VOLUME 3, NO. 4 DEDICATED TO GROWING WITH WILLIAMSON COUNTY APRIL 2009

Williamson County Master Gardener Journal

CONTENTS

A Word From Our Sponsor!

Time Flies.....By Bob Whitney

County Extension Agent-Agriculture

It is almost mind boggling to think that I have been in Williamson County since August, eight months, and yet it seems like yesterday. As the saying goes time does fly when you're having fun and it has been and is fun. I am a firm believer that your work should be fun or don't do it and fortunately my work is fun. A big part of the fun has been you guys the Master Gardeners. There is no doubt that there is plenty to do in this program but it has all been very rewarding and so THANKS for a great 8 months!!

Now that I have had said it is fun and rewarding let me add, "you guys are working me to death." Well actually there are so many things to do and I want to do them all that I may be my own worst enemy and since I run into many of you at the same events you have to be your own worst enemy too! Just since the first of the year Duffy has had us propagating and planting every Saturday and Wednesday in the greenhouse, we had a successful plant sale and great educational seminars at the Home and Garden Show, Susan has had us at Berry Springs Park, Juanita and Patsy have us at a different school nearly every week, Wayne keeps having Board meetings and monthly meetings and planning meetings, Christine would have us every week at Lady Bird Johnson or writing articles, I can't keep up with all the MG approved projects that are being worked, I added to the load by calling a Center work day and we are in the process of starting a vegetable trial garden and an EarthKind Rose Garden. In the next few months we will have Oak Wilt training, JMG Teacher Training, several monthly meetings and starting August 11 a new class. We better consider it fun or we might begin to think it was work!!

Seriously, we have a great and dedicated Master Gardener group and I believe the best is yet to come. I want you to know that I love the fact that you have such a great reputation already even as fairly new group. Whether it is the general public, the media or public officials they all speak highly of you and are impressed with your abilities and knowledge. There is a strong belief that you are great sources of gardening information and most, if not all, people really do consider you Master Gardeners and place a lot of trust in your wisdom. As we move forward I am sure we will be called on to continue doing old fashioned hard work volunteering in support of our communities BUT I believe that we will also see an even greater call for our horticultural expertise and knowledge. The public is hungry for science based, practical horticulture information and who better to provide it than Williamson County Master Gardeners?

Master Gardeners at Work

News and Notes

Who Are These People?

No, they are not the WCMG dance team! They are just a few of the volunteers from 2008 who were awarded with WCMG denim shirts in acknowledgement of their one hundred plus hours of service to the organization (from left to right—Nancy Moore, Juanita James, Patsy Bredahl, Duffy Banfield and Wayne Rhoden). The moral here then is Volunteer more and often—who knows what will be awarded next year!

Vegetable Demonstration Garden

We have started the first of our demonstration gardens at the extension office. Several of the members, Walter Hoke, George Whiting, Wayne Rhoden and slave driver Bob Whitney, met to help build the framework for the garden and we will be filling the raised beds soon to start our garden. We plan to have an herb bed, tomato bed and seasonable vegetable beds for the members to show off their talents growing vegetables that do well in Williamson County.

New Signs

If you have been involved on a project then let people know that it was a MG project. Collect your sign from the Extension office or contact Wayne for one. We need to let people know that we have been busy within our communities.

Congratulations!

At our March monthly meeting several of our members became certified Master Gardeners. Pictured here are just a few, Janell Crego, Norma Beissner, Clyde Adley and JoAnn Dieterich. I will get a photo of the rest of you for our next issue.

Green Expo at Lowe's, Leander

The Williamson County Master Gardeners were invited to participate in the 2009 Green Expo at Lowe's in Leander on Mar 28.2009. Joan Adams and a number of volunteers (including Kim Dunagan, a JMG teacher from Leander Middle School, Trish Clay, Kay Myatt) manned the booth from 9:30-4:00. Bob Whitney was there to give us a great deal of support and answer the many questions that the customers had. We gave out information about the upcoming MG class, handed out various pieces of literature on planting in this area. It was a great success with a number of people showing interest in signing up for the class.

WCMGA Directory

We will soon have a WCMGA Directory. The purpose of this directory is to efficiently share contact information with other Williamson County Master Gardeners. Communication is an essential part of volunteering and coordinating projects. This information MAY NOT be used, sold or shared for solicitation purposes. The directory will help place names with faces and provide contact information for the purpose of coordinating volunteer efforts. By also listing specialties and volunteer skills, it makes it easier to coordinate Master Gardener volunteer projects. It is also easier to find speakers, and to find answers to difficult questions (because you'll know who to ask!) If you have not responded with your special interest or skills, please do so as soon as possible. If you need any help with this or have questions, or have not received information about this, please contact Grace Bryce 868-9191 or grace_bryce@tscj.net

Georgetown Home and Garden Show

Your master gardeners did an outstanding job at the Georgetown Home and Garden Show this year. The plant sale was very successful, we sold over three hundred plants, and the presentations were excellent. You can tell that I am proud of our members for their presentations at the show. Sally Todd and Kris Stanley started off the show with a presentation on ornamental plants showcasing some of the plants we had for sale, and then we gave a butterfly gardening presentation. During lunch break, Carey Thornell and one of her JMG students gave demonstrations about some of the activities used in the JMG program. After lunch, Nancy Blansett gave a good presentation on growing and using herbs which was followed by Winola Van Artsdalen and Brenda McIndoo talking about vegetable gardening. Thanks to all of our members that helped bring the plants to the show and stayed around to take back what we had left. Thankfully taking back was much easier than bringing them in because we sold so many. Our thanks also to the Greenhouse Committee and the effort they have expended getting all of the plants ready for the sale. They have spent many hours in the greenhouse planting, pruning and moving the plants from four-inch pots to the one gallon pots we sold at the show.

Workday at Berry Springs Park and Preserve

On March 7, 2009 the Master Gardeners met for a work day at the park. We pruned back the existing plants at the park, divided some of the grasses and generally spruced up the landscape areas we have adopted. We had a good turnout and there was plenty to do since we have a number of native and adapted plants in the park. See the pictures of the Master Gardeners working that day.

Master Gardener Organization

New Committee Chairs

Hopefully, as you are all aware, we now have three new members to our committee which oversees the general running of our organization.Please take the time to read what they have to say and ***please*** *help them in anyway you can (this goes for all Board and Committee members. They all undertake their responsibilities very seriously and do it for the love of the organization.*

Programs/Education Committee—Paul Lawrence

As the new chairman of the Programs/Education Committee I would like to thank my predecessor, Juanita James, for all of her and other committee members' efforts to date. As an organization we have come a long way in a short period of time but still have a great deal of potential as yet unrealized. The importance of this committee can not be overstated especially during these early formative years of our organization. Our identity as a group will be expressed through: 1) the quality of the education we provide to our new members through their training, 2) our active members through their continuing education efforts, and most importantly, 3) the quality of our various outreach programs to the general public. We already have a good start on building our programs and education, based on the efforts and experience of those members who have been involved thus far.

There is a tremendous need to be met for the gardening public of Williamson County, and it is our responsibility to meet that demand to the best of our abilities. I am eager to take on this challenge with as many of my fellow Master Gardeners as would care to join me on the committee. I know there are many good causes within and outside of this group that compete for your generously given, but limited volunteer time. I hope you take the opportunity to serve on as many committees that satisfy your individual interests. If you are interested in working on this committee, then we will find a meaningful niche for you that is appropriate for the time you have to give. Many hands make for light work and for great camaraderie. Volunteer work is important, but it should be a labor of love and we should all have fun without regard for whether we have a shovel in our hand or are plinking away on our laptop.

We are looking for members who want to help develop our Programs and Education to their full potential. There are many pieces to this puzzle that will require many different skills and talents provided by many individuals, each contributing in their own way. Most importantly, we will need people who are enthusiastic about the committee's charge. Some people will be working with members who are in the process of developing a presentation for the Speaker's Bureau, providing related photographs, PowerPoint technical support, editing skills, presentation feedback and whatever else is required to elevate the quality of the presentation. Others will cruise the web to locate the best online links to support our students, our members and the general public in their continuing quest to educate themselves and each other. Still, others may be involved in the formation, training and ongoing operation of a help line and web-based consulting service. These are just a few specific examples of the wide varieties of skills and talents that must be solicited from the members and applied to our situation if this committee is to be successful in their charge. There are many more exciting and as yet undiscovered opportunities and challenges that await the members of this committee, together we will determine how this facet of our WCMG group will evolve. If you are interested in becoming involved in this exciting committee please drop me a note at pwlawrence@austin.rr.com and we'll set up an organizational meeting to see how we can discover and realize our organization's true potential.

Fundraising Committee—Grace Bryce

Join the FUNdraising Committee! This fun group will help with plant sales, obtain grants and donations from various companies, and explore new ways to raise money. Involvement at any level is welcome. FMI: contact Grace Bryce 868-9191 or grace_bryce@tscj.net

Communications Committee—Christine Powell

I know many of you thought I was this already—well, not officially, but I had been doing most of the work since I became a certified MG back in 2007. However, the position is now an official chair and I would like to ask you all for more help. For virtually all my previous tenure I have done the *Journal* every month and set up and maintained the Website, with many of you sending me articles as and when you could. I hope that will continue and my thanks go to you all.

I am looking for people for various aspects to help me, to report on MG activities and to take photographs—our very own "reporters" as well as article writers.

I would also like to turn over parts of the Website, especially the calendar. Hopefully, we can get that established as our main source of information of upcoming events and opportunities as well as communications—this has been tried before but it never never quite got off the ground. Lets make it happen!

I also have a new job added under this communications umbrella—Publicity—which has been so well handled by Patsy Bredahl. I think this can be a lot of fun but would very much like to delegate that role to someone else plus establish others in each of the main centers as "go-to people" in their own communities.

I have lots of plans and ideas so if you would like to help me please let me know as soon as possible so we can get going!

