



Events & Activities

MG Association Meeting, Wednesday, Feb. 18, 6:30pm, Cottonwood. See address page for map & speaker information.

Alta Vista Gardening Club, Prescott, fourth Tuesday of the month, 12:30pm. Call 928-443-0464 for location and information.

Prescott Area Gourd Society, third Tuesday of the month, 6:30 pm, at the Smoki Museum.

Prescott Orchid Society, meets 3rd Sunday of the month, 2pm at the Prescott Library, call Cynthia for information. (928) 717-0623

Prescott Area Iris Society call 928-445-8132 for date and place information.

Verde Valley Iris Society call Linda Smith at 928-567-7470

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University of Arizona Yavapai County Cooperative Extension

Yavapai Gardens

Master Gardener Newsletter

February 2009

It's the Soil

by Nora Graf



Most gardening conversations are about water these days. While it's important to utilize good watering techniques, we should be equally concerned about the soil.

Arizona soils are tough for those seeking the Midwestern ideal in their garden. That doesn't mean that native soils don't have good attributes; after all, if you look at undisturbed areas, our deserts are remarkably lush. There are several problems, though. In our hot climate organic matter quickly burns out. Couple that with heavy clay soil and you have something concrete-like when dry and mucky when wet. Our soils also tend toward the alkaline side. This condition makes certain nutrients in the soil unavailable to the plant. A common example is chlorosis, the yellowing of leaves due to lack of iron. There is plenty of iron in the soil; it just isn't available to the plant.

This doesn't mean that gardening is impossible. Just means more work to do. The soils in my yard are clay and I've had the best results when I double dig. This means I've dug out the bed one shovel full at a time and set the soil aside, then dug out another level to loosen it and break up the big heavy clay clods. Then with lots of organic matter dug in to the lower section, shovel in the top layer while adding organic matter. It's lots of work, especially if you are doing it in August because once again I bought more iris than I had space for and they are waiting to be planted. The good news is that once the double digging is done, you don't have to do it again. For the last 10 years I just worked with the top 6 to 8 inches of those beds with excellent results. I do have a confession, I gave up growing vegetables in the ground. Since I grow year round it meant digging it up twice a year. It was an incredible amount of work. I switched to raised beds which is much easier. So I cheated—sue me. I still add lots of organic matter every time I plant something new.

An alternative to double digging is lasagna gardening. Simply layering organic matter on top and building the soil up from the top down. (For more information check out the book *Lasagna Gardening* by Patricia Lanza.) Lasagna gardening is building up layers of organic matter on top existing soil. You don't dig at all, just plunk the stuff down on top of your grass, dirt, whatever. I have a couple of problems with lasagna gardening. I dare anyone to do that with bermuda grass. It might work with a wimpy bluegrass or fescue, but with bermuda it's a gourmet meal and nothing is going to stop it from overtaking everything. Second, it takes lots of organic matter. Unless you have a farm or live near a farm (or have a large truck and be willing to travel) where you can get manure, straw and whatever, it's going to be expensive if you buy it by the bag. The bed has to be quite deep for plants like tomatoes. If someone out there has tried lasagna gardening; let me know how it worked.

The point of all this is that organic matter is the key. You could throw some chemical fertilizer down, but it would not improve the soil and the better the quality of soil the better your results, not only for your plants but for the soil. Improved soil leads to better water filtration and drainage and improves the nutrient-holding capacity, especially of sandy soils. Organic material breaks down into humus and supports soil microbes, worms and insects, which in turn become organic matter.

Think organic matter! You can use your own homemade compost. In fact, I encourage everyone to have a compost pile. Even small amounts are helpful; use for container plantings or mulching established plants. You will be reducing the amount of perfectly useful material that otherwise ends in a landfill. A cheap source of organic matter is cow manure—at last look 97 cents a bag. If you use cow manure dig it in a few weeks before planting. What comes out of those bags is variable, it needs time to age before planting. If

it has a strong odor, it needs aging. Bagged compost products can be used directly on the soil as a top mulch to already-growing plants.

Another source of organic matter is green manure. Grasses or nitrogen-fixing annuals are grown and tilled into the soil while still green. This probably works best in large garden spaces where you may have the help of a rototiller. If you don't mind digging,

green manures work well to improve the soil.

