would like to send things in the future. Thank you!

A Master Composter's Summer Tips

Making a HOT Pile

Patty Hoenigman

There are a bunch of things that can be done to make your compost pile get really hot, but why would you want to? There are two motivating reasons. One is to kill pathogens. If you suspect you have some diseased plant material, you want to achieve the highest temperatures possible to kill the pathogen so you don't wind up spreading it around your garden. The duration required depends a lot on the particular pathogen, but don't worry so much about how hot for how long...just follow these directions for making a hot pile and generally speaking you'll kill all the bad guys; Most are gone in the first fifteen minutes.

The other reason to go for HOT is to get results very quickly. You can get a batch of compost completely cooked within only two weeks, though I do suggest letting it rest for an additional week or two before using it.

Here's my list of things you need to do to make that pile cook evenly and at a high temperature. Eat your Wheaties...you'll have to do some work!

First, gather a substantial amount of dry, fallen leaves and an equal volume of freshly cut grass or any other mixture of fresh nitrogen-rich greens. This might include kitchen scraps, coffee grounds, spent flowers, but grass clippings alone will do just fine. If you're going to err on one being more than the other, it would be better to have more leaves. The volume of everything you have should be a minimum of a cubic yard, though it can be larger. This is necessary to insulate the pile and keep the action of the microbes working.

Have your bin set up...or a space ready where you'll be building your pile.

Now you're going to put all your dry leaves into a big barrel or trash can and fill

it with water. The leaves tend to be buoyant, floating above the water line, but just plunge the top layer into the water a couple of times and let the whole thing soak for a good six hours. Do this in the morning and you'll be ready to build your pile that evening.

Begin building your pile with a thick layer of leaves, about six inches, spread across the bottom of the bin. Drain off the water as you pull the leaves out of the barrel. Next spread a layer of greens on top and continue alternating your greens and browns. I like to make these layers as thin as possible, so the action of the nitrogen from the greens and the carbon from the browns can interact as much as possible. You'll start with browns and always end with browns as an insulating blanket to hold in the heat.

Put a cover on your bin, or a tarp over your pile, and let it sit undisturbed for three days.

It is not necessary to use a bin that has holes in it for this type of composting. The pile is going to be sufficiently aerated because you'll be turning it, exposing everything to fresh air as it's turned.

The key to this whole thing is that the leaves have been soaked for a number of hours so that the water is not just on the surface of the leaves, but it has penetrated into the fiber of the leaves.

If you have a compost thermometer, these first 3 days can be very entertaining. You're going to see that dial go up and up until it might get to 160°F! But count yourself lucky if it reaches in the 130-140°F range. That's plenty to kill most pathogens.

We're working on a fourteen-day plan here, so after the first three days have passed, you have nine days left. This is where the Wheaties come in! You're going to spray the top of the pile whenever necessary, making sure the exposed materials on

top are completely moistened, though it's not typically necessary to add any more water to the rest of the pile.

Now you're going to use your turning fork to physically remove every bit of material from your bin and rebuild it in a new place. The easiest way to do this is with a bin that can be easily lifted off the pile, or by using one that comes in stacking layers that you can remove a layer at a time, restacking it as you transfer the contents of the pile.

You may think someone has come and stolen half your pile in the night after a few days because the volume will decrease significantly! It's just that the air pockets have decreased in size as the pieces of organic material get smaller and smaller.

On day fifteen, you get to rest...but don't be surprised if you miss that routine of turning your pile! It takes just a few minutes when you get into the habit of turning it every day. Having a batch of fresh compost finished so quickly might make you want to start another pile just as soon as you've collected enough materials.

One nice advantage to doing batches of compost is that the intensity of work going on in a HOT pile keeps unwanted critters away, and the pile will have a sweet organic smell to it; no chance of anything smelling rotten at all when the temperature is so high, and no fruit flies for sure! I once tied a string around an egg and buried it in a large compost pile that was cooking at high temperatures. Five days later I found the egg by following the string, cracked it open and it was soft boiled! The kids in the neighborhood thought that was really cool...and I did too!

Let me know how hot your pile gets!

A Master Gardener Walks

...along the trails

Annette Banks

Even in the driest of summers, the slightest rain showers and a few cool evenings brought forth a few patches of the Cardinal Flower (*lobelia cardinalis*). In the deepest marsh areas, such as the ones that border the Georgetown Country Club, their bright red flowers brighten the hot days. The flowers are short-lived in the heat and drought, but the vivid blossoms remind us of the reason they often are tagged as “America’s favorite wildflower”.

The blossoms appear in late summer and open from bottom to top on two to five foot spikes amid dark green tapered leaves. These non-branched spikes (racemes) support the velvety, tubular florets from July to October. The flowers have an upper lip, split into two lobes and a lower lip with a deep cleft into three prominent lobes. The male parts of the flower are the bright blue anthers, which are fused and encircle the female organ (style) to reach out from the lips. Extended from the tip of the anthers is a fringe-like white beard.