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:

Sunday March 8, 2009

Time to get those Lawns in Shape

With all the warm weather lately people are ready to start fixing up their landscapes and I am right there with them. I always start off like a fireball but like everyone else, come July I am ready for winter again!! But since spring is here let's talk about lawn care, probably the biggest plant you have in your landscape and certainly the one that takes the most time.

First off, now is the time to get your lawn mower running again. Certainly it needs the perennial oil change and maybe a new spark plug and for sure some new gas. Fortunately gas is cheaper now than last summer. Once your mower is ready you should mow your lawn as short as you can get it. Now this may be messy but mowing it short will help warm the soil and probably more importantly take out a lot of those winter weeds or at least set them back. Some people call the procedure scalping but I don't see many mowers that can be set low enough to actually scalp a lawn. I just call this a spring clean-up.

Next you will need to fertilize but only if you have bermudagrass or St. Augustinegrass. These two are already trying to green up telling us that soil temperatures are getting warmer by the day. Since they are starting to grow they are the ones that will respond to fertilizer the best and no matter what you hear the fertilizer they need is nitrogen. This can be the hard part because very few stores sell just a nitrogen fertilizer, either organic or inorganic. But fertilizers that have a lot of phosphorus or potassium are not really needed in our soils and can even tie up other nutrients our grasses need. What we need is 1 pound of actual nitrogen per 1000 sq. ft. or in fertilizer terms 7 pounds of 15-0-0 or 5 pounds of 21-0-0 which is a common nitrogen fertilizer. Also at this time you can apply an iron product if you have consistently had problems with yellow St Augustinegrass. Iron sulphate or Ironite can work well to help with this problem caused by our high pH soils in Williamson County.

Now those of you with Zoysia grass or buffalograss need to wait until later in April to fertilize your grasses. Both of these are slower to start in the spring and fertilizing now can only feed the weeds and other grasses in your lawn and not the actual grass you are growing.

Another thing you need to do now is water, although I think you probably already knew that! We are in a severe drought and there is no moisture in our soils for grasses or landscape plants to start growing. It is unfortunate that we have to start off the year watering but if you expect your landscape to be ready when it finally does rain you must water now. What we want is about 4 inches of wet soil. So water until you can push a shovel in about 4 inches easily. If it doesn't soak in fast enough then turn off the sprinkler and come back in one hour. This has been a real lesson for me this year since I moved from an area with sandy soils to one here with heavy clay. The soil is great here, and very rich but it does take time to water thoroughly.

Lastly I am getting lots of complaints about weeds and weedy grasses. Well those weeds are not summer weeds only winter weeds. They have all sprouted as a result of the rains we got the first of February or were sprouted and waiting on those rains. Now they are taking advantage of an open lawn and great weather. Earlier I mentioned mowing and this is one of the best ways to really help "restrain" these weeds. If you still have too many and want to get rid of them then you can use spot treatments with a dilute Roundup solution or with 20% vinegar just "painting them with a foam brush. If that is too slow then you might try any of the weed control products you can mix up in a sprayer. Be careful though and don't drift over to trees or shrubs since these could also be damaged. I sure don't recommend a weed and feed product since I have never seen homeowners be that careful to avoid flower beds and sure enough these products control flowers too!!

Sunday, March 15, 2009

Chilling Accumulation: Its Importance and Estimation

This year we have had what has seemed like an unusually warm winter. In actuality it has been really cool overall with average temperatures in December being 51.3 degrees, in January 50.6 degrees and February being a cold 58.8 degrees. I get a lot of questions about chilling hours and if we have accumulated enough. Stone fruit trees such as peaches develop their vegetative and fruiting buds in the summer and, as winter approaches, the already developed buds go dormant in response to both shorter day lengths and cooler temperatures. This dormancy or sleeping stage protects these buds from oncoming cold weather. Once buds have entered dormancy, they will be tolerant to temperatures much below freezing and will not grow in response to mid-winter warm spells. These buds remain dormant until they have accumulated sufficient chilling units (CU) of cold weather. Almost any variety of stone fruit you buy will have its chilling requirement on the tag. When enough chilling accumulates, the buds are ready to grow in response to warm temperatures. As long as there have been enough CU's the flower and leaf buds develop normally. If the buds do not receive sufficient chilling temperatures during winter to completely release dormancy, trees will develop one or more of the physiological symptoms associated with insufficient chilling: 1) delayed foliation, 2) reduced fruit set and increased buttoning and, 3) reduced fruit quality.

Delayed Foliation - A classic symptom of insufficient chilling is delayed leafing out. A tree may have a small tuft of leaves near the tips of the stems and have no leaves for 12 to 20 inches below the tips. Lower buds will break eventually but full foliation is significantly delayed, fruit set is reduced, and the tree is weakened.

Reduced Fruit Set and Buttoning - Flowering, in response to insufficient chilling, often follows the pattern seen with leaf development. Bloom is delayed, extended, and due to abnormalities in pistil and pollen development, fruit set is reduced. In many peach cultivars, flowers drop before or around shuck split, but in others such as 'Jersey Queen' and 'Harvester', buttons form. Buttons result from flowers which apparently have set but never develop into full-size fruit. The fruit remains small and misshapen as they ripen. If you cut these fruit open, the seed is dead.

Reduced Fruit Quality - The effects of insufficient chilling on fruit quality are probably

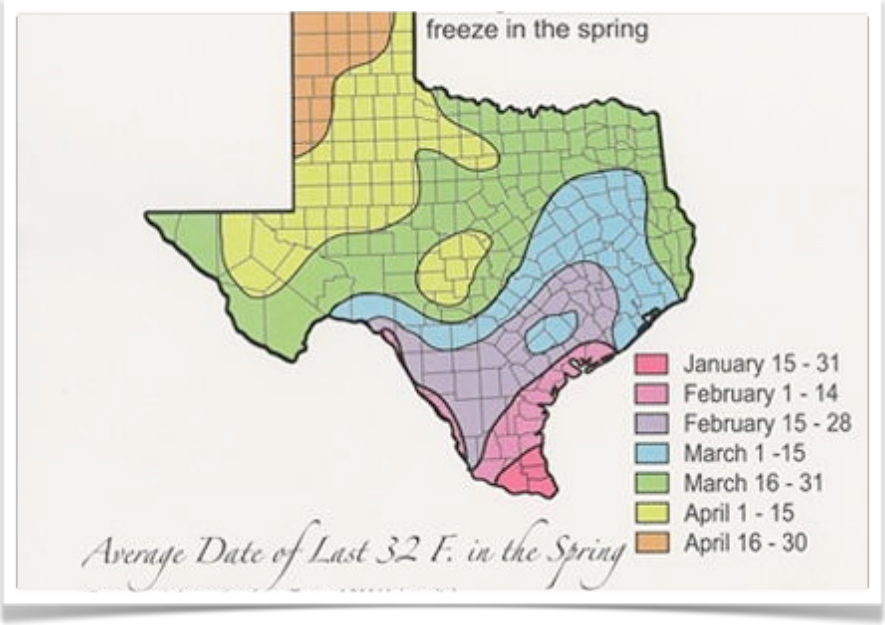
the least discussed but appear to be very common especially in central and south Texas. The effects on leaf growth and fruit set are dramatic but the effects of insufficient chill on fruit quality are subtle, and can occur when other symptoms do not. Insufficient chilling will cause many cultivars to have an enlarged tip and reduced firmness. Furthermore, fruit ground coloration may be greener than usual, possibly due to the fruit losing firmness before the ground color can fully change from green to yellow. The extent of these quality problems depends on the cultivar and the degree of chilling deficiency.

Mean Temperature Model - The mean temperature model uses mean winter (December and/or January) monthly temperatures to estimate accumulated chilling units. The Stone Fruit Breeding Program at Texas A&M University developed a method to estimate chill accumulation which has demonstrated to be accurate for estimating chill accumulation in Texas from the Lower Rio Grande Valley up to the Red River. The coldest month or months are used for the calculation. In low chill regions (regions where average January temperature is 59-63 degrees F) where January represents the dormancy season, January mean temperature is most accurate for estimation. In high chill regions (regions where average January temperature is below 48 degrees F) a mean December-January temperature is recommended. For Williamson County we would use the December-January temperature model.

Also, this method will make it possible for the grower to know, before fruit thinning time, if chill accumulation was sufficient for a given cultivar. If insufficient chilling is suspected for a cultivar, the grower can implement management and marketing strategies to reduce the impact on costs and labor. Furthermore, chemical sprays such as Dormex that help break dormancy are being researched. These chemicals can be used in late January or early February if insufficient chilling is suspected. On the other hand, the expense of a dormancy-breaking chemical can be avoided if the grower knows that trees have received sufficient chill accumulation.

Williamson County Example

Mean December, 2008 temperature is 51.3°F and mean January, 2009 temperature is 50.6°F



Chilling Units = 4280 minus 68.8 X [(Dec. mean + Jan. mean)/2]

Chilling Units = 4280 - 68.8 X [(51.3° + 50.6°)/2]

Chilling Units = 4280 - 68.8 X 50.95

Chilling Units = 4280 - 3505.36

Chilling Units = 774.64

We normally recommend trees with 600 to 800 hour requirements and sure enough we have had enough chilling hours.

Thursday March 26, 2009

Master Gardener Class Signup Underway

It has been a busy late winter and early spring! The Williamson County Master Gardeners have to be some of the busiest, most fun people on the planet and yet just mention another gardening project and a they are off again. In just the past few months local Master Gardeners have propagated and transferred into one gallon pots over 2000 perennial plants. These plants are part of their annual fundraising effort for all their many projects including the Junior Master Gardener program in local schools. They have given numerous educational programs to local garden clubs, civic clubs, schools and churches. They sponsored four educational seminars at the Georgetown Home and Garden Show while hosting their annual plant sale and giving out educational materials. They have put in many educational gardens at several local schools with still more to install and they have been teaching school children about gardening while doing it. They have had several great programs for their membership to continue their gardening education and now they are in the midst of starting several new projects while maintaining the ones the already have. Added to all this they are helping to reinvigorate our landscape gardens at the Extension office including adding a new EarthKind rose garden and a vegetable variety trial garden.

