

Williamson County Master Gardener *Journal*

Award Winning

CONTENTS

1

NATURE NIGHTS

2

NEWS AND NOTES

5

DRIP IRRIGATION

7

BOB'S BLOG

9

ADVANCED TRAINING

10

ALLELOPATHY

13

BACK TO BASICS

16

HYPOXYLON CANKER

18

MEET A MG

20

CORN IS NEVER "CORNY"!

22

FROM THE PRESIDENT

23

2008 ASSOCIATION

OFFICERS

Master Gardener's At Work

WCMG's Help At Nature Nights

The Lady Bird Johnson Wildflower Center has been holding a series of special events called Nature Nights and our own Bonnie and Leroy Sladek jumped at the chance to volunteer to help. This is a series of special events held at the center designed to share the wonders of nature in Central Texas with families of the area. Each week a different topic is explored — mammals, fossils, birds of prey, bees and streamside ecology. Each session features a habitat hike, thematic crafts and activities galore.

"It's an opportunity for folks to come out as a family," said Flo Oxley, who is the program coordinator of the Wildflower Center. "Parents and kids come out together, they experience the gardens, and they learn something about their neighborhood which includes all of the natural stuff that you see around us."

These educational evenings have been a feature at the Wildflower Center for about five years. There is usually one each month during the school year, but during July one is held each Thursday evening and a different topic in nature is highlighted. It is a wonderful experience for the families but equally so for the volunteers.

If you would like to get involved the next Nature Night is on Friday, September 18 and entitled "Plants and People: From dyes to jelly, medicine to your daily meal, find out about the benefits and use of native plants in our everyday lives." For more information go to <http://www.wildflower.org/nature/> or contact [Flo Oxley](#) to sign up.



Join Us August 10th for our Monthly Meeting

This month will feature a speaker from Hill Country Water Gardens. Christopher Howell will be providing the group with information about the placement, design and installation of a water feature known as a "disappearing fountain". Christopher has been working for Hill Country Water Gardens for four years and currently has responsibilities in the operations and nursery portions of the company as well as one of their main buyers. I'm sure we will all enjoy learning more about this garden accent and already know where we are going to install once we return to our own back yard.

Master Gardeners at Work

News and Notes

Congratulations!

We have lots of people to congratulate this month! Tanya Graham from the 2008 class has finished all her requirements and is now a certified Master Gardener. Well done, Tanya. Of the fourteen master gardeners who took the class back in June, five already have their hours and are now certified MG Oak Wilt Specialists. Several others are nearing completion. Pictured below are from left to right, Lisa laPaso, Kris Stanley, Grace Bryce, Jeanne Holmes and Winola VanArtsdalen.



2010 Re-Certification

As 2009 is soon 2/3 complete I wanted to remind "ALL" Certified Master Gardeners of the requirements for re-certification for next year. The details are outlined in the By-Laws and Standing Rules and must be completed by December 31, 2009.

Basically, the requirements are:

- ◆ Complete a minimum of 15 hours continuing education annually
- ◆ Complete 50 hours of volunteer work on approved WCMGA projects annually.

If you have any questions or concerns please write me, John Papich, Membership Chairperson.

Native Plant Week!

Governor Rick Perry recently signed House Bill 1739, which designates the third full week in October as Texas Native Plant Week. This annual event will be celebrated in schools and throughout the state to promote the appreciation, exploration, and study of the native plants of Texas. Since the law takes effect this year, the first Texas Native Plant Week will be October 18-24, 2009. Members of the Native Plant Society should mark this on their calendars, as there will undoubtedly be a demand for speakers and other volunteers at educational events.



Something's happy!

As most of my veggie garden struggles to survive, a cute little, odd looking cucumber is happily taking over...on the trellis, on the ground, hanging off the tomato plants.

Cucumis sativa, an heirloom plant, doesn't look like a cucumber. It is more like a golden striped softball. Matures in 60-75 days and is quite sweet and flavorful. When chopped, it partners well with red onions and yogurt, tomato with feta cheese, and dill with olive oil... or just eat out of hand on the way in from the garden. Haven't seen any pests on it and no signs of rot or damage on the ones laying on the ground. Grows easily from seeds or plants. As with cucumbers in general, it is a good source of potassium, vitamin C and folic acid.

Sandra Pikoff





MG and Extension Agent at Sun City Special Event

Several Master Gardeners and Bob Whitney (pictured right) had booths at the emergency Sun City Water & Fire Awareness Town Hall on July 22, 2009. It was called by the CA to emphasize to residents the seriousness of the problem and answer resident questions regarding firewise and drought tolerant landscaping, irrigation settings and repairs, best mowing/lawn maintenance practices, and water conservation in and around your homes. Above Winola VanArtsdalen discusses Oak Wilt and the importance of painting wounds immediately they are made to the tree. Margaret Seals (Above center) was there giving out information on the MG's and the upcoming class. Finally, Christine Powell helped man the Native Plant Society of Texas (NPSOT) and gave advice on drought tolerant plants.



1st Annual Green Expo in Round Rock

On July 25, 2009 the Rainwater Harvesting Team conducted a presentation for the 1st Annual Green Expo at the Heritage Center @ Dell Diamond. Team members are committed to getting the word out to the public as to what role rainwater harvesting can and should play in addressing the challenges of providing high quality water for plants, wildlife and even potable drinking water. The session was well attended by a wide array of individuals that included both the curious novices as well as those who were trying to figure out how Rainwater Harvesting could fit into their personal landscape. The Team members are Sally Todd, Kris Stanley, Ed Myatt, Clyde Adley, Grace Bryce and Paul Lawrence.

Paul provided an introduction that included the history of rainwater harvesting, the current impact our projected population growth and drought on our dwindling water supplies. Ed Myatt then shared his findings regarding his research in locating five alternative rainbarrel suppliers including review comments on their various individual design features. Next, Sally and Kris spoke to the group about various projects that have been constructed by Texas' Rainwater Guru, Billy Kniffen, touched on several ways we all waste water, challenged the attendees to do a more conscientious effort toward water conservation and put in a plug for the new fall class. Finally, Clyde and Grace offered a brief demonstration and tutorial on the virtues of drip irrigation and how such a system could work in tandem with a rain barrel system.

It should be noted that Sally has been named the new Chair of the Rainwater Harvesting Team. Congratulations to Sally, we wish her well and look forward to hearing more from the Rainwater Harvesting Team. In response to interest expressed at the July meeting, the Team is exploring the feasibility of putting on a rain barrel construction workshop at the Master Gardener's September meeting. *PL*

Seed Cleaning Fun!

So, why is it that Beth Blankenship looks so bemused while Janet Church just carries on seed cleaning? Well, maybe it is all the wonderful bugs we found this time! We were cleaning Texas Ebony (*Ebenopsis ebanofrom*) and I think we found nearly as many weevils as we did feasible seeds. Of course, some of us were happier than others about the insects but whatever you say, we all learned a lot during our volunteer hours (plus we got pizza)! There is always a chance we will find insects of some sort but these were particularly fascinating. In the images below and below right you can see the weevil (species unknown at this point) in various stages of development (and escape). The bottom image shows that often each seed has at least one, but sometimes two insects in it. You can see the drilling nose on some as they try to drill their way out. The pod in the center has a round hole where a weevil managed to hatch and drill its way out before we started to open the pod for the seeds. Also shown is a newly hatched weevil by its seed home and another on Janet's finger. What fun!

To find out more about the Millennium Seed Bank go to <http://www.wildflower.org/msb/>, and be prepared to see some familiar faces!



Master Gardeners Monthly Meeting

Drip Irrigation

Jeffrey Knight (pictured right), central regional educator for Ewing Irrigation, was invited to speak at the July Master Gardener meeting. Jeffery has been teaching irrigation for over ten years and gave a very informative presentation on drip irrigation. Ewing Irrigation is primarily a commercial supplier for sprinkler systems.

Drip irrigation is a great way to water landscape, gardens, and potted plants. This efficient way to water can help maintain proper moisture levels, provide consistent watering and conserve water. By pin pointing the water at the base of the plant, at a slow drip, there is no run off and weeds are actually reduced. Fungus, disease and burn are also reduced. Drip irrigation is less hazardous because there are no risers sticking up out of the ground. It does require maintenance, as emitters can become clogged or damaged and it is difficult to see the drip, but the advantages win over these disadvantages.



Tubing, Fittings and Emitters

There are several components which can be connected for specific drip irrigation needs. The tubing actually comes in various sizes approximately 1/2" in diameter and there is a smaller tubing 1/4" in diameter. Jeffery said it was important to know the inner diameter of your tubing and the outer diameter of your tubing to make sure the other parts will fit. So, check to see if you need the "small" 1/2" or the "big" 1/2", before you buy any connectors. Some systems are color coded and make the shopping process a little easier.