The pollen is a magnet to the hummingbird, particularly the Ruby-throated Hummingbird during its migration to Mexico and Central America for the winter months. Neighborhood gardeners find this wildflower exciting to plant in individual gardens as it brings the hummingbirds into close range.

The cardinal flower has a long range of habitation: from New Brunswick, southward through Canada, reaching into Florida and Texas crossing the southern plains and mountain states into California.

Credit for identifying the *lobelia cardinalis* is given to French explorers in Canada; they sent the plant back home to France in the mid 1620s. By 1629 there was much evidence of it in Europe when British botanist, John Parkinson, reported that he had received seeds from Paris and noted that the plants grew on the French-owned plantation in Canada.

The naming of the plant has an interesting trace to the red miters of the Roman Catholic cardinals. Linnaeus gave the species name as *cardinalis* and listed the genus name of *lobelia* due to the earlier work by a French monk and naturalist, Charles Plumier. Plumier had named the genus after Mathias de L’Obel, a Belgian botanist, who sometimes substituted the Latin form, *Lobelius*, for his name.

If you would like to try the cardinal flower in your garden: The flowers thrive best in filtered light and need moist, rich, light, slightly-acid soil. They need protection from hot midday and afternoon sun exposure. Light mulching is needed to retain the moisture, but heavy mulching will smother the basal rosettes of the mother plant. If you wish to grow cardinal flowers as patio container flowers, set the container in a large saucer of water.

Propagation may be effected from seeds, divisions of basal rosettes, or stem



Plant of the Month

Lobelia cardinalis

Cardinal Flower

cuttings. Harvest the seedpods while the plant is still blooming as they ripen about seven weeks after forming. Watch closely for the capsules to crack. Each pod has numerous seeds. Clean and dry seeds and store in the refrigerator in a sealed container for about eight weeks before planting. Plant by dusting with a thin layer of soil, and water the soil from the bottom. They germinate in about a week but grow slowly thereafter.

The basal rosettes may be divided in fall or spring. Water the divisions well for several weeks. Of course, one can secure a lower part of the stem to the surface of the ground for several weeks in the summer to allow the roots and rosettes to form at the lower nodes.

Stem cuttings should be rooted in mid-summer.

If you choose to have the *Lobelia cardinalis* as a member of your garden, be aware that the plant is very poisonous. It contains alkaloids that can be harmful to animals and persons who ingest them.

Master Gardener Basics

Back to the Basics

Winola VanArtsdalen

Whether giving a speech, competing in sports, or gardening, your success depends upon how well you execute the basics. In this series of brief articles, we will revisit gardening basics to be sure you get best results from your efforts. This month's timely topic is rooting stem cuttings.

ROOTING STEM CUTTINGS

Prepare tools and materials: Clean all tools and materials. Have moist potting medium such as Pro-Mix, Sunshine Mix, or your own coarse sand, vermiculite or peat moss/perlite mix ready in 4" or larger pots.

Preparing the plant for cuttings: First, trim the plant in your garden for the health of the plant. To prepare the cutting, look for the flush of growth just as the stem begins to harden off, where it may be a bit streaky, but still with green in it. That is the part to root. Cut with a sharp knife or razor blade at an angle just below an internode. A 4 to 6" cutting is ideal. Remove flowers and all but a couple of leaves on top. If the plant has large leaves, you can cut them in half. You may get several cuttings from one branch, just as long as you are sure to position cuttings right side up and that you do not get into the "limp" part of the stem which will not root.

To root cutting: Have some root hormone in a small container, (so you will not contaminate your full supply), and water in another container. Use a dipple or pencil to make a hole in potting medium. Dip cutting in water, then in root hormone. Tap stem to remove excess hormone. Put cutting in moist medium and gently bring medium to stem. (You may use two dipples or pencils to do this.)

To cover or not to cover: If you cover the container, it will help keep cutting moist and get that humid "greenhouse" effect

which helps the hormones actively do their job. I prefer to keep it loose and possibly have some opening at the bottom. My best success is when I use a plastic freezer bag, open at the bottom, and set the containers on a rack of some sort, because they need drainage and air. Do not let the plastic bag touch the leaves.

Lighting: Put in bright, but not direct light and keep medium evenly moist. If it starts "raining" in the bag, you need more opening. Check at least once a day to be sure powdery mildew does not begin to form. If it does, remove the bag to get air circulation. When there are several new leaves and the stem resists when you gently pull on it, carefully remove the pot to see if roots have developed. They should almost reach the edge of the soil. Now it is time to move your rooted cutting to a larger pot or plant in your garden.

Pitfalls: By way of warning, when cuttings have not rooted in the greenhouse, we have found cutting was taken too far up in the limp part of the stem, too many leaves were left on the cutting, or there were air pockets left around the stem. Even though you are experienced, it would increase your success to review the procedures discussed above whether you are coming to work in the greenhouse or working at home. With attention to these few basics, you will soon experience that special joy of creating new growth and having more plants for your garden and to share with friends!

Name that Plant

What's in a Native-Plant Name?