Straw and sawdust (or other dry organic products including bark mulches) need to be composted first for them to work as a soil amendment. Brown material reduces the amount of nitrogen available. They use nitrogen to break down and reduce the amount of nitrogen available to the plant.

Desert soils are deficient in phosphorus. Use sulfur to improve soil pH and the availability of nutrients including iron and phosphorus. If you don't know your soil pH, have it tested at the Extension Office. Don't add what you don't need. Phosphorus needs to be in the root

zone. So shovels ready (or, if you are lucky, a rototiller) and spread your high phosphorus fertilizer and sulfur (if needed) on the soil first. Add two to four inches of organic matter. Now till it in 10 to 12 inches deep. It's important to get the phosphorus in the root zone. If you are planting in rows you can dig up a row, placing the soil to one side. Add your fertilizers and compost, till it in and then put the soil back on top. This way you will only be fertilizing the growing area and not the area between the rows.

Watering is a crucial issue. I use a drip irrigation for everything. I also mulch. This helps maintain moisture and by using organic matter for mulch it breaks down over the season and helps with the organic matter issue.

If nothing else, when you start preparing your beds for spring—organic matter, organic matter, organic matter!!!!



Cool Season Vegetables

by Nora Graf



You should be starting your cool-season vegetables inside now. Lettuce, broccoli, Chinese vegetables and kale are among them. In the warmer areas of the County you can be planting outside—as soon as you add organic matter to your soil.

Cool-season vegetables can tolerate and grow in cool temperatures but tend to fade out in hot temperatures which is the reason we plant in early spring and fall.

Gardening has its expenses (see the book the “*The \$64 Tomato*” if you don’t believe me) but it can be done cheaply. You get to control the amount of pesticides. Best of all the vegetables taste better!!! Even the lettuce. You’d be surprised at the difference. So in between the roses and pansies you might want to stick some lettuce or broccoli or spinach.



Cool season vegetables will bolt and just wither away in the hot summer months. In spite of that there are a few simple strategies you can use to have vegetables on your plate nearly year round. Push them into summer and winter with cold frames or shade. Cool season vegetables include chard, peas, lettuce, cabbage, broccoli, cauliflower, turnips, kohlrabi, beets, spinach, radishes, all sorts of Chinese vegetables, endive, carrots, Brussel Sprouts, onions, potatoes and garlic.

While you can start most of these plants inside, I’ve found that direct seeding works very well. If you are in the warmer regions you should be able to start right away. For colder areas you might have to wait a bit longer.

The germination temperatures (soil tempera-

ture) will give you an idea of what you can get started now.

Temp. Range	Vegetable (optimum Temp.) (in Farenheit)
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60-85	Asparagus (75)
50-85	Beets (85), Chard (85), Parsley (75)
40-75	Peas (75)
40-80	Lettuce (75)
40-95	Cabbage (85)
45-75	Spinach (70)
45-85	Carrots (80), Cauliflower (80)
45-90	Radish (85)
50-95	Onion (75)
60-105	Turnip (85)

As you can see, the temperature ranges can be quite broad, so there is some latitude. Once the seed germinates and the new seedling pops above the ground different needs come into play and the sprouts will tolerate colder temperatures.

Whether you are ready now or not, it’s time to plant. Why pay store prices when, for the price of a pack of seeds and lots of organic matter, you can grow your own. I’ve found that lettuce, carrots, beets, and turnips, grow exceptionally well in the Verde Valley. Give some a try.



Meet Your New MGA President

in part from Yavapai Gardens 2006 by Pam Bowman

Living in Prescott since the age of nine, Cynthia Cartier-Roberts waited until 2005 to enroll in the Master Gardener classes. Since graduation, she has become passionately and tirelessly involved in the growing MG Association. In 2005, she designed and constructed an innovative Cooperative Extension booth for the Yavapai County Fair. Cynthia has also been an active member of the Volunteer Projects Committee, the developer and coordinator of the highly successful mentor program and a passionate promoter of a rewards program for certified master gardeners. And now she is the President of the MG Association. In her words, these activities involve her “love of design and working with people.”