Now that you know how much fun the Williamson County Master Gardeners are having doing gardening education you may want to know how you can get involved. We are just now beginning signup for our 2009 Master Gardener intern training program. This training program is 15 weeks in length with the first class being Tuesday, August 11, 2009. Classes are held each Tuesday, from 1 pm till 5 pm at the Extension office meeting room, 3151 Inner Loop, in Georgetown. Each week features a different speaker on a different topic such as Dr. Doug Welsh on EarthKind gardening, Jim Kamas on fruits and nuts, Steve Chaney on Perennials, Tom Leroy on vegetables, plus many more. This is every bit like a college course in horticulture which prepares you for the many opportunities to work with AgriLife Extension in educating the public about horticulture. In fact you will have lots of opportunities to present programs, talk one on one answering questions, developing projects and helping train future gardeners. Each Master Gardener intern must complete the required educational training

program and within one year do 50 hours volunteering in Master Gardener projects and receive an additional 15 hours of continuing education before they are certified. Once certified, Master Gardeners maintain their certification by continuing to volunteer time to support horticulture education and projects and also completing advanced education. This way the public can be assured that when they attend a program given by a Master Gardener or even ask a question of one of the many currently certified Master Gardeners they are getting good, science based information in horticulture.

Now if we have you interested and are ready to sign up you can get an application one of several ways. First, the applications are available on our Extension website at Williamson-tx.tamu.edu or you can call the Extension office at 943-3300 and we can mail you one. The cost of the class is $250 or $4.17 per hour of instruction. For $250 you receive all the classroom training, the Master Gardener notebook, reference books, a hand lens and many other materials throughout the class. So get an application, fill it out and send it in with $250 soon. We take applications on a first come, first served basis. Once we get your application then we will begin the process of selection. You will be interviewed by an Extension Agent and a Certified Master Gardener and if selected you will start on August 11! Interviews for new interns will start in May so get in your application in and start your new career as a Master Gardener.

From Our County Extension Agent-Agriculture

Oak Wilt Specialist Training

Bob Whitney

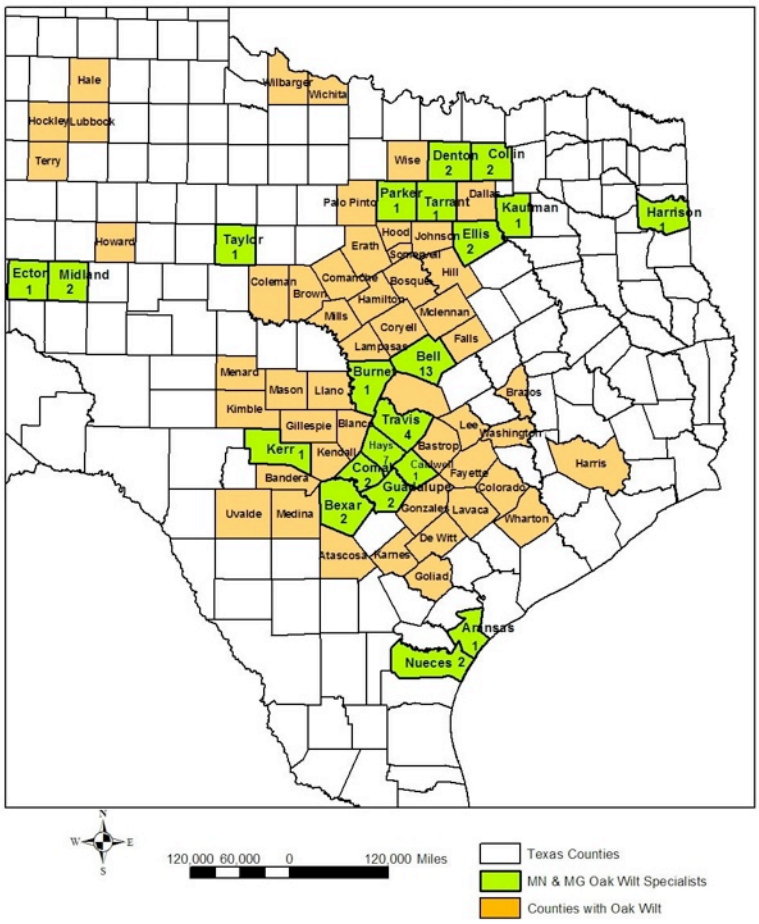
Those of you who attended the January meeting remember Rob Grotty with the Texas Forest Service who gave us an excellent program on tree care and pruning. At that meeting Rob discussed the possibility of us hosting a Master Gardener Oak Wilt Certification program sometime this year. Well we are and the date has been set for Thursday, May 14 from 8 a.m. to 5 p.m. at the Extension training room.

We don't have a lot of details yet but basically Dr. David Appel, TAMU Plant Pathologist and Oak Wilt researcher will be on the program along with several specialists from the Texas Forest Service. We will also be doing some training on Oak Wilt Presentations that you can give once trained. In the afternoon we will be traveling to a couple of sites to do some tree injections with the fungicide Alamo and discussing trenching. This is basically a full day about trees and oak wilt with Texas' best experts.

We will keep the cost low, paying for meals and breaks along with any educational materials we have to buy, say $15-20. If you attend the training as a certified Master Gardener you can become a certified Oak Wilt Specialist with a requirement that you do volunteer hours in Oak Wilt education in Williamson County. This is a high priority for me and I need the help. You can also just attend the program if you are not Master Gardener certified without becoming Oak Wilt Certified, BUT either way I need to know if you want to attend. Williamson County Master Gardener groups have the first opportunity but after our April meeting on Monday, April 13 it will be opened to other MG groups and the general public.

Sooooo, let me know quick!

Texas Counties with Master Gardener/ Master Naturalist Oak Wilt Specialists



Courtesy of www.texasoakwilt.org

Master Gardener Meeting

Soil Amendments

Christine Powell

On March 9, the Williamson County Master Gardeners heard a presentation on soil amendments by Mark S. Ney of McIntire's Garden Center in Georgetown. This is important in our area because our local soil is generally an alkaline clay that lacks organic matter and beneficial microbes and thus lacks basic nutrients. It compacts easily, which aggravates the problems of poor drainage and aeration. The "topsoil" often brought in from the San Gabriel or Colorado floodplains is a sandy loam that is only marginally better than the upland soils. Amending the soil is thus a necessity for growing almost anything, even native plants, and much more vegetables and exotic flowers.

There are five steps to building healthy soil: adding compost, adding basic minerals, introducing and stimulating beneficial microbes, dealing with the pH, and optimizing soil moisture. Composts are the basic step, because they actually help in many of these areas. They can add minerals, microbes, and aeration as well as helping handle water issues by improving drainage and moisture retention. Composted or acidified cottonseed bur are popular forms of compost in areas like Williamson County that produce cotton. They provide about 1% nitrogen and keep the soil aerated and moist. In animal farming and ranching country, composted manures have similar benefits plus providing other nutrients. It is important to compost manure, since the raw product may contain viable weed seeds or pathogens.

Peat moss and coco fiber hold water, keep the soil from compacting to exclude oxygenation, and provide acidity for plants that cannot tolerate our native alkalinity. These include azaleas and dogwoods. Commercial blends like Lady Bug Revitalizing Compost or Triple Power Compost mix manure and other materials. Dillo Dirt and other processed sludge products are very useful, but only Class A should be used on vegetables or other food crops; Class B may have excessive heavy metals. Homemade compost and earthworm castings provide excellent additional alternatives.

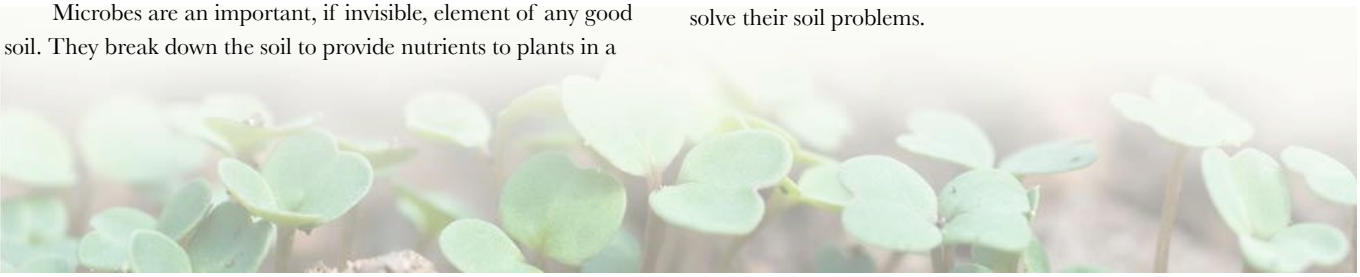
There are a number of products that can add basic minerals besides loosening and aerating the soil. Green sand provides 10% iron. Lava sand and decomposed granite are from volcanic rocks with a wide range of trace minerals. Mixes like Minerals Plus or Gardenville Sick Tree Treatment blend these materials with others for maximum effect.

Microbes are an important, if invisible, element of any good soil. They break down the soil to provide nutrients to plants in a usable form, attack some common pests, improve soil structure, and reduce salt levels. Compost tea is a basic source for these, but if freshly-brewed tea is not available, microbial growth can be promoted with other products like molasses (which feeds microbes and helps keep fire ants under control) in blends including fish emulsion, seaweed extract, and the like. Popular formulae include John's Recipe, Garrett Juice, the Medina products, and Espoma Bio-tone Microbial Plant Food.

Soil pH affects how plants absorb nutrients and grow. Products for controlling alkalinity and providing acidity include sulphur and various sulfates such as iron sulfate, magnesium sulfate (Epsom salts), calcium sulfate (gypsum), and aluminum sulfate. One popular blend, John's Recipe, includes humic acid with magnesium, ferrous, and zinc sulfates.