Part IV

Bill Ward

Each spring some of the first wildflowers to bloom are named for George Engelmann. His namesakes keep us in blooms throughout the early spring to the end of fall. Among those first yellow wildflowers in the Hill Country are Engelmann daisy (*Engelmannia pinnatifida*). Engelmann's salvia (*Salvia engelmannii*) will bloom shortly after. Engelmann's prickly-pear (*Opuntia engelmannii*) is one of our common cactuses. Other Hill Country natives are Engelmann's milkweed (*Asclepias engelmanniana*), Engelmann's dock (*Rumex hastatulus*), and Engelmann's spike-rush (*Eleocharis engelmannii*).

The scientific and common names of many other native plants of Texas commemorate George Engelmann. "Engelmann" vies "Lindheimer" for the most common person name used in Texas nativeplant names. That is fitting. The unique collaboration of Engelmann and Ferdinand Lindheimer during the mid-1800s made Texas flora known 'round the world.

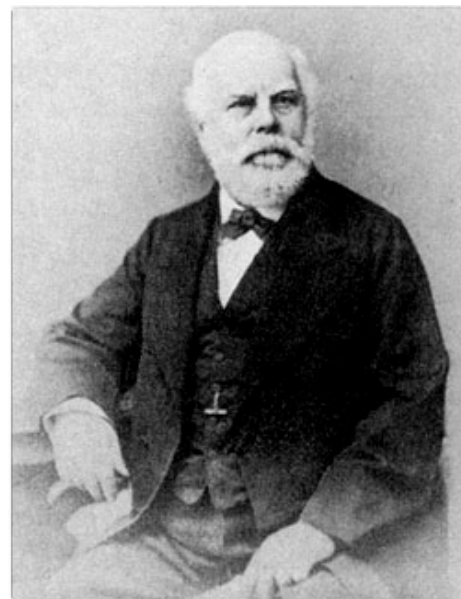
George Engelmann, like Lindheimer, was born in Frankfort, Germany. He was the eldest of thirteen children in a well-to-do family. He claimed to have become interested in botany around the age of fifteen. Though Engelmann was seven years younger than Lindheimer, they were members of the same botanical society of Frankfort youths.

Engelmann studied in universities at Heidelberg, Berlin, and finally Wurzburg, where he received an MD in 1831. The next year he immigrated to the US, probably to invest an uncle's money. He showed his continued interest in botany by first going to Philadelphia to visit the noted English botanist and zoologist, Thomas Nuttall, who had been curator of the Harvard Botanical Garden for ten years.

Engelmann apparently was curious about the less-explored areas inland. He went to St. Louis and from there made a solitary journey on horseback through the wilderness of southwestern Missouri, Arkansas, and western Louisiana, searching for geological specimens and new plants. Reportedly, he contracted a dangerous fever in the swamps of Arkansas, but was nursed back to health by a black family.

He then joined relatives and other German intellectuals who were living and working on a 360- acre Engelmann farm at Belleville, Illinois, southeast of St. Louis. This is the same farm to which Lindheimer headed after he landed in New York in 1834. The renewal of the Engelmann-Lindheimer friendship during their stay on this farm was to have a profound influence on Texas botanical studies.

After a couple of years on the farm, Engelmann moved back to St. Louis and established a flourishing medical practice. He remained interested in botanical research. He was the first to recognize that certain American wild grapes were immune to the plant lice that were devastating grape crops in Europe. After a botanizing trip to Arkansas, Engelmann published a monograph on the strange parasitic plant called dodder or angel hair (*Cuscuta sp.*). Engelmann helped found the St. Louis Academy of Sciences, and he encouraged the wealthy businessman Henry Shaw to establish Shaw's Botanical Garden and School of Botany, which became the Missouri Botanical Garden. Engelmann studied flora in the Tennessee Appalachians, the Colorado Rockies, New Mexico, and the West Coast. Among other things, he became an authority on the cactus family.



Top: George Engelmann.

Bottom: *Engelmannia peristenia* (Engelmann's daisy, Cutleaf Daisy). This plant is popular on roadsides and blooms well even in drought conditions. *Engelmannia* is somewhat unusual in that it is a monotypic genus, meaning it contains one species.

For many years Engelmann sent money, books, and supplies to Lindheimer in Texas. Lindheimer sent extensive plant collections to Engelmann, who, in turn, sent many Texas specimens to Europe to be described. In 1845, Asa Gray and Engelmann published "Plantae Lindheimerianae," which made Ferdinand Lindheimer famous in America and abroad. It is largely thanks to Engelmann's collection of Lindheimer letters, preserved at the

Missouri Botanical Garden, that we have insight into the passion and drive of the New Braunfels resident who would become known as the Father of Texas Botany.

Bill Ward of the Boerne Chapter of the Native Plant Society of Texas has kindly allowed me to reproduce this series of articles that I think you will enjoy. Please let me know if you do so I can send on your thanks to Bill.