There are basically two types of fittings to connect tubing together. The first, compression fittings, are not recommended because water can be trapped and crack it if frozen. Secondly, insert-fittings are the better choice. The tubing is walked on to the fitting and tightened with a locking sleeve. The tubing will go on more easily if walked on, no lubricant is necessary and dipping the tubing in cold water might be useful.

There are several types of emitters available, which simply punch into the tubing where needed. There are pressure compensating emitters and non-pressure compensating emitters. The pressure compensating emitters may be a little more expensive, but they can definitely be worth it. They maintain a constant flow rate within a designated pressure range and are recommended for long runs and slopes. A pressure regulator may not be needed if using pressure compensating emitters. The non-pressure compensating emitters are less expensive. The flow will fluctuate as the pressure fluctuates. These are recommended for flat short runs. Emitters come in different flow rates or as adjustable emitters and are used depending on the application. Drip tape is also available with emitters built in to the tubing every twelve inches.

Simple Steps to Connect a System

1. Attach back-flow prevention connection to faucet. (A necessity, so the indoor water supply is not contaminated; newer houses may have it built in.)
2. Y-connector allows use of separate garden hose in addition to drip system at same faucet.
3. Optional battery operated timer can be attached next.
4. Connect a T-Filter, which can be opened and cleaned as needed.
5. Pressure Regulator is added (may not need it, if pressure compensating emitters are used.)

[A second y-connector can also be added so that the beginning hose fitting is attached to one connector and the ending hose fitting attaches to the other connector. This is basically a closed system that feeds water into both ends and helps to equalize pressure in the system. The y-connector can also be connected to a hose on the ground rather than the faucet.]

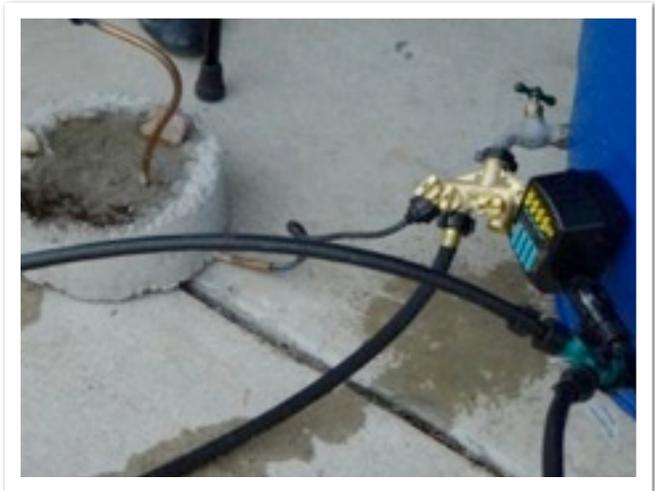
6. Hose fitting, which connects the 1/2" tubing to the previous connection.
7. Tubing is run and connected, as needed for the appropriate application.
8. On the far end of the system of tubing, use a T-connector and a small piece of tubing to create a flush. This can be opened up and the system flushed as needed and before any emitters are put in place. Use an End Fitting to close off when not flushing. Flush once a month for starters and then once a year. A well water source may need flushing more often.
9. Punch emitters into the tubing as needed for your plant needs.

Rain Barrels: Do not use a pressure regulator. Safely elevate barrel on blocks for better gravity pressure. The pressure will drop as the water level drops in the rain barrel.

Some Useful Tips

- Zone plant material based on the plant water requirements.
- If root systems do not intermingle, then pin point each plant (with emitters)
- Always use at least 2 emitters per plant, if there's a clog, plant is still alive. Drip time may need to be reduced when multiple emitters are used.
- Trees can be circled with multiple rings of tubing just inside the drip-line or canopy.
- Pots can be irrigated with tubing that runs into the pot from the hole in the bottom.
- The rounded part of the tubing is the easiest to punch (with the punch tool), not the flatter part, when installing emitters.
- Some tubing comes with pre-punched emitter spacing every 12 inches, lines can be spaced 1 foot apart.
- Drip lines can be buried beneath the mulch.
- If your landscape has a slope, make sure your drip runs to the plant and not away from it.
- It is easier to unroll the coil of tubing as you lay it down rather than trying to stretch the coil out to straighten it. It will also straighten out when it has water in it.
- Tubing is not necessarily standardized. Stay with one system or know your diameter size for correct fittings.

Following Jeffery's presentation and some of the examples of materials, we went outside. The Rainwater Harvesting Specialists (Paul Lawrence, Ed Myatt, Kris Stanley, Clyde Adley, Sally Todd and Grace Bryce) had assembled a rain barrel with various attachments to demonstrate how a rain barrel could be used. A wildlife waterer, a soaker hose and the drip irrigation line were connected to the rain barrel. On the drip irrigation line, the timer, filter and other connections were demonstrated along with use of emitters and connecting the 1/4" tubing to the 1/2" tubing. RWH specialists answered questions about the set up after a brief explanation of the demonstration. Drip irrigation is kind of like Tinker Toys, it is easy to put together and all of the pieces allow you to be creative as well as serve the purpose.



Drip Irrigation: More Information

<http://aggie-horticulture.tamu.edu/extension/homelandscapes/water/water.html>. A publication overviewing different types of irrigation systems with detailed instructions and diagrams on how to plan for and install a drip system

<http://westtexasgardening.org/ekwaterconservation.swf>. An article on irrigation and all other phases of landscape design

<http://www.misterlandscaper.com/> System available at Lowes.

<http://www.digcorp.com/> System available at Home Depot.

Other systems or kits are available at various places. Some use 1/4" tubing only. Harbor Freight is also a supplier.

<http://www.ewing1.com/> Ewing Irrigation - Commercial supplier only- Cedar Park- (512) 260-9990

Editors Note: Several members of the public attended the July Monthly Meeting and I know that at least one has already purchased drip irrigation equipment. So, we are doing our job and educating!

HELP WANTED!

My thanks go to Grace for writing up the notes on our monthly speaker. I really need a group of volunteers who are prepared to do this task each month. These articles are a great help to those who cannot attend the meeting and are a great resource. So, please let me know if you can help. Christine Powell

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:

Thursday, July 2nd, 2009

Drip Irrigation, or, Water When the Plants Need it.

I am constantly amazed at how few people use drip irrigation for their gardens, shrubs or flower beds. Most people avoid new technology like the plague but drip irrigation has been around for decades and now installation is easier than ever. Remember it's about water savings but probably more important for this fast paced world it's labor saving too.

The basic component parts of a drip irrigation system are: water source (well or city), filter, pressure regulator, delivery lines and emitters. The filter is a must if you have a well but not a high priority with city water so that a \$5 filter is fine. The pressure regulator allows the lines and emitters to operate at low pressure (10-25 lbs) so that very little water comes out at a time. Depending on the type of emitter, we are talking about 0.5-2 gallons per hour per emitter. The lines are black poly pipe easily joined together with low pressure fittings since we use low water pressure. The emitters can be punched into the poly pipe wherever you have a plant or for vegetable gardens you can use drip irrigation tape that is thin walled and the emitters are already molded into it.

The place to start is with a knowledgeable salesperson. He can help you know what parts to buy and the best material to buy. Once you purchase the parts you simply start at the faucet or hose end with your filter and pressure regulator. The poly pipe is laid to your first plant and an emitter is punched in and the poly pipe goes on to the next plants until all are covered by the system. The poly can be buried in the ground or under mulch for easy repairs. For real labor savings install a timer at the faucet and leave the watering to the system. It's easy and fun so why not give it a try.

Drought Continues to Linger

A simple drive around Williamson County and you easily tell that we are in a drought. West of I35 the drought has been so long and so severe that we are losing cedar trees along with oaks and cedar elm. Pastures have produced a small hay crop with the potential for more hay cuttings dwindling daily in the heat and wind. On the east side of I35 in the Blackland crops, a majority of the corn acres are all but gone in this hot, dry weather. Some areas have received spotty showers but overall corn is suffering or has died with very little ear production. Sorghum and cotton both are drought tolerant and they are holding their own but without rain soon even they will be gone with little if any production. Most hay producers did get one hay cutting but the yields were down and there has not been any growth for a second hay cutting. Currently hay prices are up and with most of the state still in the drought prices will continue to be high. Add to this that all livestock prices are low and you don't have a good scenario for livestock producers in 2009. Too expensive to feed and too cheap to sell!

Lastly our landscapes are not without problems as well even though we have irrigation. Most trees and to some extent shrubs are not heavily watered and because of this they are showing extreme stress or death. Lawns have to be watered weekly or they brown quickly and most people report that turf growth has slowed significantly unless watered constantly. If this isn't enough with the lack of rainfall we can expect to see our four legged friends return in abundance to our landscapes because there just isn't enough to eat out in the wild. Hunger will help them overcome their fear of humans real quick and a tasty landscape is sure inviting!

So what can we say except Pray for Rain!

Thursday, July 2nd, 2009

Spider Mites on Tomatoes

It didn't take long for spider mites to attack tomatoes and attack with a passion. I have had a number of calls about tomatoes that are turning yellow and in most cases it is spider mites that are the culprit.