Born in Southern California, Cynthia moved with her family to Modesto, California, when she was a mere two months old. She notes that her father was a major contributor to her love of gardening. In Modesto, she weeded the huge vegetable garden and orchard her father developed. Not her favorite chore, weeding all day would be rewarded with a dinner at the local pizza parlor. Cynthia considers Prescott her hometown where she was raised, went to school, met and married her husband Willy and home-schooled her three sons.

When asked about previous jobs, she says there are too many to list. She worked three jobs in high school—housecleaner, clerical aid at the County Assessors and busgirl at the Mining Company—to pay for clothes, books and college. Cynthia has also managed a record store, staffed her own antiques booth and worked as a carryout/bag person at the local Safeway. She met Willy, another Safeway bag person, when she was 16 and they started dating a year later. Married before she was 20, Cynthia went on to finish her AA degree in graphic design and illustration at Yavapai College and start her family.



She had to drop out of classes at Northern Arizona University in Flagstaff when her third pregnancy forced her to stay in bed.

While homeschooling the boys, working as a freelance graphic designer, building or remodeling a number of homes and actively participating in church programs Cynthia still found time to garden and cook (another love she attributes to her father). Perhaps one of the less satisfying times in her life occurred when she was gardenless for five years (1998-2003). Without hesitation, Cynthia states that her greatest interests are faith, family, friends and gardening.

Today, Cynthia and Willy are remodeling their latest home and she is happily playing in the dirt again. In five years they have gutted and totally remodeled the house, which continues to be a work-in-progress. They do all the work themselves and this includes Cynthia's new garden. She designed a garden to fulfill her dream of a cottage garden with masses of beautiful flowers, tasty vegetables and productive fruit trees.

As a proponent of organic gardening, Cynthia has trucked in natural soil amendments. And to reduce the garden's impact on Prescott water resources, Cynthia and Willy have also designed and will install a pressurized water-collection/distribution system. Visit her during the summer and you will see how she has already realized her dream with borders full of flowers (she admits she cannot identify them all) and a vegetable garden that annually produces truckloads of edibles.

Cynthia has worked as a freelance interior and garden designer and a scrap booking and stamping teacher. Her latest accomplishment is the writing and publishing of a novel. “My Way 4

Home” is a story about a woman and an island, family, love, relationships, friends, food, antiques, young people, mystery, not so young people and gardening. Other activities include hiking and backpacking, photography, reading and of course gardening and cooking. She and Willy have also undertaken a new hobby—the restoration of vintage travel trailers.

Fortunately, Cynthia has brought her passions and vitality to the Master Gardener Association. As our new President, she has fresh ideas and lots of energy and we thank her for her valuable contributions to the Association.

The Fusion of Art and Garden

The Desert Botanical Garden is having a showing of Dale Chihuly glass. If you are not familiar with Chihuly, he started a renaissance of art glass blowing in America. He pioneered new techniques and styles. He moved beyond creating tabletop decoration to create massive pieces that are really sculpture. Over the years he has installed a number of shows in botanical gardens throughout the world. In December one of his shows opened at the botanical garden. I have been a fan of his glasswork for a long time but was a bit sceptical of using a desert garden for the background. All his other gardens have been lush European or eastern US gardens. The stark spinness of the Desert Botanical garden is so different but the glass and spines do work together. Some of the sculptures have been shown before but several were created especially for this show. If you have the opportunity, I recomend you go see this melding of glass and desert. I went at night (the pictures are mine) and the pieces glowed. I'll be going back again to see them in daylight but it's pretty hard to beat glass, light and the night. The exhibit runs through May 31 and you do need to make reservations. To find out more, go to the Desert Botanical Gardens website: www.dbg.org or call 480-481-8188

If you are not familiar with Chihuly, check out his website where the exhibit is featured. www.chihuly.com



Recommended Reading

by Angela Mazella

Several Master Gardeners have been talking about the writings of Michael Pollan.

For the past twenty years, Michael Pollan has been writing books and articles about the places where the human and natural worlds intersect: food, agriculture, gardens, drugs, and architecture. A contributing writer to the New York Times Magazine since 1987, his writing has received numerous awards.