Left: *Salvia engelmannii*, *Engelmann's sage*, is similar to *Texas sage*, but has *pale-blue flowers*, a *shorter bloom period*, and grows to a *slightly larger size*. When evidence of new growth emerges at the plant's base, cut back old stems. It needs good drainage.

Above center: *Echinocereus engelmannii* (*Engelmann's hedgehog cactus*, *Saints cactus*, *Hedgehog cactus*, *Strawberry cactus*). *Engelmann's* is one of the most common hedgehog cacti found in the southwestern deserts. Its *purple to magenta flowers* and *four well-armed central spines* help to identify it.

Below: *Eucephalus engelmannii*, *Engelmann's aster*, is one of a number of tall asters that has stems that are leafy in the middle, but not below, and branched near top. At the ends of the branches, flower heads with a few white or pinkish rays.

Plant images courtesy of the LBjWC

SUPERSTAR

Gaye Kriegel

Earlier this year, Walt gave me a small start of his Black Fountain Grass (*Pennisetum alopecuroides*) which I planted in a pot and proceeded to give TLC. I've been amply rewarded with a mass of stunning, smokey-black inflorescence. These flowers are sturdy and upright compared to the arching flowers of the more commonly seen Purple Fountain Grass. I under-planted in the pot with Black Heart (*Ipomoea batatas*), and I like the way they have grown together, as seen here.



A Master Gardener

Secrets of Native Plants

Frances Samuelson

I have always liked jade plants. They and their relatives in the *Crassulaceae* family come in interesting shapes and colors, they endure my neglect, and they make new plants from carelessly dropped leaves. (See great pictures of crassula at <http://www.desert-tropicals.com/Plants/Crassulaceae/Crassula.html>) But now that I know their secret, they captivate me even more—they capture and process carbon dioxide (CO₂) in a way that puts them in a class of their own. Because that process was first studied in a crassula, it came to be known as crassulacean acid metabolism or CAM.

Most of us studied the basics of photosynthesis in high school biology; it is the process by which plants use sunlight to turn CO₂ and water into energy for growth. But few of us ever considered that there might be more than one variety of that process, let alone three varieties. Most of the plants with which we are familiar are classed either as C₃ or C₄ based on whether they produce stable 3-carbon or 4-carbon molecules prior to converting those products into sugars. Both of these plant types gather CO₂ during daylight, but CAM plants do their CO₂ gathering under cover of night.

CO₂ streams into the cell's cytoplasm when CAM plants open their stomata after dark (a stoma is a pore, usually on the underside of a leaf, used for gas exchange). The problem for CAM plants is that the energy, or sugar, factory is shut down at night. As the name suggests, photosynthesis requires light. Plants need lots of CO₂, but too much of it just sitting around in the cytoplasm would become toxic. Send in the night crew: enzymes fix, or change, the incoming CO₂ into malic acid and store it in vacuoles (membrane-bound compartments within the cell) until daylight. When the vacuoles

are full, small amounts of the CO₂ remaining in the cytoplasm signal the stoma to close. When the sun comes up, other enzymes uncrate the stored CO₂ for normal use.

Here's the weird part: by the time the nighttime operations are done, the plant has taken on a decidedly acidic taste. During the day the acid levels drop and the plants taste much sweeter. This odd difference was first described in 1682 by M. Grew. Then in 1804 a naturalist named De Saussure noted that an *Opuntia* did not give off, but rather took up CO₂ when operating in a dark environment. With little fanfare, the major pieces of the puzzle were put together by many groups and individuals by 1974. Their conclusion: CAM plants capture CO₂ at night in order to **conserve water** in dry climates. Other green plants must open their stomata in the dry heat of the day when they will lose water vapor through the openings, while CAM plants can open them just in the cool of the night when the humidity is higher and evapotranspiration is much slower.

Though at first succulent plants were thought to be the only ones that used the CAM mechanism, many other major families were later included in the group: *Crassulaceae*, *Cactaceae*, *Euphorbiaceae*, *Aizoaceae*, *Bromeliaceae*, *Vitaceae*, *Asclepiadaceae*, *Orchidaceae*, *Liliaceae*, *Agavaceae*, *Asteraceae*, *Geraniaceae*, and others, for a total of eighteen families. Habitat and niche play a huge role in determining which species use CAM. The distribution among widely disparate plants without involving entire families indicates that need and parallel evolution seem to have played bigger roles than inheritance.

Then, Jon E. Keeley (1991) found an odd niche for CAM when he studied non-succulent plants in California's persistent springtime rain puddles. Fierce

competition for CO₂ among hundreds of local species caused concentrations to drop during the day and rebound after dark in these puddles, so in came CAM to the rescue. Keeley also noticed that some plants switch from C₃ to CAM and back again, depending on conditions. At least 100 aquatic varieties exist in addition to more than 20,000 terrestrial CAM species. For further reading, see "Mechanisms of Photosynthesis" in *The Encyclopedia of Biodiversity*, Raven (2001).