The two spotted spider mite is responsible for most of our tomato problems. They are very small at 1/32 of an inch or less. If you turn over a tomato leaf you will see the webbing characteristic of spider mites and if you look closer you may see the actual mite moving around. Spider mites overwinter as adults and even continue to breed on host plants in mild winters. Spider mite adults lay a clear to yellow egg suspended in a fine web of silk. 6-legged nymphs emerge from the eggs and go through 2 molts before they emerge as 8-legged adults. A generation can last from 5 to 20 days depending on the temperature, the hotter the quicker. When the host plant begins to decline, the mites spin silk threads and use these strands to "fly" or "balloon" in wind to disperse to other plants. This is how they get to your tomatoes in the first place.

Scouting is essential to control. If you see spider mites early you can wash them off with hard streams of water or use an insecticidal soap. Sulphur has long been used as a preventative for mites as well as a fungicide for diseases. Garlic has been promoted but my experience has not been good. Unfortunately most gardeners do not notice infestations until they are severe and control is difficult. The chemical Malathion is labeled and tomatoes can be picked after waiting one day. Other chemicals are much better for killing the mites but unfortunately you must wait anywhere from 3 to 14 days before harvest. I like to recommend that gardeners remove the plants that are infested. This may seem drastic but letting populations explode doesn't seem healthy either.

Lastly let me add that spider mites love plants that are stressed, especially from water. I was recently running a greenhouse experiment with tomatoes and marigolds. I had many pots of each and I had inadvertently left some of both plants almost outside the area that was sprinkled. This meant that two tomato plants and two marigold plants were getting just enough water to live but not much else. I then went on vacation for a few days and when I came back the only spider mite infested plants were those stressed for water. To back up my hypothesis, I water my vegetable garden every day for several hours and so far no spider mites!

Tuesday, July 28, 2009

Turf Irrigation: What is the Best Time?

Cities throughout Central Texas are struggling through one of the most devastating droughts in our lifetimes. Agriculture losses are already at \$3.6 billion and that does not include the loss in landscape plants and turfgrasses. Cities in this area have two major concerns, number one being the amount of water needed to supply all the people with clean drinking water and number two having enough system capacity to meet the extremely high demand during all these hot days.

Fortunately most cities have enough water, if we conserve, to get us through this hot summer. During cooler times when landscapes don't need as much water we see both the aquifers and lakes stabilize and who knows maybe we will get some rain soon. The other problem, having enough capacity, is simply a of function of when we water our turfgrasses! There is no doubt that most people have learned to water turfgrasses early in the morning so that the grass has time to dry out to prevent diseases. Every city water department can testify to how well we know this by the amount of water used during the 3 AM to 7 AM time period. It seems as if every sprinkler system in the city fires up during this time and the consequent drop in pressure for the city water system frustrates even the best water department managers.

So you may have been notified by your city water department of voluntary changes to your watering schedule. Of course most cities want you to avoid watering in the hottest, windiest times of day, usually 10 AM to 6 PM. But to avoid over taxing the system you may be asked to change your irrigation times to 8 PM at night or 7 AM in the morning or even midnight! Almost everyone who hears of these changes immediately worries that they will cause lawns to get diseases and die or that all the water will evaporate before it hits the ground. Nothing could be further from the truth. In the hot summer time we just don't have the conditions, night or day, for turfgrass diseases to develop because of irrigation. The grass dries too quickly for disease to develop. And

being so hot, even at night, we see very little difference in irrigation evaporation - morning, evening or night. Currently evapotranspiration rates are running around .25 inches of water per day. Looking at the data the real increase in evapotranspiration rates is not the time of day you water but whether there is wind or not. Rates can increase 50% or more with just 10 mph winds!

Next there is some confusion on how much to water? It is really quite simple, all turfgrasses need 1 inch or less of water per week, period! In looking at the area's soils and knowing the turfgrass water requirements based on evapotranspiration we actually only need $\frac{3}{4}$ of an inch a week to maintain a beautiful green lawn. The next question is how many minutes do I set my sprinkler system to water $\frac{3}{4}$ inch. Set out empty tuna cans around your lawn, water until they are nearly $\frac{1}{2}$ full and do this twice a week and you will have given your lawn more than enough water to be beautiful!

Now what is the take home message? Just this, follow the city's water schedule and watch how much water you use and you won't hurt your landscape but you will help us all get through these tough times.

Lawn Aeration to Help Watering

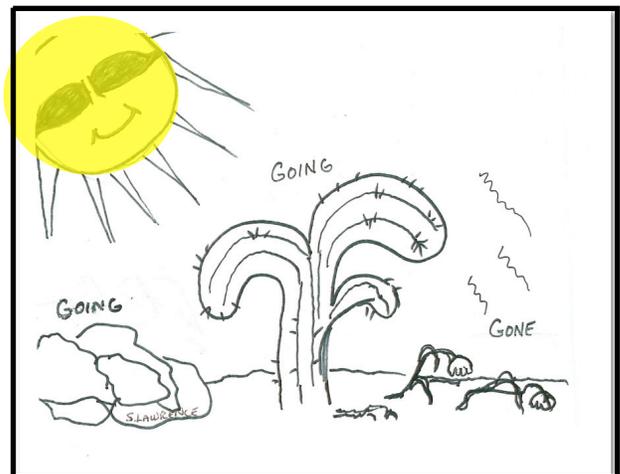
In this terrible drought it is not unusual to hear people complain that even though they are watering the water just seems to run off. Or when they do irrigate the water just seems to puddle on the soil surface taking forever to move down. Both these problems have to do with water infiltration or movement into soils and with our heavy, clay soils in Central Texas. These soils give us lots of problems with infiltration and when water doesn't move into our soils our lawns suffer from drought and we ultimately waste water.

Compaction is usually identified as the main culprit to slow

water movement into soils. Heavy, clay soils are notorious for developing compaction especially since we are constantly passing heavy mowers over them and having to water so much with sprinklers. It is not unusual to see lawn services using large mowers that support a driver. This weight passing over the soil once or twice a week, especially soil that is wet, forms hard compacted layers that water simply can't pass through. Next add in sprinklers that come on three times a week further compacting soils with water that contains high levels of calcium and it is no wonder why we have trouble watering our landscapes.

Because compaction can be such a problem it is a standard recommendation by Texas A&M turf experts to aerify soils once a year with a core aerifier. What this machine does is take a plug out of the turf opening up a hole for water and oxygen to pass through quickly. Once water is in the hole it moves sideways into the turf root zone for more complete irrigation. Sometimes lawn services will fill the holes with an organic amendment which only helps turf with fertilizer and water movement.

When is the best time to aerify? Usually it is recommended for spring time, just as grasses are greening up. Unfortunately there is no way to get every lawn done then but rest assured aeration yields a benefit no matter when you do it!



Do you like our new feature? Each month our very own talented Sandy Lawrence is going to do us a cartoon. So if you see her (or any of our other authors thank them for all they do! My thanks go to you all as well!

Master Gardener Education

Advanced Training

For the remainder of the year we are planning to tap expertise within the membership with the tentative calendar as follows:

September – Sally Todd and the Rainwater Harvesting Team are planning a demonstration that will allow members to build their own rain barrels to take home with them. We are working with the Board on finances and hope to make the finished product available to each member for the cost of materials or less.

October – Ed Myatt will be working with an ad hoc group of volunteers to present a program on Composting and Vermiculture, (worm farming). These are fascinating skills that, once mastered, allow gardeners to reduce their waste stream to the curb while providing their gardens with some high-quality nutrients.

November – Grace Bryce will be working with the newly emerging Oak Wilt Team to share their genesis, their training experiences, the evolution of their highly successful public outreach program, and their plans for the future. They will be letting others know how they can become involved in fighting the good fight against this devastating infestation to our live oak treasures in Central Texas. Oh yes, we are going to have elections this night as well; it could run a few minutes long.

December – We are planning to have our 2nd annual Awards Program and Dinner once again at Angel Springs since we had such positive feedback from last year's experience. Additionally, it was decided that we hire Bow Ties to Blue Jeans to cater the affair. Again, we are indebted to Norma and her family for providing us the use of their lovely facility.

August Advanced Learning in the Nurseries!

Check out your favorite nurseries for advanced training opportunities. Many hold special seminars in the summer—business is slow so they put on events to try and draw in customers. Its a great way to learn! Here are just a few I found and I know there are more out there. Keep cool in a class this summer. Ed.

Natural Gardener, Austin

August 1: Mark Klym, of the Texas Parks & Wildlife Department, presents “Hummingbirds: Myths & Facts.” Learn how to attract these jewels to your yard, using plants and feeders. Find out things that you never knew before about hummingbirds and their habits. Discover what it takes to create a beautiful fall hummingbird garden (which often doubles as a butterfly garden)! Mark Klym is the Coordinator of the Texas Hummingbird Roundup, and coauthor of the beautiful book, “Hummingbirds of Texas.”