His book, *The Omnivore's Dilemma: A Natural History of Four Meals*, will have you rethinking what you eat. *The Botany of Desire: A Plant's-Eye View of the World*, describes four plants (the apple, the tulip, marijuana and the potato) and how they have influenced us in history.

If you have any books you think your fellow Master Gardeners would like, please share them with us. Email amaze@commspeed.net.

Science News

High Nitrogen Levels Reduce Health Benefits of Veggies

Many herbs and spices are known to contain potent antioxidant compounds. However, it's not always clear how growing conditions affect the levels of antioxidants in plants. Researchers at Southwestern University in Texas wanted to find out the effects fertilization had on antioxidant levels in basil. They tested three varieties of basil ('Dark Opal', 'Genovese', and 'Sweet Thai'), applying various amounts of nitrogen fertilizer (0.5 mM to 5.0mM) to the plants during the growing season.

They measured the corresponding levels of antioxidant phenols and found antioxidant levels in basil were two to five times higher in the plants given the lowest amounts of nitrogen compared to the plants with the highest nitrogen doses. In general, the higher the levels of nitrogen added, the lower the antioxidant phenol levels in the basil leaves. For more information on this research check the: *Journal of Agricultural and Food Chemistry*.

Master Gardener News

New Master Gardeners

Congratulations to these Associate Master Gardener for completing her 50 volunteer hours.

Hank Giesecke. His mentor is Pam Bowman.

Betty Loos. Her mentor is Jan Billiam.

Joy Kimmel. Her mentor is Jean Tierney.

Congratulations



Index

There has been an index posted for *Yavapai Gardens* on the website. Hopefully it will make the newsletters more useful. If you find errors, please let me know.

Eventually (maybe soon) the Yavapai Garden newsletters will have a search feature to help you find information in past issues. I will update the index at the end of the year, but expect the search feature to be in place before then.

Yavapai County Bulletins

The Yavapai County Bulletins are now on our website!!!! The U of A bulletins have been on-line and accessed via the "Publications" link on the Yavapai County Website. However, bulletins specific to Yavapai County have only been available in the Cottonwood and Prescott Extension offices. The Yavapai County Bulletins were recently reformatted, some updated, some combined, some created, etc. Thank you Betty Stevens for the initial reformatting, Pam Bowman for proofing the final updates, and Jeff for putting them on our website.

Now when you click on the Publications link you will go to a new page that contains the U of A Publication link, the Backyard Gardener link, and the Yavapai County Bulletins. Phone Volunteers and Speakers Bureau speakers in particular should get familiar with the new website location for Backyard Gardeners and with the bulletins that are now available on-line. Go to: <http://cals.arizona.edu/yavapai/index.html>

Click on Publications on the left side of the screen to get to the new publication page. Note: The search capability for the Yavapai County Bulletins will be functional in a couple weeks.

MG Opportunities

Monsoon Madness, 2009

This year our yard and plant sale (Monsoon Madness) will be held on July 11th. Start collecting/potting items for the sale. Solicit from your neighbors and friends as well.

Rose Pruning at Sharlot Hall Museum

MGs are invited to help with the annual rose pruning at the Sharlot Hall Museum in Prescott on March 18th, 8:00am. Contact Kathy MacCauley if you plan to participate, prescottgirl@Qwest.net, 443-8934.

MGA Recognition Picnic

Our recognition picnic will be held on Saturday, Oct 10th, mark your calendars.

Speaker's Bureau Workshop

The next Speaker's Bureau Workshop will be held on April 18th in Prescott. Contact Bob Burke, bburke@commspeed.net, 301-0394

FROM THE EDITOR: Please send or email articles and announcements to the address below. All articles must be in my hands by the 10th of the month. Short announcements (no more than 2 or 3 lines) will be accepted until the 25th.

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MG NEWSLETTER

MG Association Meeting Cottonwood, Feb 18, 6:30pm

The landscape is frosty but the topic is a preview of spring. Anna Wilson and Sherry Morton, Master Gardeners from Dewey and Prescott, will give a demo of seed propagation. They will also answer all your questions about seeds, so bring your seed questions to the February meeting. There is always something new to learn.