John B. Skillman found another odd niche for CAM plants. While a moist, low light, tropical understory wouldn't seem to need the mechanism, he found *Aechmia magdalenae* to be a highly successful understory CAM bromeliad. It photosynthesizes at rates that exceed those of some neighboring C₃ plants, and in certain areas it dominated. The plant is helped along by sunflecking during certain phases of the daily CAM cycle. The *Aechmea* shares the characteristic of shallow roots with a *Dieffenbachia* from the same area. The CAM characteristic paid off in the dry season, though, with lush growth, while the C₃ *Dieffenbachia* suffered. Similar findings for other Bromeliad species suggest that these characteristics may hold for shade-grown bromeliads in general.

Far from being an interesting oddity of the plant kingdom, many CAM plants occupy important niches in the world of commerce. Kluge and Ting call the edible pineapple the "most important commercial CAM plant." Other common commercial CAM plants include additional members of the *Bromeliaceae* family, as well as those in the *Cactaceae*, *Agavaceae*, and *Liliaceae* families.

Huien Han and Peter Felker studied the water use efficiency of the easily handled thornless cactus, *Opuntia ellisiana*

(1997). They concluded that it displays “among the greatest water-use efficiency of any plant species ever measured under long-term field conditions.” They suspected that using related species to produce fruit, vegetable and forage could open dry areas for large-scale food production.

Park S. Nobel and Edgar Quero (1996) studied the *Agave lechugilla* that industry uses extensively for manufacture of sacks, mats, brushes, and cushions. Recent adaptations in the formulation of construction materials combine plant fibers with synthetic resins. Agave remains one of the most common plant groups in Mexico’s Chihuahuan Desert, and already it has provided subsistence for about 500,000 Mexican workers.

According to Damian A. Revetta and Stephen P. McLaughlin (1993), *Agave sisalana* produces a “paper of high porosity, tear strength, fold endurance, and

absorbance: these are characteristics required in the production of specialty papers such as filters for coffee makers and vacuum, oil, and air cleaners, security papers, diapers, and tea bags.” Researchers now study *Hesperaloe funifera* and *H. nocturna*, members of the lily family, for potential sources of high quality fiber. They can be grown in areas where *Agave sisalana* cannot grow because of cold sensitivity.

Valerie S. Loesch, et al., identified twelve CAM *Tillandsia* species, including *Tillandsia usneoides* or Spanish Moss, an epiphytic bromeliad native to Texas and the Southern Coastal region. Charles C. Powel, Ph.D. and Rosemarie Rossetti, Ph.D., authors of *The Healthy Indoor Plant*, mention Spanish Moss as suitable material for mulching interior plants to maintain moisture and stable temperature of the growing medium. A thriving

international interiorscape industry uses many tons of Spanish Moss every year.

Far from being interesting oddities—as they were viewed a few decades ago—researchers increasingly scrutinize CAM plants as to just what they are, how they might be best exploited, and which CAM plants might be used to fill needs not yet completely understood. Yet, with the prospect of global warming on the minds of many scientists, coupled with increasing water shortages worldwide, we might do well to learn as much as possible about these uniquely adapted plants.

What does all of this mean for Central Texas gardeners? Well, armed with this information, we might better understand why some plants work better than others in our Xeriscape gardens. Then, too, we might just enjoy sharing another fun factoid about some of our favorite plants.

“Bug” of the month

This month’s insect is the praying mantid, or as many of us say, praying mantis. This insect is a master of disguise on plants and is a very beneficial pest management tool for flies, crickets and moths. However they will also feed on honey bees and themselves. They are not effective for control of aphids, mites or caterpillars. They get their name from they way nymph and adult mantids hold their front legs as in prayer. Those legs are used for grasping and holding prey. The adults are green to grayish brown, have well developed wings and are 2 to 4 inches long. Egg masses of the common Texas species such as the Carolina mantid, *Stagmomantis carolina* (Johannson), are somewhat rectangular in shape, usually about 1 inch long, 1/8 in wide, with rounded sides. Each mass contains dozens of eggs encased in a frothy material produced by the female that hardens and is tan or occasionally white on top with darker sides.

The species most commonly sold by suppliers for biological control, the Chinese praying mantid, *Tenodera aridifolia sinensis*, does not occur naturally in the state.

Life cycle: In the fall, adult female mantids lay eggs on twigs, vines and other sites such as under eaves of homes. Eggs hatch in the spring. Nymphs develop through several wingless stages (instars) before becoming sexually mature winged adults. Only one generation is produced per year.

Wayne Rhoden
Entomologist Specialist



Article and top image from *A field guide to common Texas Insects* by Bastiaan M. Drees, Ph.D. and John Jackman, Ph.D. The mantid was taken by Wayne in his garden.

Treats from the Master Garden

Mmmmmmmmm Good, No matter how you slice it!**Margaret Seals**

Pie. The best three letter word in the English language. Whether you prefer a huge slice, a la mode or with a dollop of whipped cream, or just want a “teenie weenie taste” as my Aunt Clara used to say, an offer of a piece of pie is rarely refused. With the fall season now officially under way and holiday time just around the corner, this month’s offering from the master garden is designed to make your mouth water for pie.