August 8: Chris Cole, owner of Enviroescape, presents "Introduction to Water Gardening." Chris designed and built our beautiful new water garden that transformed the orchard area. He specializes in the creation of naturally styled and organically managed ponds, waterfalls, and streams. Whether you are hiring a professional or doing it yourself, Chris will give an overview of how it's done right. He will let us know the many personal and ecological benefits, address myths and misconceptions, answer your questions, and show you a variety of systems and design options to suit virtually any lifestyle, space, and budget.

August 15: S. K. Rosina Newton, Horticulturist at The Natural Gardener, presents “Organic Vegetable Gardening 101.” Beginning gardeners – or longtime gardeners from other regions of the country – often ask for this class. Don't miss this opportunity to learn hands-on how to create successful vegetable, herb, and flower gardens in Central Texas. Learn site selection, soil preparation and fertilization, planting methods, pest control, and more! Rosina is a 1984 graduate of Texas A&M University in Horticulture and has been assisting customers and serving as horticulturist at the Natural Gardener for over 12 years.

Oma's Garten Pflanzen, Killeen

August 8th	Candy Mullen	Garden Rooms
August 15th	Randa Daude	Starting a Fall Garden
August 22nd	Ken Schoen	Tuff Texas Salvias
August 29th	Randa Daude	Water Wise Landscaping

Master Gardener Glossary

Allelopathy (*al-eel-OP-ah-thee*)**Christine Powell**

Have you ever wondered why some plants won't grow under another even though they need the shade? Probably the best-known example is the black walnut that gives off a toxin called juglone. This inhibits the growth of many other plants, such as tomatoes and peppers, while other plants don't seem to care. This phenomenon has long fascinated me and is called allelopathy. I first noticed this in my own garden under a really large ligustrum (now long gone) that I had hoped was actually a cherry laurel. This tree was incredibly popular with the cedar waxwings in the winter and I had numerous seedlings pop up everywhere and nothing else would grow under the tree. I discovered after doing some research that the tree was highly invasive. Indeed, after watching how it could so easily spread I could foresee a landscape full of ligustrums and little else in a very short period of time. The ligustrum was soon firewood.

The process of allelopathy has long been known. Theophrastus (ca. 300 B.C.E.), a student and successor to Aristotle, and often referred to as the "father of Botany" wrote of how chickpea "exhausts" the soil and destroys

weeds. His are some of the first writings we have about allelopathic reactions. Later (in 1 CE), Pliny the Elder, a Roman scholar and naturalist, wrote about how chick pea and barley "scorch up" cornland. He also mentioned that walnut trees are toxic to other plants. In 1832, Augustin Pyramus De Candolle, a botanist and naturalist, suggested that soil sickness was caused by chemicals released by the crop, while in 1907-1909, two researchers, Schreiner and Reed investigated the isolation of a number of phytotoxic chemicals from plants and soils. The *Allelopathy Journal* which discusses this new science states that Prof. Hans Molisch, a German Plant Physiologist was the first to coined this term in 1937.

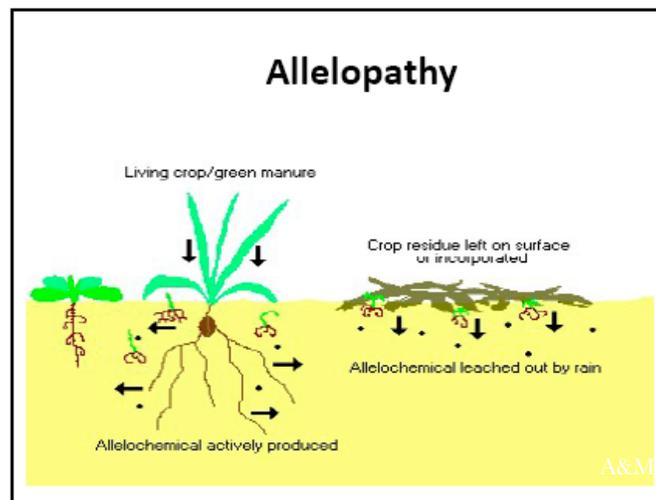
The word allelopathy is derived from *allelon*, "of each other," and *pathos* "to suffer." So, allelopathy refers to the chemical inhibition of one species by another. An "inhibitory" chemical is released by one plant into the environment where it affects the development and growth of the surrounding plants. The inhibitor can be in any part of the plant—leaves, roots, stems, flowers or fruits or the surrounding soil. The toxic chemicals can affect the target species in one or many ways. The roots or shoot growth can be inhibited, the uptake of nutrients could be prevented, or the naturally occurring

symbiotic relationship may be attacked, thereby blocking the plants' usable source of nutrients.

This chemical competition can have a large environmental impact. Not only are many native species allelopathic but introduced species can be as well. This has become especially evident with the introduction of many invasive species. Competition is usual in the natural world. Plants compete for sunlight, water, nutrients and territory. Allelopathic plants prevent other plants from using the available resources and thus influence the evolution and distribution of other species. It is as if they can control the environment they live

in. One only has to visit some of Austin's natural areas to see that ligustrums, Tree of Heaven, *et al.* are controlling the areas they are established in!

The Black Walnut (*Juglans nigra*) is probably our best known and most studied allelopathic plant, but sunflowers, sorghum, Tree of Heaven, tobacco, peas, rice and many other plants have allelotoxins too (see the table on the following page). Juglone (5 hydroxy-1,4 naphthoquinone) is the responsible toxic chemical



in the Black Walnut. It is present in all parts of the plant and inhibits its respiration in other plants such as tomato, pepper and eggplant. When exposed to the allelotoxin wilting, chlorosis, and eventually death occurs. However, other plants are very tolerant of the toxin, including lima beans, beets, carrots, corn, cherry, black raspberry, catalpa, Virginia creeper, violets and others. It is just a case of knowing what to plant where. It should also be remembered that even with the removal of a allelopathic plant the toxin may remain for a very long time afterwards. Juglone for example is not very soluble in water so it can remain in the soil for a long time after the plant has been removed. So, it is very good to know the history of the area, too, to determine why something may not grow where you put it! Allelopathy is just one more things to consider when trying to diagnose why a plant may be struggling where it has been placed.

In recent years the study of allelopathic plants has become big business. Rice is the second most consumed grain in the world, so any way that it can be made cheaper to produce means a considerable monetary saving. Rice already has its own allelotoxins and if these can be enhanced, the saving from less use of chemical and mechanical weeding could be astronomical. It is not surprising that

studies are ongoing to find the best strain of allelotoxins that should be encouraged without damage to the land, water and humans. I think this is a subject that is going to come to the fore as time passes. As the world moves away from herbicide use, genetic manipulation will (and has) become the norm. I have little doubt that soon we will be able to shop for allelotoxins at our local big box store and they could become our next line of defense against weeds. Personally I will stick to the tried and true—my hands and a hoe!

Some allelopathic plants, the chemicals they produce, and the plants they affect.

Allelopathic Species	Type of Chemical	Affected Species
Trees:		
Sugar Maple	Phenolics	Yellow Birch, White Spruce
Hackberry	Coumarins	Herbs, grasses
Eucalyptus	Phenolics	Shrubs, herbs, grasses
Black Walnut	Juglone (Quinone)	Pines (Austrian, Scots, red, white), Apple, Birch, Black Alder, Hackberry, Basswood, Azalea, et al.
Juniper	Phenolics	Grasses
Sycamore (Planetree)	Coumarins	Yellow Birch, herbs, grasses
Black Cherry	Cyanogenic glycosides	Red Maple, Red Pine
Oaks	Coumarins,	Herbs, grasses
Other phenolics		
Sassafras	Terpenoids	Elm, Silver Maple, Boxelder
Balsam Poplar		Green Alder
Southern Red Oak		Sweetgum
Shrubs:		
Laurel -- <i>Kalmia angustifolia</i>	Phenolics	Black Spruce
Manzanita	Coumarins,	Herbs, grasses
Other phenolics		
Bearberry	Phenolics	Pine, Spruce
Sumac	Phenolics, terpenoids	Douglas fir
Rhododendron	Phenolics	Douglas fir
Elderberry	Phenolics	Douglas fir
Forsythia intermedia		Kentucky Bluegrass
Other:		
Goldenrod, Aster	Phenolics, terpenoids	Sugar Maple, Bl. Cherry, Tulip Poplar, Red Pine
New York Fern	Phenolics	Black Cherry
Bracken Fern	Phenolics	Douglas fir
Shorthusk Grass	Phenolics	Black Cherry
Clubmoss	Phenolics	Black Cherry
Reindeer Lichen	Phenolics	Jack Pine, White Spruce
Tall Fescue	Phenolics	Sweetgum, Black Walnut, White Ash
Red Fescue, Kentucky Bluegrass		Azalea, Barberry, Forsythia, Flowering Dogwood, Yew
Colonial Bentgrass		Azalea, Barberry, Yew, Forsythia
Perennial Rye		Apple, Forsythia, Flowering Dogwood
Foxtail, Smooth Brome		<i>Populus spp.</i>

Master Gardener Basics

Back to the Basics

Winola VanArtsdalen

In the hot month of August, this series continues with a nod to sentimental favorites. This is the time of year when you may be tempted to look at your plants and say, "Better them than me," and give up! When you stand back and focus on what is most important to you, what you most want to save, undoubtedly, it will be those family keepsakes and plants shared by friends through the years that you treasure most.

