



The Virtual Gardener—Cochise County Master Gardener Web Site Upgrades

If you haven't spent any time cruising around our Website

<http://ag.arizona.edu/cochise/mg/index.htm> lately, I think you are in for some pleasant surprises. The site, first created by Master Gardener Cheri Melton more than 10 years ago, is getting a little long in the tooth, so current Web Master, Jim Byrum, and I decided to start upgrading it. Cheri did a wonderful job but time and technology marches on and an upgrade is overdue. The problem, of course, is that the site has now accumulated a fair amount of content and making sweeping changes is difficult. For that reason Jim and I have decided to make haste very slowly.

Rather than make major cosmetic changes, we decided to begin by concentrating on small functional changes that would improve the utility of the site to the user. By making small changes slowly over time and concentrating on functionality instead of aesthetics we run less of a risk of confusing people, and we never have to worry about leaving the entire site in a state of construction. Cosmetic and major structural changes can wait.

The newsletters, as you know, are maintained on the Website in Adobe portable document file (pdf) format. Until now, clicking on the link to an article in one of the newsletters has only taken you to the first page of the newsletter containing that article. We are retrofitting the links so that they now take you directly to the page containing the article and hope in the future to drop the user directly on the article itself. With links to about 600 articles to change, the process is tedious and time consuming. So far, Jim has made the changes for many issues but many more remain to be changed.

Similarly, we are working on creating internal links within each newsletter so that a user will be able to click on the name of an article in the table of contents inside each issue and be taken directly to the article. So far all the issues for 2009 (except for the December issue which doesn't have an internal index) have been upgraded. You can recognize these links because they are underlined in red in the pdf document.

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Jim and I have spent a considerable amount of time considering how we could make it easier for a user to find information about a specific topic that has been written about in the newsletters. Titles—as regular readers of *The Virtual Gardener* know—are sometimes less than informative about the actual content of an article. To make it easier to locate all the information about a specific topic, Jim and I have added a Topic List page (<http://ag.arizona.edu/cochise/mg/NLTopicList.htm>) to the Website. Currently we have 19 topic areas but we may add more topics to the list as we index more past newsletters. Depending upon their content, articles may be indexed under more than one topic. Right now only the 2009 issues have been indexed, but more will be added in the future.

Lastly, we have revamped the list of chronological links (<http://ag.arizona.edu/cochise/mg/NLChronindex.htm>) to past

newsletter issues. Previously the links were listed in alphabetical order by month and year (Apr 00, Apr 01, Apr 02, ...Apr 99...), not the best arrangement. They now appear in proper date order in a table that should make it easier to find a specific month and year.

The changes made so far are just the beginning. We hope over the coming months to further improve the functionality of the Website, add additional content, and perhaps give the site a facelift. In the meantime, if you have any suggestions for changes you would like to see that would make the site more useful or prettier to look at, drop a line to the Virtual Gardener at VirtualGardener@cox.net and tell me about them. I can't guarantee we will be able to accommodate all the changes suggested, but we will certainly give them serious consideration.

Until next time, happy surfing.

Gary A. Gruenhagen, Master Gardener
virtualgardener@cox.net

Sierra Vista Farmers Market

The Sierra Vista Farmers Market continues year around at the corner of Wilcox and Carmichael every Thursday from 11:00 a.m. until 3:00 p.m. Check out all the wonderful products brought to you by local vendors.



Robert E. Call

Robert E. Call
 Area Horticulture Agent

Carolyn Gruenhagen
 Editor

High on the Desert

High Desert Gardening & Landscaping Conference Scholarship Application

The Cochise County Master Gardeners Association (CCMGA) is awarding up to three full scholarships to the 2010 High Desert Gardening & Landscaping Conference to be held at the Windemere Hotel & Conference Center, Sierra Vista, AZ, February 25 & 26, 2010. Applicants are invited to submit an essay on one of the following topics:

- **Gardening for food production**
- **Landscaping with native plants**
- **Environmental stewardship**

Essays must meet the following criteria:

1. 750 to 1,000 words in length.
2. Double spaced and typed on plain bond paper — a disk or CD included.
3. Represent original scholarship and be suitable for publication. All references and authorities cited must be properly attributed.
4. Entries must be accompanied by an official cover sheet available from the Cooperative Extension Office at the UA, South campus or from the Master Gardener web site: www.cals.arizona.edu/cochise/mg
5. Entries must be received at the Cooperative Extension Office, 1140 N. Colombo, Sierra Vista, AZ 85635 not later than close of business on January 15, 2010.