I will get to some old favorites and a special holiday treat later, but first I want to talk about that foundation of pie: the piecrust. To answer the question that is begging, yes, I do sometimes use those frozen piecrusts that are so handy in the grocer’s freezer, but I never feel that I have given a pie my best shot when I don’t make the crust from scratch. My Grandmother taught me to make piecrust by letting me use her heavy wooden rolling pin to roll out little “mini” crusts for practice. Her recipe called for lard, and there was never a more tender, flaky crust than when that now out-of-favor ingredient was in use. Mother “graduated” me to vegetable shortening, and as a new bride chewing on the leather I was creating with most of my piecrusts, I found another way to flakiness through Julia Child and her Pate Brisée that calls for a half pound of unsalted butter. Making piecrust calls for a light hand in the mixing process, correct cold temperature for the wet ingredients and a wait-before-rolling lapse to let the dough “relax” insuring the best results. Here is my favorite:

Pate Brisée

(Makes two crusts)

2 ½ C All purpose flour

½ t. salt

½ t. sugar

½ pound unsalted butter, cold

¼ to ½ C Ice water

Cut cold butter into Tablespoons with a knife, place in food processor. Add salt, sugar and flour. Add ice-cold water, a little at a time, processing on pulse until the dough forms a ball. (The amount of water depends on the humidity of the day usually.) As soon as the ball forms, remove it from the processor and divide in two parts. Wrap each in plastic wrap, and refrigerate for at least 30 minutes. Using a lightly floured board, roll out dough to 1/8 inch thickness. Place in pie pan and crimp edges however you like to do this. Use an egg wash (1 egg + ½ C milk beaten together) to brush on crust just before baking or filling. For convenience sake (and to keep from using those “store-bought” crusts), I try to make several piecrusts at the same time, freezing the ones I don’t use immediately. Pate Brisée freezes well, and will keep for several weeks. Using the tines of a fork, push into the bottom of the crust making a few holes to keep the crust from bubbling as it bakes or fill the piecrust with a round of baking parchment to cover the bottom and fill with dry beans for the same reason. Bake at 400 degrees in a preheated oven until crust turns golden brown.

Now for the fillings: the first one is from my old Helen Corbitt Cook Book, long since out of print. It tastes like you are biting into a cloud. I have had few guests taste this pie without asking for seconds! The perfect ending year round to any meal, it is that “just right” taste of sweet that pie lovers crave.

Tom and Jerry Pie

1 pre-baked, cooled 9 inch pie crust

1 T. unflavored gelatin

¼ C cold water

4 egg yolks

1 C sugar

½ t salt

½ C hot water

2 T sherry (I use Dry Sack)

1 T dark rum (Any dark rum will do)

4 egg whites

1 C heavy whipping cream

Soak the gelatin in the cold water. Beat egg yolks, ½ C sugar, salt and the hot water together. Cook and stir in a double boiler (or cook in your microwave) until thick. If you use the microwave, you need to stop and stir frequently so that you don’t get clumps. Add the gelatin and stir until it dissolves. Cool, and then add the sherry and rum. When this mixture begins to set, fold in the stiffly beaten egg whites to which the remaining ½ C sugar has been added a little at a time. Whip, and then fold in ½ C of the heavy cream. Pour into a cooled, baked pie shell (or you can also use a graham cracker crust for this pie). Chill in refrigerator for several hours or overnight. When ready to serve, whip the remainder of the heavy cream and lightly cover the chilled pie. Sprinkle with nutmeg. If you thought “Egg Nog” when you read this recipe, you are absolutely right, but that is not what Ms. Corbitt called this pie, so that is not what I call it either.

Another “light as a cloud” filling perhaps more suited just for fall and winter tables is the following made with Maple Syrup, but it is very different from Tom and Jerry since there is no alcohol in this one. You might want to make this for the children or teetotalers at your table. The recipe comes from the Pillsbury Company, cir. 1950.

Vermont Crunch Parfait Pie

- 1 pre-baked, cooled 9 inch pie crust
- ½ C Maple or maple flavored syrup
- ¼ C light brown sugar
- ¼ C water
- 1 extra large (or two medium) unbeaten egg white
- 1 ½ t vanilla
- 1 t lemon juice

Combine the ingredients above and beat with an electric mixer at highest speed until soft peaks form when beaters are raised, about 3-5 minutes.

Beat 1 C heavy whipping cream until thick. Add ½ C chopped, toasted pecans (reserving 1 or 2 T of pecans for garnish), and fold into egg white mixture by hand. Spoon into baked crust. Freeze until firm. (4-6 hours) When ready to serve, take pie from freezer and sprinkle remaining nuts on top. Cut while frozen. Allow slices to thaw a bit before serving. A word of caution here: if you are concerned about eating raw egg whites or serving them to children or senior citizens, don't use this recipe.