A SENTIMENTAL JOURNEY THROUGH MY GARDEN

When visitors come to my garden, they are always amazed with the stories that go with so many of my plants. It is these stories that make them so special, treasured more than any plant that money can buy. My hope is that, when I share with you the stories of some of my treasured keepsakes, you will be inspired to begin or extend a collection of your own sentimental favorites.

My favorite plant, treasured above all others, is my poppies (right) from my beloved grandmother. They bring back childhood memories of walking hand in hand through her garden delighting in every bloom, but those poppies were her "signature." No one knows where she first got her seeds or when, but she did love to share them. My dear Aunt Naomi, who was born in 1910, told of remembering a time when she was a child that Grandmother complained a visitor was greedy and took too many seeds, so we know she had them shortly after WWI. Fortunately, my grandparents' farmland in Labette County, Kansas is still in the family, and I am able to visit the site of that beloved garden. For twenty or more years, those poppies vanished, but one spring growing conditions must have been just right, because, to our delight, they popped up and bloomed beautifully again. My cousin called to tell me, and my husband and I drove seven hundred miles to see those blooms! My cousin then saved the seeds for me, and I have enjoyed them every year since. We remembered that our mothers always threw them out on the first snow, and laughed that I would definitely have to try different timing. That first year, I spread them on October 1st, the same day our local wildflowers are planted, and they came up the first week of April. Since then, they have returned to brighten my spring each year. I enjoyed them



in Brenham, brought them with me to Georgetown, and have shared them with countless fellow Williamson County gardeners.

Each spring, another favorite is my columbines (pictured left). These seeds were harvested beside the small house my grandmother lived in during her later years which was beside the larger farmhouse where she raised her family. For years, I called them "my grandmother's columbines." To my delight, I learned a couple of years ago that those flowers were originally planted at that site by my Great-grandmother Carlson, a Swedish immigrant, who first lived in that little house. Oh, how I would love to know if she brought those seeds with her on the boat across the Atlantic from Sweden in 1870!

A few years ago, at a family reunion, we took a hayride around the country roads and stopped at my mother's paternal grandparents' homesite. The old cellar is still standing, though we would certainly be afraid to enter for fear of collapse, and the single pink climbing rose flourishes, as well as the purple iris. Cuttings and rhizomes had to be collected during a different season, as that was mid-summer, but they are both now growing in my backyard.

Only a couple of my mother's plants have survived, and much-loved plants always filled her house and yard. I tried saving plants of hers, but only her Mother-in-law's tongue and vinca minor have survived. Her special favorite was a Christmas cactus that I accidentally over-watered immediately following our move from Houston/Clear Lake to Brenham. Never in my right mind would I have watered that plant with all the others lined up by the front door, but who is in their right mind during a move! I was heartbroken when I





realized I had drowned her beloved plant! Obviously, for keepsake plants your best success will be with sturdy survivors and plants grown from seed.

Moving up to current generations, we now have a special family favorite miniature white antique rose, “Green Ice,” that was given to our son by his seventh grade science teacher. This teacher brought hanging baskets of roses to school and let the students take cuttings. Our son is now forty-four years old, and we have taken cuttings of that rose with us every time we move. He now has several growing in his yard in Oakland, California, and we have them here in Georgetown, as well. Pictured is a new little rose recently started from cuttings.

Plants from friends, as well as family, continue our sentimental journey. I was most fortunate to live in Brenham from 1994-2003, so that I could be a member of the Pioneer Unit of the National Herb Society of America and volunteer in the McAshen Gardens at Festival Institute in Round Top. My dear mentor, Madalene Hill, shared many treasures with me, and it is difficult to choose a favorite, but I think I treasure most, the larkspur, an annual from seed, that blooms all spring and into the summer. When we moved here, I brought many plants but forgot about the larkspur. They had come

up on their own every year since Madalene gave them to me, and I just forgot to collect seed for the coming move. I really missed them when all my flower beds and other sentimental favorites were in place. The third spring here I looked out my bedroom window one morning, and there were larkspur blooming! I could hardly believe it, but now I have them to treasure again! Evidently, they came piggy-back with other plants I had dug up and transplanted in that bed. The seeds were probably too deep to come up that first year, but survived and, possibly with the help of some earthworms, found their way near enough to the surface to bloom again. I immediately wrote a note to Madalene to share the good news!

This sentimental journey could continue endlessly, but I will restrain myself from other stories—the oxalis from a friend who brought it with her when moving to the states from England in the '70s, the toadflax from an herb society friend in Round Top that blooms each year as early as February, the butterfly weed from my dear neighbor in Brenham, and on and on. I hope you have sensed the joy these plants bring me and that you will look for botanical treasures from your family and friends. Many of you have such collections now, and I hope you will write about them to share them with us. Happy gardening!



Happenings!

Norma Beissner wanted to send this to us to say it is never too late, or too early to plant! She says “last year I planted pumpkins in the spring and harvested them in July! I found out that this is the time to plant pumpkin seeds to harvest in the fall. As you can see in the attached picture. They were not too big and they were very good tasting. But they should have been MUCH larger. Just a few words of advise. The vines take up lots of room. Good gardening to all.

Have you had any vegetable or gardening surprises? Then share with our other members.



Master Gardener Information

State and Federal Drought Information Resources

Kathy McCormack

The Texas Commission on Environmental Quality's (TCEQ's) map of public water supply systems affected by the drought (http://www.tceq.state.tx.us/permitting/water_supply/pdw/trot/location.html) is updated monthly. As of July 1st, the majority of the 159 systems that have implemented mandatory water use restrictions are located in central Texas.

The U.S. Drought Monitor map (<http://drought.unl.edu/DM/monitor.html>) is updated weekly. In 2009, Texas has been the only area of the country under the worst drought category (D4 – Exceptional). You can click on Texas in the map to zoom to the South regional map, and then click on Texas again to zoom to the state map.

NOAA's latest Drought Outlook (http://www.cpc.noaa.gov/products/expert_assessment/season_drought.gif) indicates that drought conditions are expected to persist or intensify in our central Texas area through October while La Nina transitions back to El Nino in the eastern Pacific. The good news is that this should bring us wetter weather in the fall and winter.

The Agricultural Drought Task Force (<http://agrillife.tamu.edu/drought/>) provides a central clearing house of up-to-date drought-related information for the public. In addition, the Texas Groundwater Protection Committee (TGPC) has a Frequently Asked Question (FAQ) titled, "Water in Texas – Who Owns It?" (http://www.tgpc.state.tx.us/subcommittees/POE/FAQs/WaterOwnership_FAQ.pdf) that may be of interest.

Some water conservation ideas can be found at:

TCEQ's Rainwater Collection and Treatment, http://www.tceq.state.tx.us/permitting/water_supply/rainwater/index.html

Texas Water Development Board's (TWDB's) Water Saving Tips, http://www.twdb.state.tx.us/data/drought/save_water2.asp

TGPC's Water Conservation, <http://www.tgpc.state.tx.us/Conservation.htm>

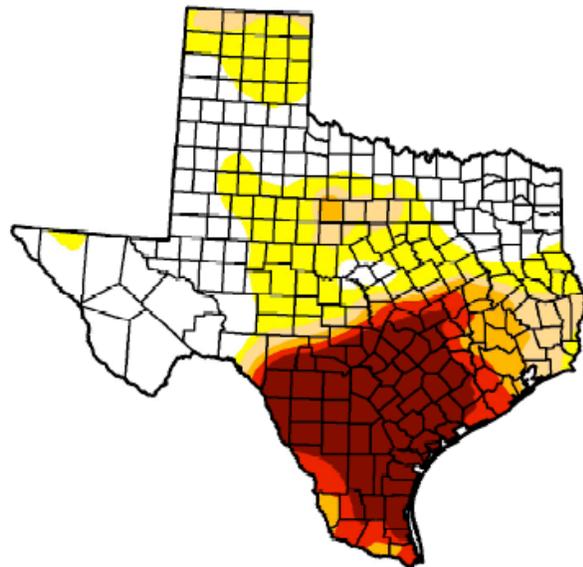
U.S. Environmental Protection Agency's (EPA's) Water Sense, <http://www.epa.gov/watersense/>

U.S. Drought Monitor Texas

July 28, 2009
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	39.0	61.0	38.1	30.2	24.7	18.7
Last Week (07/21/2009 map)	32.3	67.7	38.7	29.6	24.7	16.5
3 Months Ago (05/05/2009 map)	28.2	71.8	53.7	39.2	21.6	9.7
Start of Calendar Year (01/06/2009 map)	41.7	58.3	24.5	15.0	9.1	4.2
Start of Water Year (10/07/2008 map)	67.2	32.8	20.5	11.0	3.6	0.0
One Year Ago (07/29/2008 map)	14.3	85.7	68.2	36.4	19.6	3.2



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, July 30, 2009

Author: Mark Svoboda, National Drought Mitigation Center

<http://drought.unl.edu/dm>

Master Gardener Pathology

Hypoxylon Canker

H. A. (Joe) Pase III, Texas Forest Service, Lufkin, Texas

I recently was called out to look at some oak trees with suspected Oak Wilt. I had just finished my training with other Master Gardeners and I felt fairly confident I could cope with question put before me. Well, I was stumped. Both residences clearly had a problem and, yes, it was with oaks but it didn't seem to be Oak wilt to me.