There are a variety of amendments available to promote a proper balance between drainage and moisture retention. Various sands—including ordinary quartz sand, green sand, and granite products—can improve clay soils. Expanded shale, vermiculite, and perlite all help with drainage; they absorb moisture and slowly release it as the plants need it. Polymer granules can absorb and store up to 50 times their volume in water. However, because they expand so much, they can crack a pot open.

These five basics—compost, minerals, microbes, pH, and moisture control—are key to understanding how to amend our poor local soil to make it productive. Mark answered a number of questions from the audience and offered his assistance in helping gardeners to solve their soil problems.



A Master **Gardeners** Walks

...along the trails

Annette Banks

You need not go deep into the trails for a burst of color. A short trip to San Gabriel Park will whet your appetite for a long walk. In the earliest spring, the yellows are directing the eyes to spots of other emerging colors. One of the many yellow wildflower species in the meadows of the trails is the charlock (*sinapis arvensis*). It is a proverbial 'sea of yellow' for its abundant color along our Texas highways and most of our country's roads, as well. We know it by the common names of wild mustard, corn mustard, karlock, and brassics.

The charlock is one of the earliest spring annuals. It will grow to a height of approximately 36 inches. It has a deep-toothed terminal lobe on the leaf. The upright plant has hairy stems supporting alternate leaves, which are egg-shaped, 2-8 inches long, and 1-4 inches wide. The flowers appear in clusters. Each flower is about 3/5 inch wide and contains 4 sepals and 4 petals diagonal to the sepals, arranged in two opposite pairs.

The abundance of the plant comes from the fact that on the wild mustard plant there are 10-18 seeds within each 1/2 to 3/4 inch pod, allowing one plant to produce between 2,000 to 3,500 seeds per plant. The tiny blackish purple seeds require between two to three months to become mature plants. The seeds can also survive in a viable state for many years and appear in adjoining areas, due to work of field machinery and the other scattering methods.

Obviously, farmers and ranchers often see this plant as an invasive weed. Another irritant to ranchers is that the wild mustard can cause problems within the cattle's digestive system. In many states it is classed as a noxious weed and as an invasive species.

However, many people, both in America and foreign countries, use the plant for a food source. The leaves are used raw as a salad ingredient, cooked, and as a soup ingredient. Younger leaves are generally preferred as the older leaves take on a bitter taste. The flowering stems are steamed for five minutes and give a substitute for cabbage and broccoli. The sprouts of the seed can be eaten raw and added to a salad for a rather hot flavor. The seeds can also be ground into powder and used as a spice or pepper substitute. Commercial oil is obtained from the charlock seed.

As with many plants, the charlock was used as treatments for health conditions; one of the most noted was for depression or melancholy. Another plant use was for yellow dye obtained from the flower.

The plant is not native to America. Many tales are told about the appearance of the wild plant upon American shores. One of the more clever ones is that wandering Conquistadors or their accompanying Padres scattered seeds to guide them home along the "yellow brick road".

For your quick reference in identifying Texas wildflowers by color: Wildflowers of Texas by Geyata Ajilvsgi, who was an herbarium botanist at Texas A & M
http://www.lostsprings.com/plants.aspx?cat=Flowers

Master Gardener Basics

Back to the Basics

Winola VanArtsdalen

Each month, this "Back to the Basics" series highlights a technique to help us get best results from our gardening efforts. Last month, the topic discussed was Layering, and this month the topic chosen is Air Layering.

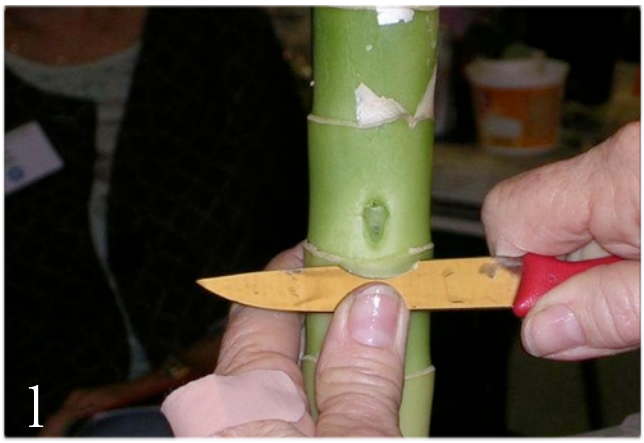
AIR LAYERING

Air layering, like simple and compound layering as described last month, gives you an easy, high-success rate method for starting new plants, as the plant is sustained by the mother plant while developing roots. Air layering was developed by the Chinese and formerly called "Chinese layering." They used two halfpots filled with soil, placing them on either side of the wound. The pots were tied together on either side of the stem. When the roots grew, the new plant was cut off the stem. Now, instead of clay pots, we make a long-fibered spagnum moss dressing covered with plastic, and you have the fun of watching for new roots formed!

Have ready long-fibered spagnum moss, (the kind you use in wire baskets), soaking in water, root hormone, a sterile sharp cutting tool such as a single-edge razor blade or X-acto knive, a cut toothpick or piece of shim, a 6" square piece of clear plastic, a piece of foil, and something to tie around the "dressing"--string, wire ties, or cut rubber bands. Either "girdle" the stem or cut a small horizontal slit or wedge on one side of a healthy stem partway through the stem just below a node. Insert a piece of a shim or toothpick to keep the wound open, brush the wound with rooting hormone powder put the hormone on the blade of the knife to apply it to the wound. Take wet spagnum moss and squeeze out water. Put plastic in one hand with wad of moss on top. Wrap the moss around the wound. Wrap plastic on top of moss and secure with ties, string, or cut, tied rubber bands and wrap foil on top of the plastic to keep a dark environment for rooting. Keep evenly moist. When you see roots, it is ready to sever and pot your new plant. If you like, you can put a plastic cover over your new plant for the greenhouse effect until you are sure it is established.

The advantage to using cut, tied rubber bands to secure the "bandage" on plant being air layered is that you can pull it out a bit to check that spagnum moss is still moist. Another suggestion for keeping the rooting medium moist is to use a moist mixture of spagnum moss, fine peat, and sharp sand instead of just spagnum moss alone. After the wound is wrapped with this mixture, do not disturb to check for six weeks to three months, depending on the type of plant and how soon you expect it to root. For your own little personal experiment, you might try both these methods (spagnum moss alone and spagnum moss/peat/sand mixture) on the same plant to see which works best for you.

How long will it take the plant to root? That depends on the plant and the time of year. My personal experience has been in the spring with crotons and Scheffileria. These plants rooted in a few weeks. According to Ken Druse in Making More Plants, on older



growth, semi-woody plants such as ficus are slow and develop few roots. Tall indoor plants such as Diffenbachia and Chinese evergreen might have roots in a month or less. Indoors, a subtropical woody plant will form roots in three months. In fall, if a shoot of the previous year's growth is air layered, it can take up to a year.

This technique described, air layering, can be used with plants with inflexible stems, and works especially well with croton, dracena, dumb cane, rubber plant and Scheffileria. Choose a plant that is healthy, but has become "leggy" and would look better with a shorter, bushier shape. You will improve the appearance and health of your existing plant and have new plants for your own use or to share with others. This is an excellent delayed gratification experience to share with children, as, after waiting and watching, they then experience the joy of seeing the new roots emerge!

#1 Cutting slit in stem

#2 Placing toothpick to keep slit open

#3 Wrapping w/spagnum moss in plastic wrap

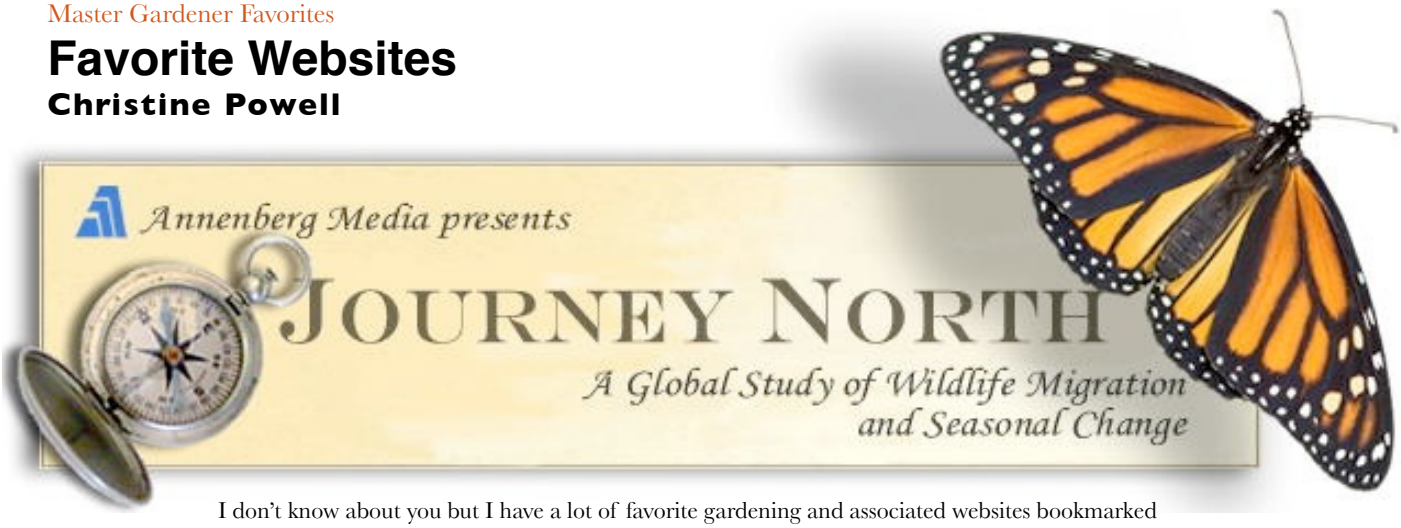
#4 Wrapped stem

#5 Covering with foil

Master Gardener Favorites

Favorite Websites

Christine Powell



I don't know about you but I have a lot of favorite gardening and associated websites bookmarked on my computer. I thought it would be a good idea if I shared one and perhaps in upcoming issues you all could share your favorites. This particular site is perfect for those of you who wish to educate yourselves (and don't we all?) plus those JMG's in the making. School teachers will love this if they don't already know about it. It has fabulous information and you can receive weekly reports abut your favorite migrating creature or how some plants are doing all over the nation—a great link to "home" for some of us. Give it a try at http://www.learner.org/jnorth/ .Ed.