Laura's Tea Room in Clear Lake City, Texas was a beacon for the ladies who lunched in the area where I lived before moving to Georgetown. With delicious soups and gorgeous fresh salads, Laura really knew how to attract a crowd, but her secret to keeping loyal customers was the Banana Caramel Pie. She never gave out the recipe, but this one is as close as it gets:

Banana Caramel Pie

- 1 pre-baked, cooled 9 inch pie crust
- 1 14 oz can sweetened condensed milk
- 3 ripe bananas
- 1 C heavy whipping cream
- ¼ C sugar
- 1 C Toffee Bits candy

Preheat oven to 325 degrees. Fill a large saucepan with water and bring to a boil. Pour sweetened condensed milk into a small baking dish. Cover with aluminum foil. Set dish in larger baking pan and place the pan on your oven rack. Pour the boiling water into the larger pan, at least 1 inch deep around the dish filled with sweetened condensed milk. Carefully slide rack back into the oven. Bake 1 hour until the milk is thick and caramelized. Remove the baking dish from the larger baking pan very carefully.

Slice bananas and arrange them on the bottom of the pre-baked and cooled piecrust. Pour caramelized milk over bananas and allow to cool at least 30 minutes.

Whip cream until soft peaks form. Add sugar and continue whipping until stiff. Spread over caramel and bananas. Sprinkle with crushed toffee bits. Chill at least 3 hours before serving.

Finally, here is the pie you will want on your Thanksgiving or Christmas table. It's the absolute “Mother of all” sweet potato pies, a three layer one, and nobody does this better than the restaurant where it comes from, Papadeaux's. Go to the Austin Papadeaux's to try it first. Then go home with a smile on your face knowing that you will be able to duplicate that taste for your family and friends at your next holiday gathering! You don't have to tell them that you have the recipe. They gave it to the *Houston Chronicle* years ago.

Did You Know?

The first pies, called "coffins" or "coffyns" were savory meat pies with the crusts or pastry being tall, straight-sided with sealed-on floors and lids. Open-crust pastry (not tops or lids) were known as "traps." These pies held assorted meats and sauce components and were baked more like a modern casserole with no pan (the crust itself was the pan, its pastry tough and inedible). The purpose of a pastry shell was mainly to serve as a storage container and serving vessel, and these are often too hard to actually eat. A small pie was known as a tartlet and a tart was a large, shallow open pie (this is still the definition in England). Since pastry was a staple ingredient in medieval menus, pastry making was taken for granted by the majority of early cookbooks, and recipes are not usually included. It wasn't until the 16th century that cookbooks with pastry ingredients began appearing. Historians believe this was because cookbooks started appearing for the general household and not just for professional cooks.

From *History of Pie* at
<http://whatscookingamerica.net/History/PieHistory.htm>

Papadeaux's Sweet Potato Pecan Pie

with Bourbon Sauce

Bottom layer: Sweet potato filling

Preheat oven to 325 degrees

1 unbaked, deep dish, 10 inch pie crust

1 ¼ C cooked, mashed sweet potatoes (about 2 medium sized sweet potatoes)

¼ C each: light brown sugar and granulated sugar

1 egg, slightly beaten

¼ C heavy whipping cream

¼ t vanilla

Pinch of salt

¾ t each: ground cinnamon, allspice and nutmeg

3 T softened butter

Combine above ingredients in your mixer bowl and beat on medium low speed until smooth. Do not over mix. Spoon mixture into your uncooked piecrust. Set aside. Make the following pecan filling:

Top layer: Pecan filling

1 ¼ C each: granulated sugar and dark corn syrup

3 eggs, slightly beaten

3 T unsalted butter, softened

¼ T vanilla extract

Pinch of salt

¾ t. ground cinnamon

1 ¼ C chopped pecans, lightly toasted

Combine ingredients except pecans in your mixer bowl and beat on low speed until syrup is opaque about 4-5 minutes. Stir in pecans, mixing well.

Pour over sweet potato mixture in the unbaked piecrust. Fill evenly to the top of the crust. Bake for 1½ hours or until a knife inserted in center of pie comes out clean. You can store this pie at room temperature for 24 hours.

About an hour before serving, make Bourbon Sauce:

1 ½ C heavy whipping cream

1 C milk

1 4 oz package instant vanilla pudding mix

3 T Bourbon (use the good stuff)

1 t vanilla

Combine whipping cream and milk in a large mixing bowl. Slowly whip in pudding mix by hand. Add booze and continue whipping. Add vanilla and whip until mixture is well blended to sauce consistency (it should not be as firm as pudding, but it shouldn't be runny either). The sauce will thicken as it sits for an hour.

And if all this makes you so hungry for pie that you can't wait until you can try one, go down to the Monument Café in Georgetown and have a slice of their Chocolate pie on a pecan crust. Let me know if they will give you their recipe!

Submissions?

If you would like to contribute to the *Williamson County Master Gardeners Journal* please send your articles, item, and photographs to Christine Powell at xtinepowell@verizon.net by the 25th of the month. Remember to include captions and attribution details. The Editor is grateful to all those who have submitted items in the past and would like to thank those who would like to send things in the future. Thank you!