I have been living with the creeping onslaught of the disease for some time now. I have watched as beautiful old oak after beautiful old oak have first lost their foliage and then stood naked as a warning to others in our neighborhood. This spring it has been horrible and is now about two hundred and fifty yards from my beautiful and stately xx girth live oak. I have other oaks, a couple of very small red oaks, a nice Post Oak and several other white oaks but it is my two large canopied live oaks I treasure. Anyway, I thought I knew my oaks—pointy indented leaves then it's a red oak and very susceptible to oak wilt, rounded indented leaves then it's a white oak and they rarely get oak wilt and of course there are the live oaks that can get it two ways and we all know Live oaks.

Well, imagine my surprise when both visits showed incredibly big Post oaks in various stages of decline. The first sign was a black tar-like substance oozing out of areas in the bark. Other trees had bark peeling away to reveal a powdery substance and all the leaves dropping. Finally, there were the dead trees, bark gone, leaves gone and the look of decay. I was confused I knew it wasn't oak wilt but they certainly had something awful. I came home and did some research and discovered it was Hypoxylon Canker. I found this article that I found very useful so I have included it for you all to be on the lookout.

Christine Powell

Hypoxylon canker is a fungus that causes cankers and death of oak and other hardwood trees. The disease is common in East Texas and all across the southern United States. The fungus does not invade relatively healthy trees, but the hypoxylon fungus will readily infect the sapwood of a tree that has been damaged, stressed, or weakened. Natural and man-caused factors that can weaken a tree include defoliation by insects or leaf fungi, saturated soil, fill dirt, soil compaction, excavation in the root zone of the tree, removal of top soil under the tree, disease, herbicide injury, drought, heat, nutrient deficiencies, competition or overcrowding, and other factors. The hypoxylon fungus is considered a weak pathogen in that it is not aggressive enough to invade healthy trees. In addition to the hypoxylon fungus, weakened and stressed trees may become susceptible to a host of other insect and disease pests.

Hypoxylon canker activity usually increases when prolonged drought occurs. When drought stresses trees, the fungus is able to "take advantage" of these weakened trees. The moisture content of living wood in live, healthy trees is typically 120% - 160%. It is difficult for hypoxylon canker to develop in wood that has normal moisture content. However, any of the factors listed above could weaken or stress trees causing the moisture content of the wood to reach levels low enough for the hypoxylon fungus to develop. When this happens, the fungus becomes active in the tree and invades and decays the sapwood causing the tree to die. Once hypoxylon actively infects a tree, the tree will likely die.

An early indication that hypoxylon canker may be invading a tree is a noticeable thinning of the crown. Also, the crown may exhibit branch dieback. As the fungus develops, small sections of bark will slough from the trunk and branches and collect at the base of the tree. Where the bark has sloughed off, tan, olive green, or reddish-brown, powdery spores can be seen. Different tree species that are infected with hypoxylon canker will produce the different colors of spores. By the time the spores become visible, the tree is dead. In four to eight

weeks, these tan areas will turn dark brown to black and become hard. They have the appearance of solidified tar. After several months, the areas

will become a silver-gray color. Once the fungus invades the tree, the sapwood begins to rapidly decay. Dark decay lines can be seen running through the wood. Trees that have died from hypoxylon canker and are located in an area where they could fall on structures, roads, fences, powerlines, etc., should be removed as soon as possible. During removal, it is very dangerous to climb trees killed by hypoxylon canker. Because the fungus decays the wood so rapidly, the tree may not support the weight of a climber. Instead, use bucket trucks or other mechanical lift devices.

Probably all oak trees are susceptible to hypoxylon canker. In addition, elm, pecan, hickory, sycamore, maple, beech, and other trees may be infected. The fungus spreads by airborne spores that apparently infect trees of any age by colonizing the inner bark. The fungus is known to be present in many healthy trees and can survive for long periods of time in the inner bark without invading the sapwood. As mentioned earlier, when a tree is weakened or stressed, the fungus may then invade the sapwood and become one of several factors that ultimately cause the tree to die.

There is no known control for hypoxylon canker other than maintaining tree vigor. Apparently the spores of this fungus are so common in most areas that removing trees infected with hypoxylon canker is of little value in controlling the spread of the disease. Also, infected firewood is not considered to be a source of inoculation. The fungus does not kill groups of trees by spreading from tree to tree. There is usually little that can be done to avoid naturally occurring stress factors, but many man-caused stress factors can be avoided. During drought periods, supplemental watering is recommended, if the tree is near a water source. Damage to tree roots around construction areas commonly predisposes a tree to infection by hypoxylon canker.

“Bug” of the month



are not usually considered a pest on flowers; however they can feed on sweet potatoes. The morning glory vine is in the same family as the sweet potato so if you are growing sweet potatoes you may want to have some morning glory vines in your yard to attract them away from your potatoes.

Wayne Rhoden
Entomologist Specialist

Our bug this month is the golden tortoise beetle. Tortoise beetle adults are broadly oval to round and nearly convex in shape, with some sculpturing of the surface and the edges broadly expanded. They are green-gold with purple mottling and about 1/8 of an inch long. The golden tortoise beetle is brilliant brassy or greenish-gold in life and about 1/4 inch long. When disturbed, the color becomes orange with black spots. When they die the coloration is completely lost and they become a dull reddish yellow color.

Life Cycle: As a characteristic of the family, both the larvae and adults may be found on the same host plant. There are multiple generations per year.

I took this picture on a morning glory vine leaf and you can tell it is not excited even with me taking the picture. They



Master Gardener Favorites Favorite Websites Christine Powell

Our website this month was sent to me by Sandra Pikoff. She came across an interesting website.. National Gardening Association (<http://www.garden.org/home>) which has a wide range of information and free regional and local email newsletters.

Sandra writes “I especially liked the Public Gardens Locator; a data base of public gardens across the country, search by name, city, or state. Great if you are traveling and would like to enjoy a public garden. An extensive Plant Finder and a Weed Library. I enjoyed browsing through the Pressroom section and seeing the amazing statistics about the number of households (85 million) that participate in some form of gardening activity.”

She continues that “there is a section where, as an editor, you can sign up for free access to all sorts of materials. Maybe you already visit this site but it was new to me and I thought I'd mention it.”

The regional reports are biweekly and cover news, tips, and reminders for gardeners and the local section is compiled by Skip Richter from the Travis County Extension service. I was particularly interested in a story in the last issue: *Return of American Chestnut Can Help Reduce Global Warming* but there was good advice about plants that are able to withstand this excessive heat we have been having. There are often links to other sites which produce some wonderful leaflets. This time in Web Finds there was a link to a site dealing with Ornamental Garden Pools and which offered a sixteen page pdf file to download.

Take a look at the National Gardening Association website for yourself—you won't be disappointed.

Meet Your Master Gardeners

The Dieterichs - Charles and JoAnne

Each month we will spotlight 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.

Sandra Rosen

Charlie and JoAnne Dieterich are one of the nicest, happiest, and most contented couples that you will ever meet. Actually, they are practically newlyweds - married only eight years. Charlie, who managed Safeway stores for years, was the manager of a Petsmart store when JoAnne's daughter, Kim, who worked at the store, decided they would make a great couple and tried to figure out how to get them to meet. She did and she was right.

Soon after they married, Charlie and JoAnne began looking for land away from the city. They found a beautiful property west of Georgetown. It was perfect, but not cleared, so they worked cutting trees and clearing underbrush a step at a time. After years of work, and, of course, they are not through, they have a delightful place. The drive out was quiet—not much traffic, rolling hills, and large country properties. Then the roads got smaller and the land was full of trees and scrub. JoAnne opened the gate and the first thing I noticed was the lovely house that sits to one side with a spacious porch all the way across the back, ceiling fans, and comfortable chairs. Here is a perfect spot to just sit and relax and look out at the beautiful yard—a daisy garden to one side, a lawn of nice, thick zoysia grass, an inviting swing under the trees. It is quiet and serene, but at the same time, quite busy with wildlife and birds. There were road runners, red birds, humming birds, squirrels, and rabbits that I saw as I sat there. Charlie and JoAnne have also seen Painted Buntings, Eastern Bluebirds, and American Goldfinches, as well as sometimes snakes and ringtails. They have created a lovely world and are living a Master Gardener's dream. There is a greenhouse, a garden complete with a scarecrow, six rainwater collection barrels, and plans for a large rose garden. Charlie has a shop and JoAnne has a studio for her stained glass creations. No wonder these two are always smiling!