"Bug" of the month

Our Bug of the Month is the bumblebee which is one of the most important pollinators for our flowers. They are large, about ¾ inch long and queens and workers have pollen baskets on their legs. The female can also sting.

Life Cycle: Fertilized queens survive the winter, select an underground nesting site in the spring and construct a nest in which worker bees are raised. Queens lay eggs that hatch into larvae and develop through several stages (instars) before turning into a pupa. Male and female bees are produced later in the summer. In the fall, all members of the colony die except the fertilized queens.

Habitat, Food Source(s), Damage: Nesting sites include clumps of dry grass, old bird nests, abandoned rodent burrows, old mattresses, car cushions or even in or under old abandoned buildings. Most colonies contain a few hundred bees although thriving colonies can contain up to 2,000 bees. Nests may be up to 12 inches in diameter and may have several entrances. Foraging worker bees use long tongues to pollinate clovers and other flowers, collecting pollen and nectar that they bring back to the hive to feed to the colony. Honey is stored in the nest. Foraging activities occur only during the daylight hours.

Skeleton: As with all insects the bumblebee has what is called an exoskeleton, i.e. its skeleton is on the outside and is made up of hard plates. This means that once a bumblebee has hatched out of its cocoon as an adult it cannot get any bigger. The muscles are attached to the inside of the plates. We have an endoskeleton, i.e. our skeleton is on the inside of our body and is made of bone. The muscles are attached to the bone, and because the skeleton is inside we can grow in size.

The bumblebee's body has many adaptations to enable her to gather nectar and pollen more efficiently from flowers, to operate in temperatures that stop other pollinators working, and to defend herself and her nest mates. Bumblebees would die without flowers and many flowers would be unable to breed without bumblebees.

The antenna or feelers of the bumblebee are used rather like humans use their noses, and are also used for touching.

Bumblebees have two pairs of wings though it looks like they have just one pair as the wings operate together, unlike those of dragonflies, and are held together by a series of hooks.

The bumblebee breathes through spiracles, these are simply paired holes down the side of its body. The air is drawn in as the insect moves. The spiracles are attached to tubes called trachea, the bumblebee also has air sacs.

The heart, like that in most other insects, runs down the entire length of the body.

The fat body is a nutritional store. Before hibernation queens eat as much as they can to enlarge their fat body. The fat in the cells is used up during hibernation. The fat body is largest in queens, smaller in workers, and doesn't exist in males.

Wayne Rhoden
Entmologist Specialist

First JMG Meeting Held

Make and Take Workshop

Patsy Bredahl

It takes the work of many to present a successful morning of JMG fun! That is what about forty-four children from Hutto, plus several Grandchildren of our fellow Master Gardeners, including mine, had-lots of fun!

On Monday, February16, from 10:00 AM-12:00 PM the "Make and Take Workshop" was held at Discovery United Methodist Church of Hutto. It was a dual effort of Master Gardeners, Hutto ISD, and The Church. Becky Reid, our church out reach director, obtained permission for us to deliver flyers to all the Elementary Schools in Hutto. Becky, and Diane Capron, another Church member were at the work shop to lend a helping hand. There were six Master Gardeners, including myself, at the workshop and what a great job they did! Clyde Adley, Grace Bulgerin, Janell Crego, JoAnne Dieterich, and Jeanne Holmes were there to help set up and keep the activities going. I think we all had as much fun as the children!

We had three activities to offer: "The Know and Show Sombrero", "Dirt People", and "Nature Mask". If any of you want to know how to make these projects, just ask any of the six of us. I believe we could do them in our sleep now!

Junior Master Gardeners in Action

After School Action Plan (ASAP) Goin' Green

Cara W. (FMS 8th Grade)

This month at Forbes we cleaned the front of the school and picked weeds. We took apart our old garden and recycled the pieces of timber. We had to take apart that garden because it was too far from a water source. We leveled the dirt so it would be even. We also made a plan for planting things in the front of the school without it getting torn up. We came up with putting a gate up with pretty flowers. Hopefully a gated area with mulch would keep students from ruining the grass in the area they stand in before school. We hope to complete that area by the end of the school year. We are planning sustainable projects that will make our school aware of the concept of Going Green. We also are planning to begin a recycling project in April that will use clear bins to recycle plastic, glass, paper, and grocery sacks. Another clear bin will be used to collect trash that can not be recycled. We will label this bin LANDFILL so that kids can see when you don't recycle how much goes into the earth that we can't take out. In our clean up day we came up with some easy home recycling tips that you can start doing today. Check them out!

Go Green Tips!

Erin C. (BMS 6th Grade)

"I love the earth because its my heart, when you grow things it's like the earth is healing"

You could recycle old Valentine's Day cards or Birthday cards by making new cards out of them.
You could collect cans, water bottles, and plastic bottles to recycle!!
Another way you could help is to take time going through old papers you do not need any more, shred them and then recycle them!!
You can get mulch for trees or plants, it helps save water!!
Also instead of getting more school supplies, you can reuse old school supplies from last year!!

Master Gardener and JMG

What an Idea!

Grace Bulgerin

What do you do when you are informed that there's a spring break coming and baby sitting is expected all week long? Crying is not an option because they are my sweet grandchildren ages 4 and 9. The answer is simple if you've just taken the Master Gardener course and Junior Master Gardening is a special interest. So we decided to create a raised bed garden (with irrigation) at a minimum cost.

The bottom of a 16" X 30" X 10" cardboard box was secured with duct tape. Two inches were cut off the top (leaving a depth of 8") and inserted into the box to add strength. Duct tape was used around the sides and ends. Then coffee stirrers were inserted into sides of 10 one gallon milk jugs and secured with Stick and Seal adhesive. This was allowed to dry then inserted in holes punched through the double thickness of the card board. We placed 5 jugs on each long side and secured with clear tape twice.

We placed the project on a board for moving if ever needed. Composted soil was added and topped with a wire screen to deter deer and near by cats. Jugs were filled with harvested rainwater. The irrigation system is activated by removing the lids and recapping them stops the flow.

Goals accomplished:

1. Low cost (less than $10)
2. Saved 18 milk jugs from the land fill
3. Encouraged 2 future gardeners
4. Time spent with grandchildren

The above would be great for small herbs and vegetables. Not recommended for carrots, corn, squash, cucumber and probably would not pass the homeowners association rules at Sun City.

Holli and Chase Ward of Liberty Hill with their very ingenious raised bed!

Any questions call Grace Bulgerin
512-863-3983

UPCOMING JUNIOR MASTER GARDENER PROJECTS

On Friday, March 7, at 6 P.M., the second JMG committee meeting was held at the Extension Center in Georgetown, Texas. In attendance were Bob Whitney, Wayne Rhoden, Juanita James, Patsy Bredahl, Grace Bulgerin, Jane Williams, Jeanne Holmes, Tanya Graham and George Whiting. We also were fortunate to have two guests in attendance, Brigit Mejia of the 4-H office and Mickie Ross with the Williamson Museum in Georgetown.

- Bridget came to explain two projects that we have agreed to help her with at Liberty Hill Elementary and Voigt Elementary in Round Rock. The Liberty Hill project will be broken down into five sections. The Master Gardeners will be working on two of these sections, the Dirt People and Know & Show Somberos. We will be working with 10 kindergarden classes. This project will start at 12:30 P.M. On April 15.
- On April 17, Voigt Elementary is having a Science Day. The Master Gardeners have volunteered to show the children how to make the Know & Show Somberos and explain to them the concept behind these somberos. We will be working with seven different groups of children.
- On May 7, 8 and 9 we will be working with Mickie Ross, from the Williamson Museum, at Pioneer Days in Round Rock at Old Settlers Park. On May 7 and 8 we will be explaining Pioneer vegetables to different groups of children from field trips coming to the Park for this event. Mickie will have spinners, candlemakers, soap making, storytellers and a dress-up area for children. The Master Gardeners are planning to plant a "Three Sisters Garden" in the area to show and explain to the children. On May 9 the event will be open to the general public. There will be Master Gardeners there for all three days explaining vegetables and the Three Sisters Garden.

Patsy and I, along with Bridget and Mickie, are very excited about these projects. Great volunteer hours for anyone that wants to help.

Juanita James

Madalene Hill
1913-2009

Madalene Hill, greatly respected herb gardening pioneer, fondly called, the "Grand Dame of Herbs," died March 5, 2009 in Brenham, Texas. Those of us who knew and loved her choose to think of Madalene, walking through the garden off into the sunset, smiling, confident that her many students will continue her herbal exploration. She leaves behind, literally thousands who have been inspired by her lectures, cooking/gardening classes, and writings. In addition to numerous articles in national publications, she co-authored in 1987, with her daughter and fellow herbalist and chef, Gwen Barclay and editor-writer Jean Hardy, *Southern Herb Gardening*, (Shearer Publishing $29.95), which continues to be the "bible" of herb gardening in the south. Into her 90's, she continued to write for respected national publications and always wrote for the newsletter of her beloved Pioneer Unit of the National Herb Society, at least two articles each month—usually a book review, and an informational article on an herb she had researched.

Madalene first became widely recognized with her popular business, with her husband, Jim, Hilltop Herb Farm, near Cleveland, Texas begun in 1957. She grew and sold herbs, and, ten years later, began serving meals with fresh herbs used in cooking, which was a revolutionary idea at the time. She was a true scientist, keeping meticulous records of her botanical research and numerous experiments. Her numerous awards are too many to list, but range from the Knot Garden at the National Arboretum in Washington D.C., being dedicated to her in the 1980s, The Arbor Gate in Tomball dedicating its Madalene Hill Herb Garden in 2005, and The American Horticultural Society recognizing her in 2006 for "extraordinary and dedicated efforts in the field of horticulture."