Texas Master Gardener Specialist Training

Vegetable Gardening

October 16 – 17, 2008
Williamson County Agrilife Extension Office
3151 SE Inner Loop Road
Georgetown, Texas 78628

Master Gardener Specialist – Vegetable Gardening Training will include training by experts on the subject of all phases of vegetable growing such as Soils and Soil Preparation, Garden Location and Set Up, Cultural Practices, Plant Growing and Plant Growing Structures, Vegetables A to Z, Insects, Disease and Weed Control and Harvesting and Handling Vegetables.

There have been many requests for this training because of the problems with vegetable growing in this country and this is an excellent time to provide this training to our associations. Master Gardeners can use this course to train their own members and it is a great tool to use for training our young people about how vegetables get on our tables and how fresh tasting they can be when grown locally.

The class will be taught by Bob Whitney, County Extension Agent, Williamson County, Tom LeRoy, County Extension Agent, Montgomery County and Dr. Joe Masabni, State Extension Vegetable Specialist at Texas A&M University.

We will be accepting 30 applications for this training. Please contact Donna Colburn (dncolburn@ag.tamu.edu) for more information or check our website.



President's Column

Feels like Fall**Wayne Rhoden**

It feels a little like fall now and the plants in my yard like it. Even though we have not had any rain, the roses and other plants love the cooler weather and shorter days. My Belinda's Dream rose really put on a show for the last two weeks and the Caldwell Pink rose is in full bloom now.

I just returned from my Mother's home where I saw the full effects of Hurricane Ike. She lost a sweetgum tree in the back yard and lost electricity for a week but no damage to the home. It looked like a war zone with all of the trees down with many pine trees broken off and many oaks blown down. It is eerie sometimes to see the town where I grew up damaged and some of the big trees, which were available to play and relax under, blown down and now gone. It changes the landscape and alters it for the near future but other plants and trees will take the place of the ones destroyed and it will be normal to someone else.

Our new class is proceeding well and it is satisfying to have all of the interns excited about learning to be a Master Gardener. My thanks to all of the certified members who are helping with the refreshments and conducting the class. This really helps me and I think they enjoy reviewing the classes as well. We are getting to the part of our mission as a Master Gardener Association to extend the goal of Texas A&M University by providing educational information to the community. We are looking forward to this class helping with that goal.

Wayne

Balcones Canyonlands National Wildlife Refuge

Invites you to participate in free activities on
Saturday October 11 at Doeskin Ranch on RR 1174.

- ♦ SATURDAY, OCTOBER 11- guided walks & programs include:
- ♦ BIRDS & BUTTERFLIES for Beginners walk - 8:30 – 10:30 am (binoculars and identification books provided).
- ♦ ANIMALS ON THE MOVE walk- We'll examine which animals are moving, where, how far, & why. 8:30 am- 10:30 am
- ♦ NATURE PHOTOGRAPHY- digital & 35 mm walk & workshop 8:30 – 10:30 pm. Bring your camera manual & camera. ***Sign up in advance! ***
- ♦ NATURE WALK. Learn about ferns, flowers, fire, frogs & fossils! 10:30 am - noon & 1:30 pm - 3 pm
- ♦ SPIDER WALK 11 am – 12:15 pm and 2:30- 3:45 pm. Sign up ahead to share amazing facts about spiders w/ "Spider Joe" Lapp!
- ♦ DRAGONFLIES & Damselflies- noon- 1:30 pm. Look for different species found at the creek and pond
- ♦ Snakes Alive! Live snake program 12:15 pm- 1 pm.
- ♦ USEFUL NATIVE PLANTS Walk 2 - 4 pm
- ♦ NATIVE GRASSES: the Big 4 & a few more walk! 2:30 - 4 pm

At your leisure:

- ♦ Look for migrating hawks!
- ♦ Build Bluebird nest boxes- 9 am until supply lasts. \$5 each.
- ♦ Creatures from the Pond: view bizarre water creatures each from 10 am- 4 pm. Help capture the creatures from 9-10 am.!
- ♦ Catch Monarch Butterflies & tag them with tiny stickers if Monarchs are present.
- ♦ Enter the Butterfly tent!
- ♦ For more info call Rob Iski at 512-339-9432 x 70 Groups: please call in advance to register. Times & Activities subject to change.

Williamson County Master Gardener Association Officers for 2008

Officers:

Wayne Rhoden, President:	mgardener@suddenlink.net	(512) 869-8016
Vice-President:		
Nancy Moore, Treasurer:	wwwb@austin.rr.com	(512) 215-9697
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Programs/Education:

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Membership/Volunteer Opportunities:			
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Awards:	Margaret Seals	marjim@suddenlink.net	(512) 863-4127
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Monthly Meetings

Williamson County Master Gardeners hold monthly meetings at the Williamson County Extension Office, 3151 SE Innerloop Road, Suite A, Georgetown on the second Monday of each month at 6:00pm. Master Gardeners and the public are welcome to attend.