Lest you think it is all too perfect, the eight foot fence around the property lets you know there was a deer problem. Problem solved, however, except for one small baby deer that somehow wandered in. It was so young, it could hardly walk and started crying when JoAnne

picked it up. With their help, the fawn found its mom again. In addition, oak wilt has hit the property and as Master Gardeners know, this curing process is long and arduous.

The meeting of these two really nice people was a long and winding trail. JoAnne lived in the North until her dad, who worked in the border patrol, was transferred to south Texas, Harlingen. JoAnne was in the third grade. People frequently brought the family fresh fruits and vegetables from the area and the question her family asked themselves was, "What do we do with all this fresh food?" Later she was a nurse and worked in home health care most of her career. Obviously, appreciation for the rural life came later to JoAnne, but you can tell by the smile in her eyes that she is happy.



Charlie is a native Texan and even a native Austinite with a history. His great, great, great, great (I think I got that right) fought at the Battle of Goliad, the second skirmish in the Texas Revolution. He was captured and many of the prisoners were massacred, but he escaped death twice. Once he was let go because he was German and the second time he just walked away. Charlie's family established the first meat market in growing Austin at Sixth Street and Congress—Dieterich and Horst.

I am so reminded of the old poem, "Come grow old along with me; the best is yet to be...." JoAnne's smile is sweet; Charlie's smile is mischievous, and life is good for two really good people.



CER Lunchtime Lectures

"From the Ground Up: Soil Ecology and Biosolids Research" August 3 - Kevin M. Anderson

One of the primary areas of environmental research at Hornsby Bend is soil ecology. The microorganisms which inhabit the soil make up the majority of biomass on Earth, and bacteria are the most ancient of Earth organisms over 4 billion years old. This presentation will look at life on Earth from the ground up, from the microcosmos of soil. It is this soil ecosystem that allows us to recycle Austin's biosolids, and I will address some of the environmental issues and opportunities of biosolids recycling which are part of CER research at Hornsby Bend.

More about Austin's birds at the Travis Audubon Society website -www.travisaudubon.org and more about Hornsby Bend birds at www.hornsbybend.org

More about Texas riparian ecology at the Texas Riparian Association -www.texasriparian.org
Hornsby Bend Site

The 1200-acre Hornsby Bend site presents a unique opportunity for research and education about issues of urban ecology. All of Austin's sewage and yard trimmings are recycled at Hornsby Bend, which represents over 15% of all the solid waste produced by the City. Moreover, what is waste for us is the beginnings of a high nutrient food chain that provides nourishment to wildlife while recycling these "wastes" in an ecologically sound and sustainable manner. This biodiversity is present both because of the bio-treatment processes used by the facility and because of the diversity of habitats at the site stretching along 3.5 miles of the Colorado River. One measure of this biodiversity is that Hornsby Bend is nationally known as one of the best birding sites in Texas--harboring over 370 species of birds and an abundance of other wildlife, which is monitored through citizen science programs and university researchers.

Research

- Biosolids, Compost, and Soil Ecology—a program in partnership with the U.S. Department of Agriculture (USDA) Agricultural Research Service, Grassland Soil and Water Research Laboratory to study the effects of biosolids on soil ecology supported by a Texas Commission on Environmental Quality (TCEQ) Experimental Exemption for Land Application Permit. A report associated with the exemption is submitted annually to TCEQ.
- Riparian Ecology and Restoration Research—a program to research and restore the 3.5 miles of riparian habitat along the Colorado River at the Hornsby Bend site.
- Avian Ecology—a database of over 50,000 bird records from Hornsby Bend dating back to 1959 is constantly updated through the Hornsby Bend Bird Observatory monitoring programs and university researchers.
- Hydrogeology and Alluvial Aquifer—studies the alluvial aquifer of the Colorado River at Hornsby Bend in cooperation with the University of Texas Department of Geological Sciences.

Each monthly talk for 2009 begins the first Monday at noon at the Waller Center, 625 East 10th Street - between I-35 and Red River. Lectures are free and open to the public. Bring a lunch and learn.

Treats from the Master Garden

The Lemon Cucumber

Margaret Seals

The Lemon Cucumber, *cucumis sativus*—which looks very much like a tennis ball—made its way to my garden this year for the first time, and has been quite a smash. (Sorry, I couldn't resist the pun.) After sampling its mild cucumber taste, I'd compare it to the Burpee Straight Eights that I have long preferred for flavor. The plant has been drought and heat tolerant, and has produced prolifically all season, vining up a new folding cucumber screen that I purchased early this year from Gardener's Supply Catalog. A 70 days to harvest vegetable, with ideal growing conditions of around 60 degrees at night and 90 degrees during the daytime, my vines, much to my surprise, have endured 80 degree nighttime and 100 degree full-sun weather most of the late spring and early summer with few problems. Grown in rich organic compost, with a manure compost tea side dressing as the plant began to bloom, and kept well watered, this plant even won a battle with the squash bugs that finally claimed my acorn squash. I'm already saving some seeds for next year.

According to some sources, Crosman Seed Co. of New York and Hayward, CA introduced the Lemon Cucumber variety into America in 1894 from seeds believed to have been harvested in Australia. Various sources also claim that the Lemon Cucumber available to US gardeners is actually the same as the *Dosaki* variety currently grown in parts of India, or is an Heirloom Russian variety. Cucumbers (the cucurbitaceae family) generally are thought to have originated in Southeast Asia around 10,000 years ago. They were popular in ancient Egypt, Greece and Rome. Over the centuries, according to James A. Drake in *Herbs of the Bible*, cucumbers have been used to treat dysentery, colds, gallstones and even typhoid fever. Today, they are praised for their phytochemicals which are cancer fighters, and for their contents of vitamins A and C and silica, vital for building connective tissue. They are low in calories and contain about 96% water. Besides all the good things cucumbers can do for the body when ingested, they are also good for soothing the skin and relieving puffiness around the eyes. They also make their way into concoctions for aromatherapy. The expression "cool as a cucumber" is no joke for cucumbers can be around 20 degrees cooler on the inside than the surrounding air. Maybe that is why my plant has survived this summer's heat wave!

While there is no chance for that happening this year in Williamson County, cucumbers can be very bitter when grown under cool conditions. The compounds cucurbitacin B & C are responsible for this. When selecting cucumbers for growing, some care should be taken to select varieties that are known to have less bitter qualities. The lemon cucumber falls well within these varieties, which is why I will continue to include it in my garden. Peeling cucumbers and slicing off each end can help reduce the bitterness if sometime in the future, due to weather conditions, your crop tends toward bitterness.

Is the Lemon Cucumber actually a melon? Even though it tastes like other cucumbers, County Agent Bob Whitney says, "Yes." The cucurbitaceae family covers both cucumbers and the muskmelons. This family is also known as the gourd family. The three genera of this family most often grown in the US are *cucumis* (cucumbers and melons), *citrullis* (watermelons) and *cucurbita* (pumpkins and squashes). Some muskmelons grown in Asia are commonly known as Lemon Melons, but these tend to grow larger than the Lemon Cucumber and reportedly taste more like a Melon than a Cucumber. Currently in the US, several university groups are conducting DNA studies of the *cucurbitaceae* family to solve questions about the family members and their origins.



Lemon Cucumbers are wonderful sliced into a salad, made into refrigerator pickles and used in any way that you would use other cucumbers. However, as the Lemon Cucumber ages on the vine, the rind grows too tough to eat, and the seeds become larger and inedible. This is when it becomes perfect for halving, scooping out most of the interior and using the “cups” created as clever and appetizing ways to deliver party tidbits or charming first course soups. Below are a couple of recipes I have used as fillers for Lemon Cucumber

cups and one other sort of “old timey, comfort food” way to enjoy this delicious vegetable.

For a fancy buffet table, fill scooped-out “cups” of Lemon Cucumbers with a tangy Mushroom–tomato filling (from *Country Living*) or with Cucumber Soup (from the *Cal Poly Organic Farm Newsletter*), or just make the soup with mild flavored Lemon Cucumbers and serve it in a pretty, chilled bowl for a nice way to start a summer meal.

Chilled Cucumber Soup

- 1 garlic clove, minced
- 2 green onions, chopped
- ½ t salt
- Dash of white pepper
- 2 T olive oil
- 1-1/2 C plain yogurt
- ½ C buttermilk
- 1 T lemon juice
- ½ C chopped walnuts
- ½ C cracked ice
- 2 Lemon Cucumbers or other cucumbers, peeled, seeded, sliced

In blender or food processor, combine all ingredients and blend or process, using on and off function, until soup is of desired consistency. You may need to add more cracked ice.