In 1993, a few years after her husband's death, Madalene and her daughter, Gwen, moved into the 1902 Menke House, one of the historical structures at the International Festival-Institue at Round Top, Texas on the 200-acre site pianist James Dick founded for concerts and study. Gwen was Director of Food Services, and Madalene, a full-time volunteer, became curator of the McAshan Herb Gardens where she created extensive gardens of artistic, historical and botanical value. As she explained to me one day while working in the gardens, "You reach the point where doing what you want is more important than money." And work she did! With her strong work ethic, she began each day at 5:00 a.m with her research and writing, then had breakfast and was ready to greet the volunteers at 9:00 a.m. She not only created beautiful gardens, but, as a result of her work, she discovered or introduced seven herbs to the nursery trade, including rosemaries 'Hill Hardy,' named for her in recognition of her research, 'Arp,' a cold-hardy rosemary discovered by her on a snowy January day in Arp, Texas, and 'Doublemint Madalene Hill' the only mint with both peppermint and spearmint flavor.

Those fortunate to have had the opportunity to work with Madalene personally in the gardens will always remember her adventurous spirit, extraordinary memory, her quick wit, and her many little daily living "sayings." She had a highly developed sense of taste and always wanted you to ignore the herbal charts and develop your own sense of taste. If you shared with her something you had read, she would immediately ask, "Have you tried it?" She was the ultimate teacher, always having high expectations, but making you feel good about what you had done and encouraging you to explore further. Her memory was incredible. I especially remember one garden tour in the pharmacy garden . Each time someone asked a question, Madalene, who was about 90 at the time, explained the botanical name, told the myth or folklore of the plant, and its medicinal uses. Then she described its horticultural needs and why it was in this location. After several questions were asked, you could see the amazement on the faces of those on the tour as they realized that she knew this detailed information about every plant in the gardens!

As well as the newsletter for The Pioneer Unit of The Herb Society, we had an informal group e-mail. Madalene's quick wit was a source of much amusement to all of us. One time our president used the wrong form of the word "pear," and this was Madalene's response. I thought is so precious I was never able to delete it from my computer.

> "My dear Nell: What a great way to get people's attention! How often does one have such an opportunity to kill two stones with one bird? Wish I could help but I have truly, a sore thumb so can't hold either the pair, pear or for that matter the paring knife! Hope you have adequate pear assistance, if not perhaps you need an au' pair or two for a few hours.

They are good at watching spoiled children but don't know how efficient they might be with a pearing oops, paring knife. This has given me a good laugh or two which I needed. Bring on the clowns!" Madalene (She was 92 years old when she wrote this!)

Many little sayings will always come back to me that Madalene used. She particularly loved certain old Chinese proverbs, and I leave you with a beautiful one she would want you to remember. "Always keep a green tree in the garden, and a singing bird will come."

Winola VanArtsdalen

Madalene Hill in 1998 in my garden in Brenham, TX (previous page)
Festival Hill Herb 2 in 1996 Madalene Hill teaching about herbs in "Mary's Garden," Festival Institute, Round Top, Texas (above right)
Festival Hill Herb class 1 in 1996 Madalene Hill teaching about herbs, Festival Institute, Round Top, Texas (above left)

SECOND ANNUAL SUN CITY GARDEN TOUR 2009

Water Works!

SATURDAY, MAY 2 FROM 11A.M. TO 4 P.M

The Sun City Garden Club is hosting the Second Annual Sun City Garden Tour 2009---"WATER WORKS"---on Saturday, May 2 from 11a.m. to 4 p.m. Tickets are $10 each. Bring neighbors, friends and family or come on your own. Enjoy the water features and yards at your leisure. Perhaps you are having guests that weekend---what a way to showoff Sun City Texas. Maybe you need a thank you gift for someone or know someone whose spirits could use a lift---buy a ticket and give it as a surprise.

Our 2009 tour highlights water features in a variety of gardens. Some will be grandiose and others simple - various styles to fit different types of gardens. Destinations include eight yards and the Sun City Gardens. Tickets are $10 and available from any garden club member, at the CA office or at Gatherings, 1009 Austin Avenue, in downtown Georgetown. The event is open to the public.

On Saturday, May 2, start at The Oaks - turn in your ticket and pick up a brochure with information and directions to each site. Visit the yards in any order; set your own pace; and, enjoy each display. Refreshments are available at The Oaks. Because of uneven terrain some yards will not be accessible to the mobility impaired; and, please, no strollers or dogs.

A Master Gardener and

Rainwater Harvesting

Paul Lawrence

As a student of the Williamson County Master Gardener's Class of '08, I remember reading the litany of subject matter that was to be covered during the fourteen class sessions and being particularly intrigued by the Rainwater Harvesting class. Thanks to the wealth of knowledge contained within the internet's world library, I was able to answer the initial questions I had pondered, but then discovered so many interesting offshoots that I have yet to satisfy my curiosity about anything that is a part of the Rainwater Harvesting World.

After finishing the class work for the Master Gardener's program, I resolved to become a Rainwater Specialist as offered from time to time through the Master Gardener's specialist program. After making a few inquiries, I found that the program is only offered on a sporadic basis and in general response to demand. I guess the raising of the same hand; (mine) over and over again does not represent a widespread demand in the ranks of the MG membership. Since my interest was both volunteer and profession-related, I started exploring beyond the MG arena. During my search for state and national related organizations, I ran into the Texas Rainwater Catchment Association (TRCA) and the American Rainwater Catchment Systems Association (ARCSA); both of which are Austin based. After reading their respective missions I joined both organizations! As good fortune provided, I found the announcement for their next ARCSA national accreditation course to be held in Kerrville in March in conjunction with the state's first annual TRCA conference. I registered for both the course and the conference and then counted the days until March 18th like it was the opening day of baseball season.

Due to my involvement with the TRCA, I received an invitation to join a stakeholder's group for a meeting at the capitol where we would discuss House Bill 1818 as introduced by State Representative Patrick Rose. The bill proposes to require that during the planning process for some new state buildings that they must review and incorporate RWH methods and apply them to a minimum percentage of the structure's roof area; there was also talk about requiring schools to take similar steps. More details to come…

An excerpt from http://www.rain-barrel.net/rainwater-collection.html follows:

> "The long history of rainwater collection, can be traced (in recorded history) as far back as ancient times some 3,000 years ago (850 BC) if not even farther. The need for water is a basic human essential for maintaining life, without it, no civilization could have prospered. Rainwater collection in ancient Constantinople is one of the last megalithic structures of its kind. During the dark ages, technologies as advanced as these however seem to have taken a severe decline in the western world, while older less expensive techniques persisted up until the industrial era. With the advance of technology, time proven methods gave way to centralized systems of water collection, with pipes and collective communal systems. If we, however, are to learn from our mistakes, we must study history and in this way rediscover the value of rainwater collection."

Rainwater harvesting can be disguised as living art as shown at the Ladybird Wildflower Center in South Austin

As they say, necessity is the mother of invention. Between our growing populations, falling lake levels in our reservoirs, the decline of water levels in our aquifers and the persistence of a 20-month drought, we need to find better ways to use our water and to find new sources. RWH is not new, but it works and will help take some of the pressure off our conventional and already strained water supplies. With a little bit of effort, we can all do our part to conserve our water resources. What's more, we can even produce enough water through RWH to significantly reduce our individual demands on our respective water suppliers.

I am enjoying my exploration of the quickly-evolving RWH world and would be happy to share my journey if there is sufficient interest in the group. Drop me a line at pwlawrence@austin.rr.com if you would like to learn more through future articles.

By the way, as I write this article, it is only 12 days until the opening of baseball season. And if you don't care, don't worry, I care enough for both of us. It appears that I have enough room in my life for at least two passions.

A Master Gardener and Her Tools

SunCalc

Christine Powell

As we have already established in past newsletters I'm not your normal female who is excited by a new piece of jewelry, handbag or pair of shoes… I love weird and wonderful tools for the garden and this last Christmas proved to be no different. My tool of desire this year was two fold. I'll tell you all about "tool" number two later in the year when I have seen if I can reproduce it as I think several of you would love one of your own so this issue I will discuss something I had long desired but thought I was going to have to invent it myself!

Most gardeners have to contend with a range of microclimates on their property. My front and back gardens, like most that I know, have a whole range of differing conditions. Some areas have stony soil, while others are clay. Some have better access to water than others. Particularly, some get much more sunlight than others. The path of the sun, the seasons, the house, fences, trees, and shrubs all create a complex pattern of sun and shade. Every spot, it seems, gets a different amount of light to drive photosynthesis. As a result, some spots provide a perfect environment for plants that require full sun, while spots only a few feet away would be deadly for those same plants. Planting in the wrong light conditions is one of the leading causes for gardening failures. However, few of us have the time to sit in our yards for 24 hours to record the lighting conditions.

Where there is a need, somebody has to have created a tool, and that is true of this problem, too. A company in Maine has developed a sunlight calculator. SunCalc is programmed to calculate the aggregate amount of full intensity solar energy that falls on a specific piece of property during a 12-hour period.

SunCalc readings are related to time as follows:

- Full Sun—6+ hours;
- Partial Sun—less than 6 and more than 4 hours;
- Partial Shade—less than 4 and more than 1 1/2 hours;
- Full Shade—less than 1 1/2 hours. With this information, a gardener is less likely to suffer an avoidable failure.

I found SunCalc very easy to use. The device looks like a meat thermometer. A user embeds the spike in a flower pot at the location which is to be measured, with the top of the SunCalc parallel to the ground so it is exposed to the sky like leaves at that spot. After switching it on in the early morning, the user just goes back that evening to check the results… Full Sun, Partial Sun, Partial Shade or Full Shade.

Using SunCalc, gardeners can accurately and easily measure the amount of photosynthetically active light in a specific growing location. If you would like a tool like mine, you can order a SunCalc at http://thesuncalc.com/.