Serve immediately or chill for a few hours before serving.

Old fashioned Jell-O Salad with Lemon Cucumbers

(Adapted from an old family recipe, no doubt on the back of the Jell-O box)

- 1 pkg. Lemon Jell-O
- 1 sm. can crushed pineapple
- 1-2 Lemon Cucumbers, peeled, seeded and diced
- 2 tbsps. sweet pickle juice
- Add Jell-O to 1 C boiling water and stir to dissolve.
- Add 1 C cold water and stir well
- Add Lemon Cucumbers, crushed pineapple and sweet pickle juice
- Add ½ C. sliced pimento-stuffed olives, if desired
- Add ½ C chopped pecans, if desired
- Stir all well, and pour into an 8 or 9 inch square glass baking dish and refrigerate until congealed.

Cut into squares and serve on a lettuce leaf with a dollop of softened cream cheese or mayonnaise as a topping

Mushroom stuffed Lemon Cucumber Cups

- 1/4 C dried tomato halves
- Boiling water
- 2 ripe fresh plum tomatoes
- 1/4 pound fresh mushrooms
- 1 small onion
- 1 clove garlic
- 1 T olive oil
- 1 T balsamic vinegar
- 1/4 t salt
- 1/4 t light brown sugar
- 1/8 t ground black pepper
- 4 nicely mature Lemon Cucumbers
- 1 T sliced fresh basil leaves

In heatproof cup or bowl, combine dried tomatoes and enough boiling water to cover. Let tomatoes stand 15 minutes or until softened.

Meanwhile, cut fresh tomatoes into halves. Remove and discard seeds. Coarsely chop seeded tomatoes; set aside. Cut mushrooms into 1/4-inch pieces. Finely chop onion and garlic. Drain rehydrated tomatoes; pat dry and chop.

In large skillet, heat oil over medium heat. Add onion and sauté until translucent --- about 5 minutes. Add mushrooms and garlic; sauté until mushrooms are tender. Stir in rehydrated and fresh, tomatoes, vinegar, salt, brown sugar, and pepper. Cook just until all liquid evaporates and mixture thickens slightly. Remove skillet from heat and let mixture cool to room temperature.

Meanwhile, cut Lemon Cucumbers crosswise into halves. With melon-ball cutter or grapefruit spoon, scoop out seeds in center of each Lemon Cucumber half to form cups. If cucumber cups will not stand up, cut a thin slice from bottom.

Just before serving, stir basil into mushroom mixture and divide among Lemon Cucumber cups. Line serving plate with lettuce leaves and arrange stuffed cups on top.

President's Column
Wayne Rhoden



Hello Master Gardeners!

It finally is time to hold another class and we will start on August 11 with Dr. Doug Welsh. We have been meeting with the potential interns for several days giving them individual orientation information so hopefully we can let them know exactly what it means to be a master gardener and stress to them that we are about educating the community in the field of horticulture. All so far have been eager to get started and excited about the program. Many have recently retired and feel the need to volunteer to help others. Thanks to all who helped hand out brochures and flyers to advertise to the community about our program.

The nominating committee has been formed and they are looking for a few good men and women to serve as our elected officers next year. JoAnne Dieterich is the chairperson of the committee and she asks that anyone who wishes to serve to please contact her. She has another 4 members on the team and wants to take your calls.

I know all of you join me in wishing for rain. I watched as the radar shows showers and thunderstorms heading our way and dissipating before they reach Williamson County. Thank goodness we have planted native and drought tolerant plants but even those cannot survive without some water. Hopefully the weather pattern will change and we can start getting some moisture again. Anybody for a group rain dance?

We will be starting our propagation of the plants from our yards in the greenhouse soon. If you are not on the greenhouse committee and are interested in working with the plants and great gardeners, let me know. I hope to call a meeting soon to see what we need to get started.

Happy gardening,
Wayne



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

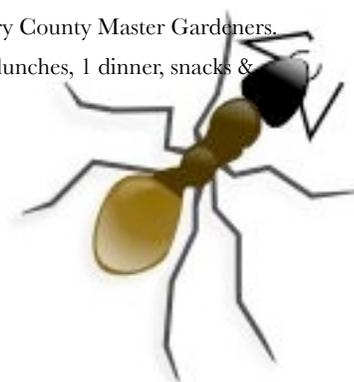
Texas AgriLife Extension Service Montgomery County Office, Conroe, TX

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](#)



THE CITY OF FARMERS BRANCH AND CHAMBERSVILLE TREE FARMS CELEBRATES ROSES AT ROSEDANGO 2009

The City of Farmers Branch and Chambersville Tree Farms announce a weekend celebration of roses at the second annual RoseDango to be held October 17 and 18, 2009 in the cities of McKinney, Chambersville and Farmers Branch, Texas. RoseDango features guest speakers Marilyn Wellan and Stephen Scanniello, this year's Great Rosarians of the World (GROW) honorees, as well as Mike Shoup author and owner of the Antique Rose Emporium and Dennis Jones, President of the Fort Worth Rose Society.

Actively involved in local, national and international rose societies, Mr. Scanniello, author and current president of the Heritage Rose Foundation and Ms. Wellan, past president of the American Rose Society, have been honored for their work promoting the love of roses and bridging the gap between two major approaches in the hobby, Modern Roses and Old Garden Roses. Mike Shoup, a Texas Rose Rustler, has long promoted the preservation and use of Old Garden Roses. As the former Rose Gardener at the Fort Worth Botanic Gardens, Dennis Jones has cared for over 2,000 roses and promotes an earth-friendly approach to rose gardening.

This year's RoseDango celebration provides rosarians and rose enthusiasts the opportunity to exchange information and see firsthand the rose gardens in Farmers Branch and Chambersville Heritage Rose Garden. The weekend will kick-off Saturday with presentations at the McKinney Performing Arts Theater, followed by tours of the Chambersville Heritage Rose Garden. On Sunday the event will move south to Farmers Branch and will feature garden tours, a rose pruning clinic by Mike Shoup and much more. The event concludes with the Dallas Rose Society's Fall Rose Show at the Farmers Branch Senior Center. The show will be open to the public from 1 p.m. to 4 p.m.

This is an excellent opportunity for Master Gardeners to see what is thought to be the largest environmental horticulture research in the country. The National Earth-Kind Trial Rose Garden in Farmers Branch is the only garden to evaluate all 100 cultivars under consideration for future Earth-Kind designation on a national level. Under the direction of Dr. Steven George this project has included many volunteer hours including those of Master Gardeners. Also include in the Farmers Branch tour is an Earth-Kind demonstration garden that exhibits the use of perennials and annuls with the roses.

The Chambersville Heritage Rose garden is a study garden of the Heritage Rose Foundation and has been designated by the Heritage Rose Committee of the World Federation of Rose Societies as an important world collection of historical roses. The garden features over 300 different varieties of rare and unusual China, Tea, Noisette and Hybrid Musk roses growing in a natural meadow setting utilizing the Earth-Kind method of growing.

Visit www.rosedango.com for more information or Contact: Pam Smith - 972.919.2625 - pam.smith@farmersbranch.info or Carol Edwards - 214.250.3023 - events@chambersvilletreefarms.com



The Sixth Edition of the Texas Master Gardener Handbook is now available!

New features include:

Chapter 3 Earth-Kind Landscaping

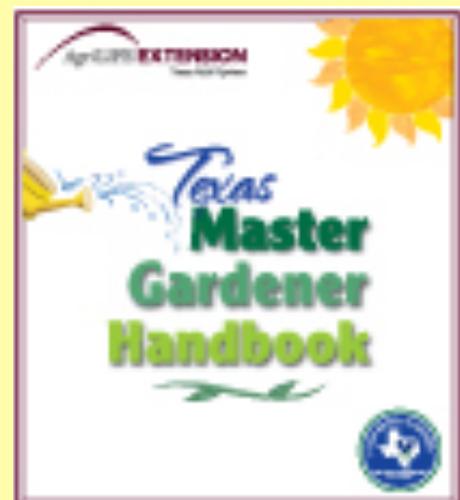
Weeds and weed management

Updated plant lists

Master Gardeners can purchase the latest edition through their Master Gardener Coordinators at a price of \$43.00.

The 6th edition —Text Only|| (no binder or tabs) can be purchased for \$28.00.

Master Gardeners, please contact your MG Coordinator, Wayne Rhoden to order this edition, publication number B-6217T.



Williamson County Master Gardener Association Officers for 2008

Officers:

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Juanita James, Vice-President	jjames20@sbcglobal.net	(512) 341-7116
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Jeanne Barker, Secretary:	jubarker@yahoo.com	(512) 608-1296

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WCMG Website:

<http://grovesite.com/mg/wcmg>

Mailing address:

3151 Inner Loop Road, Suite A, Georgetown, TX 78626

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.