2009 Texas Master Gardener State Conference
April 23-24 & 25, 2009
Marshall, Texas.

Make plans to join us for the 2009 Texas Master Gardener State Conference that will be held in beautiful East Texas.
For more information:
Harrison County Master Gardener Association
c/o Extension Office, 102 West Houston
Marshall, TX. 75670
(903) 935-8413
See this link for more information:
http://tcaaa.tamu.edu/09statemeeting.htm

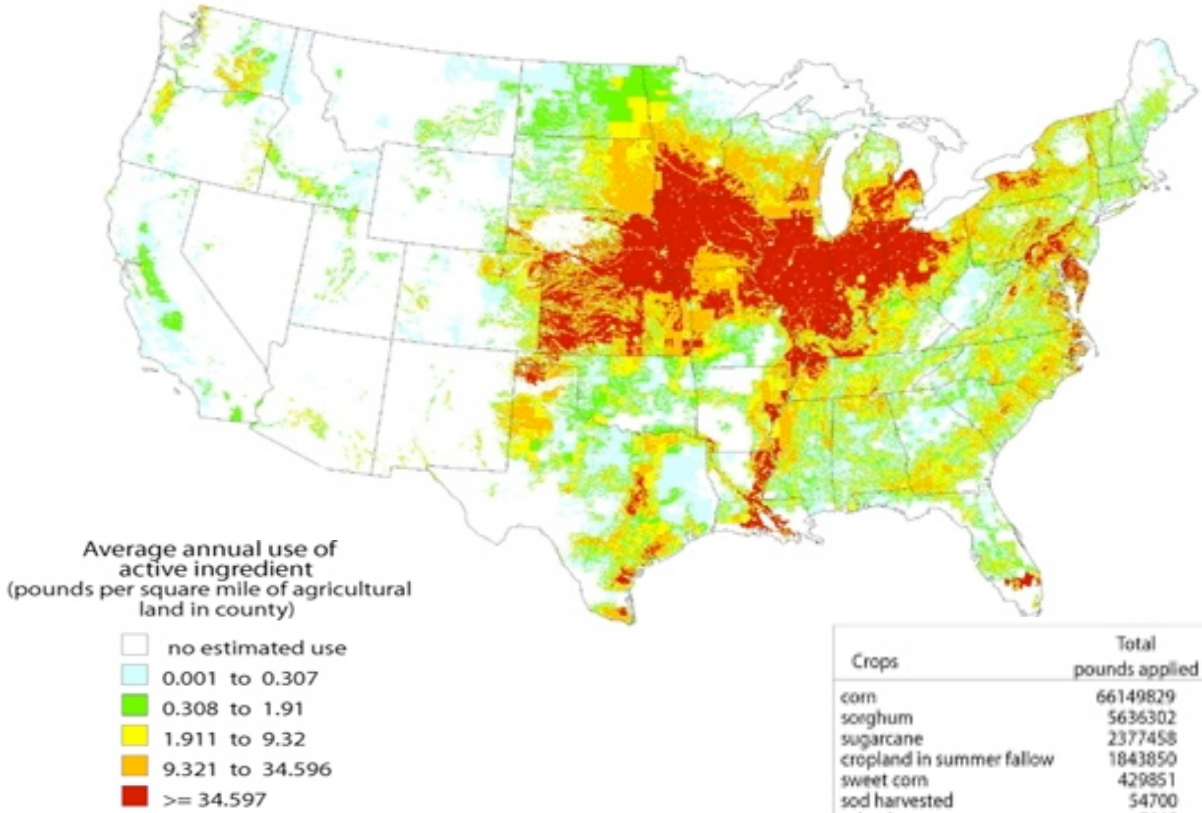
Meet Your Master Gardeners

From Silent Spring to Silent Night

Christine Powell

Rachel Carson's *Silent Spring* marked the beginning of the ecological movement with its warning that DDT was eliminating many of the birds that provided song to the spring. In a recent lecture at UT Austin, Dr. Tyrone Hayes warned of a threat to America's amphibians that may lead to silent summer nights. He points out the risks of a chemical called Atrazine, which is among our most heavily used herbicides. Although it kills broad-leafed dicotyledon weeds, it does not as strongly affect many monocotyledons like grasses and grains. For example, it can be used in a "weed and feed" product for St. Augustine, zoysia, and carpet grass, but will harm Bermuda and fescue. Nearly 80 million pounds a year is used in the United States each year, 86% on corn and 10% on grain sorghum. Atrazine ranks second among agricultural chemicals used in Texas (exceeded only by the herbicide 2,4-D), with 3 million pounds a year. It is in particularly heavy use in the blacklands from Austin north towards the Metroplex, because corn and sorghum are such common crops in this area. Interestingly, although Atrazine is produced by a Swiss company, the chemical is not approved for use in Europe.

Dr. Hayes conducted studies on Atrazine that indicated a link between the chemical and reproductive irregularities in frogs. To be fair, a number of other studies have questioned this link and the Environmental Protection Agency has made a finding that Atrazine poses no risk of amphibian gonadal deformation. It appears that there is a certain amount of apple to orange comparison going on here. The EPA is relying on laboratory studies that focus on the effect of Atrazine alone, while Dr. Hayes is conducting studies that measure the effects of Atrazine in combination with other agricultural chemicals in the environment. He believes that these combinations cause "fight or flight" stress reactions in amphibians, disturbing the hormonal balance, and causing the production of estrogen in male frogs when they should be making testosterone. This, in turn, causes their testes to function abnormally, even converting them to ovaries in some cases. Some tadpoles never reach maturity, while others have delayed maturation (which in nature can mean that the pond dries up before the frogs become



Crops	Total pounds applied	Percent national use
corn	66149829	86.471
sorghum	5636302	7.368
sugarcane	2377458	3.108
cropland in summer fallow	1843850	2.410
sweet corn	429851	0.562
sod harvested	54700	0.072
other hay	7013	0.009
field and grass seed crop	620	0.001

Map showing distribution of atrazine-use by state. Atrazine use by crop is also shown. Map courtesy of (USGS).

The Barton Springs Salamander is one of two species of amphibians already protected from atrazine as a result of lawsuits.

adults). Those that do survive are often rather small, making them easier prey, and have compromised immune systems, making them subject to parasites. All this cuts sharply into reproduction rates and population, he claims.

One interesting study has been conducted on the Salinas River in California, in the valley where most of America's lettuce and many other vegetables are grown. The river upstream from the agricultural areas has very low Atrazine levels, while the water downstream is runoff with high levels of Atrazine in combination with other agricultural chemicals. As Dr. Hayes predicted, the frogs downstream show greater stress than those upstream; their growth is noticeably slowed and stunted. This is significant for us in Central Texas, since there are significant levels of Atrazine in the surface waters and aquifers of the San Gabriel-Little River system in Bell, Williamson, and Milam Counties. Strenuous efforts have been made by the Texas Commission on Environmental Quality, Natural Resource Conservation Service and the Texas AgriLife Extension Service to convince farmers to change their practices to prevent Atrazine-laden runoff. Unfortunately, it can take 20 years for Atrazine to breakdown once it is "in the wild." What level is excessive is a matter of some dispute. The EPA limit for Atrazine in drinking water is 3 parts per million (some lakes in Texas have reached 5 ppm), but Dr. Hayes claims that gonadal malformation can be found in frogs developing in waters with as little as 0.1 ppm. He raises the obvious question of whether a chemical that can cause hormonal irregularities in frogs might not have similar effects in people. Indeed, Hayes cites studies showing lower sperm counts and elevated prostate cancer rates in men exposed to high levels of Atrazine. What is particularly disturbing in animal studies is that some of the effects may reflect chromosomal damage that will affect future generations even after the Atrazine is gone from the environment. This is certainly a potential problem that Master Gardeners, Master Naturalists, and others who are concerned about the environment should keep in mind. Those of us who live near corn or grain sorghum fields should make particular efforts to keep informed, since about 75% of these fields in the United States are treated with Atrazine. Hayes estimates that this increases yields by 1.2% over other means of weed control, which can already increase yields by 30-50%. The additional productivity may be worth the risks… or maybe not.

Common Groundsel (Senecio vulgaris), one of more than 80 atrazine-resistant "superweeds" that have evolved in response to atrazine use. Common groundsel is the most common weed in the world. It is poisonous and can cause permanent liver damage, resulting in death, if eaten.

Master Gardener Down on the Farm

Getting back to Basics

George Whiting (MG 2008) sent me this lovely image of his two day old, Porcelian Dutch Bantam Chicks. The red one on the right is a rooster. This took me back to my childhood in England. I used to love the day that my Aunt and I would walk the five miles round trip to the farm that supplied us with our day old chicks. I love chickens and would keep them now if the city would allow me! I even had a pet chicken I nursed back to health when I lived in Turkey (ironic, hey!). Like all good gardeners George notes "I will be using their droppings as fertilizer!"

Treats from the Master Garden

Do strawberries really need shortcake?

Margaret Seals

Fresh berries are my weakness. Just show me a big juicy blackberry, a nice plump blueberry, a ruby red raspberry or a shiny ripe strawberry, and I salivate like Pavlov's dog! I can remember picking strawberries in my Dad's garden as a preschooler, eating as many as I put in the box. Dad always built a mounded row for his berries, and planted them surrounded by straw. The mound was taller than I was as a 5 year old. With hands and face covered in sticky red residue and juice running down my arms, I would proudly carry the strawberry box back to the house announcing that "My berries" were ready for the short cake. My Mother's version of short cake was actually pie crust with a little added sugar. Baked in small squares, it soaked up the juice on the bottom of the bowl, and held the whipped cream in place above the berries. Later, as my Mother had less time for baking, I was introduced to those little sponge cakes sold in the grocery stores as short cakes, but my taste buds rebelled.

Short cake for me has to have a certain crunch to be "just right." I have tried many versions of "short cake" in my 47 years as the lady of the house, but none compare to a slightly sweetened pie crust! Last year, however, I came across the following recipe in a cookbook called *The Cake Doctor* by Anne Byrn. Ms. Byrn claims to have "doctored" cake mixes galore for this book, and one of her concoctions landed on my Easter table last year under a basket of fresh strawberries. It was good. Not crunchy like the pie crust, or spongy like the little grocery store cakes, but different and (OK, I admit it) delicious. Before all you fruit purists start dialing my number, I know that berries don't have to have anything served with them to be at their peak for nutrition and good taste. Still, next to eating them right off the vine, having them served atop short cake is next best! Try this version:

Almond Gooey Butter Cake

Makes 20 small squares

Prep time: 15 minutes

Baking time" 45-47 minutes

Crust:

1 Pkg, plain yellow cake mix

8 T (1 stick) butter (don't substitute)

1 large egg

½ C Slivered Almonds

Filling:

1 Pkg (8 oz) Cream Cheese, at room temp.

2 large eggs

1 t. pure almond extract

8 T (1 stick) butter, melted, don't substitute

3 ¾ C confectioners' sugar, sifted

Place rack in center of oven and preheat the oven to 350 degrees F. Set aside an ungreased, 13 x 9 inch baking pan.

For the crust, place the cake mix, melted butter, egg and almonds in a large mixing bowl. Blend with an electric mixer on low speed for 2 minutes. Stop the machine and scrape down the sides of the bowl with a rubber spatula. The batter should come together in a ball. With your fingertips, pat the batter into the baking pan evenly over the bottom of the pan, smoothing it out with your fingers until the top is smooth. Set the pan aside.

For the filling, place the cream cheese in the same mixing bowl that was used to make the crust, and with the same beaters (no need to clean them in-between) blend with an electric mixer on low speed until fluffy, about 30 seconds. Stop the machine, and add the eggs, almond extract and melted butter. Beat on medium speed for 1 minute. Stop the machine and add the confectioners' sugar. Beat on medium speed until the sugar is well incorporated, about 1 minute more. Stop the machine and scrape down the sides of the bowl with the rubber spatula. Pour the filling onto the crust and spread with the rubber spatula so that the filling covers the entire surface and reaches the sides of the pan. Place the pan in the oven.

Bake the cake until it is well browned, but the center still jiggles when you shake the pan. About 45-47 minutes. Remove the pan from the oven and place it on a wire rack to cool for about 30 minutes. Cut into squares to serve. Cover with fresh, sliced strawberries.

This cake can be frozen after baking, uncut and wrapped in foil, for up to 6 months. Thaw cake overnight in the refrigerator before cutting to serve.

You really don't need whipped cream on top of this version of strawberry short cake, but why mess with tradition? Lather on a dollop, and enjoy!

If you are just horrified thus far trying to picture that sweet, fattening Gooey Cake Mix Cake under those beautiful strawberries, here is a recipe that might make things all better. This one can be used as a dessert, but it can also be served as the first course. It is called **Summer Fruit Soup** (from *Simply Organic, A Cookbook for Sustainable, Seasonal and Local Ingredients* by Jesse Ziff Cool)

1 quart very ripe strawberries, hulled
2 C orange juice
1 C dry white wine
Grated zest of 1 lime
Juice of 2 limes
½ C honey
1 T balsamic vinegar
2 T chopped fresh mint leaves
3 whole black peppercorns
2 whole star anise
1 cinnamon stick
Salt to taste
3 C mixed berries: raspberries, blueberries or blackberries, cleaned and cooled

In a large saucepan, combine the strawberries, orange juice, wine, lime zest, lime juice, honey, vinegar, mint leaves, peppercorns, star anise, and cinnamon stick. Bring to a simmer over medium heat and cook for 15 minutes for the flavors to blend. Remove from the heat and cool to room temperature. Remove and discard the peppercorns, cinnamon stick and star anise. Season with salt to taste. Pour the soup through a sieve and discard the seeds. Chill the fruit broth. When ready to serve, ladle the fruit broth over uncooked fresh berries, about ½ C to ¾ C per bowl. Serve with a dollop of plain, vanilla or lemon flavored yogurt if you want to be festive. Or add a sprig of fresh mint.

Now how about a little **Sticky Lemon Chicken** to follow that berry soup? Here is a different version of quick fix chicken from Gordon Ramsay's *Fast Food*, a really nice cookbook that I received as a Christmas Gift last year.

1 large chicken, cut into pieces
Salt and pepper to taste
3-4 T Olive Oil
1 head of garlic, halved horizontally
Several sprigs of thyme
Splash of sherry vinegar
2 T soy sauce or tamari sauce (tamari is an aged soy sauce)
3 T honey
1 lemon, finely sliced
Bunch of flat leaf parsley

Season the chicken pieces with salt and pepper. Heat the olive oil in a large sauté pan. Brown the chicken (in batches if necessary) over high heat with the garlic and thyme for 2-3 minutes on each side until golden brown. Return the chicken to the pan, add the sherry vinegar, and bubble until reduced by half. Drizzle over the soy sauce or tamari sauce and honey and shake the pan to mix.

Pour in a good splash of hot water and add the lemon slices. Let the liquid bubble and reduce down until syrupy, which will take about 10 minutes or so. By now the chicken should be cooked through. Transfer the chicken to a platter and sprinkle over the chopped parsley.

This quick chicken can be served with a tossed green salad and copper pennies made from tiny baby carrots fresh from your spring garden or maybe a cheese and fresh spinach stuffed Portobello. As you probably already know, the Copper Pennies are made from brown sugar and butter with a pinch of salt added to sliced, blanched carrots and sautéed until tender. The recipe found in *Eating Well Magazine*, April 2009, for the **Cheese and Spinach Stuffed Portobello** follows:

4 large Portobello mushroom caps
¼ t salt
¼ t freshly ground black pepper, divided
1 C part-skim ricotta cheese
1 C finely chopped fresh spinach from your spring garden
½ C finely shredded Parmesan cheese, divided
2 T finely chopped Kalamata olives
½ t Italian Seasoning
¼ C prepared Marinara Sauce

Preheat oven to 450 degrees F. Coat a rimmed baking sheet with cooking spray.

Place mushroom caps, gill side up on the prepared pan. Sprinkle with salt and 1/8 t pepper. Roast until tender, about 20-25 minutes.

Meanwhile, mash ricotta, spinach, ¼ C Parmesan, olives, Italian Seasoning and the remaining 1/8 t pepper in a medium bowl. Place Marinara Sauce in a small bowl, cover and microwave on High until hot, about 30 seconds to 1 ½ minutes.

When the mushrooms are tender, carefully pour out any liquid accumulated in the caps. Return the caps to the pan, gill side up. Spread 1 T Marinara into each cup; cover the remaining sauce to keep warm. Mound a generous 1/3 C ricotta filling into each cap and sprinkle with the remaining Parmesan. Bake until hot, about 10 minutes. Serve with the remaining Marinara Sauce.

My spring garden is already producing lettuces of all sorts, mesculun mix, spinach and radishes along with transplants of dill and sweet basil. The sweet corn is up, and the tomatoes are doing well. I am side dressing the plants next week with a special "horse apple infusion" compost tea made by our resident brewmeister at Sun City Gardens, the location of my little raised garden. I'm trying some Malabar spinach this year. It is a spinach variety that grows on a long vine and does well in the heat right through the summer. And its nature saves space in a tiny garden because it grows vertically rather than horizontally. Along with cucumbers, white eggplant, several varieties of peppers and some okra that I will plant a little later, that will be all I can squeeze into that 5 x 25 foot plot. I will let you know if the raccoons beat me to my corn again this season. Oh yes, my Meyer Lemon Tree in a huge pot on my back porch is in full bloom too. Things are looking up all over! Hope you are enjoying something from your spring garden now as well.

President's Column

Volunteering Galore...

Wayne Rhoden

Hello Master Gardeners!

We had so many volunteer opportunities last month that sometimes it makes you dizzy. With the greenhouse crew getting the plants ready to sell, setting up for the Georgetown Home and Garden Show and preparing our speakers for the presentations they were giving at the show, it was a busy month. I am very proud of all of the master gardeners who worked on these projects because this is one of the ways we show the community how we are involved. From producing quality plants for sale to giving programs on herbs, ornamental plants, butterfly gardening and vegetable gardening, we met several hundred residents of Georgetown and the surrounding area. As usual the first presentations drew the biggest crowds and later dwindled down but we had a good amount of folks at the show area. And how about those plants! In the two day sale we sold over 1000 ornamental plants to the teachers, master gardeners and the community. We sold so many that we may be pressed to come up with enough to sell at the Market Days in April. What a great position to be in. We also had some of our Junior Master Gardeners from Benold Middle School give a program at the lunch break and they did a great job. Our JMG chairs are busy with ongoing programs and there are several volunteer opportunities next month to help with programs at Liberty Hill on April 15th and Voight Elementary on April 17th. If you are interested, call Patsy Bredahl or Juanita James to let them know you wish to participate. We also have the framework up for our Vegetable Garden Demonstration area and will be getting that completed in the next few weeks. We have laid out the outline for the Earthkind Rose demonstration garden and will be tilling up the soil and getting ready to plant the roses soon. We had a workday at the Extension Office on March 21st and pruned the native and adapted plants around the grounds. We hope to make that a regular happening and will let you know what day to come out and help. Remember that we have a new class starting in August so if you have a friend or spouse who wants to become a master gardener, tell them to go to the county website or to our website to get an application. Do not forget the Texas Master Gardener Conference this month in Marshall, Texas.

Happy gardening Wayne

September 28 – October 2, 2009 Master Volunteer Entomology Specialist Training

Texas AgriLife Extension Service Montgomery County Office, Conroe, TX

Hosted by Dr. Paul R. Nester, Extension Program Specialist, Houston/Metro area, and the Montgomery County Master Gardeners.

- Registration fee of $300.00 includes collecting kit with lots of goodies; lectures; Extension bulletins; 3 lunches, 1 dinner, snacks & drinks
- Transportation and lodging is on your own
- Course is limited to 25 applicants; deadline is July 18, 2009

Contact Paul Nester at PNester@ag.tamu.edu or 281-855-5639 with any questions.

Registration material

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!

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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.