Entries will be judged by the Cochise County Horticultural Extension Agent and a committee of Master Gardeners appointed by the President of CCMGA. The awardees will be notified not later than January 30, 2010 and their names published in the February 2010 Master Gardener Newsletter.

Get Your Seeds Ordered Now!

January, of course, is the time to order your vegetable and flower seeds. Sit back with your seed catalogs, a hot drink, and think about next summer's garden, the best one ever. The perfect garden dreams of January will no doubt fade come the 40 mph winds of spring, the 100°F days of June, and the lack of adequate rain in July and August, but in January, all is well with the world. To feed your (unrealistic) dreams, look to the sources below for catalogs and seeds galore. You can order catalogs online and even shop online at each of the listed sources. Plenty more seed sources can be found with a quick Internet search.

Baker Creek Heirloom Seeds. A fairly new supplier of heirloom-only vegetable and flower seeds. Large selection. Online at www.rareseeds.com; their address is: 2278 Baker Creek Road, Mansfield, MO 65704.

Gardens Alive. Gardens Alive is a strictly organic provider, mainly of garden supplies, but they also have some flower and vegetable seeds, berry plants, and fruit trees. Online at www.gardensalive.com; their address is 5100 Schenley Place, Lawrenceburg, IN 47025.

Gurney's Seed & Nursery Co. An old time supplier of vegetable and flowers seeds, fruit and nut trees, and berry plants. Online at www.gurneys.com; their address is P.O. Box 4178, Greendale, IN 47025-4178.

Harris Seeds. Another old time supplier of vegetable and flower seeds and garden supplies. Online at www.harriseseeds.com; their address is P.O. Box 24966, Rochester, NY 14624-0966.

Henry Fields Seed & Nursery Co. A long time supplier of flower and vegetable seeds, gardening supplies,

berry plants, grasses, fruit, nut and landscaping trees. Online at www.henryfields.com; their address is P.O. Box 397, Aurora, IN 47001-0397.

High Country Gardens. Primarily a supplier of landscaping plants (just a few seeds are offered) that are adapted to the high country deserts of the American Southwest. Online at www.highcountrygardens.com; their address is 2902 Rufina Street, Santa Fe, NM 87507-2929.

Johnny's Selected Seeds. Founded in 1974, Johnny's has a large selection of flower and vegetable seeds and plants, gardening supplies, grape, and berry plants. Online at www.johnnyseeds.com; their address is: 955 Benton Avenue, Winslow, Maine 04901-2601.

Native Seeds/SEARCH. This is a local (Tucson) nonprofit organization dedicated to preserving heirloom seeds from the American Southwest and Northern Mexico. They sell mainly vegetable seeds, but also some herb and wildflower seeds, plus books, jams, jellies, and the like. Online at www.nativeseeds.org; their address is 526 N 4th Avenue, Tucson, AZ 85705.

Pinetree Garden Seeds. Pinetree is a small outfit founded in the late 1970s with a good selection of vegetable and flower seeds (they have some unusual varieties from around the world), gardening supplies, and berry plants. Online at www.superseeds.com; their address is P.O. Box 300, New Gloucester, ME 04260.

Seed Savers Exchange. Another relatively new supplier, SSE is a nonprofit organization founded in 1975 and dedicated to preserving heirloom varieties of flower and vegetable seeds, of which they have many.

They also have a selection of gardening books and gifts. Online at www.seedsavers.org; their address is 3094 N Winn Road, Decorah, Iowa 52101.

Stokes Seeds. A long time provider of both vegetable and flower seeds and gardening supplies. Online at www.stokeseeds.com; their address is P.O. Box 548, Buffalo, NY 14240-0548.

Tomato Growers Supply Company. A very large selection of heirloom and hybrid tomato and pepper seeds with a few other vegetable seeds, plus some gardening supplies and books. Online at www.tomatogrowers.com; their address is P.O. Box 60015, Ft Myers, FL 33906.

Totally Tomatoes. Another supplier with a very large selection of heirloom and hybrid tomato and pepper seeds with some other vegetable seeds and gardening supplies available. Online at www.totallytomato.com; their address is 334 W Stroud Street, Randolph, WI 53956.

Vermont Bean Seed Company. Vermont Bean Seed, inexplicably located in Wisconsin, supplies vegetable and flower seeds, berry plants and gardening supplies. Online at www.vermontbean.com; their address is 334 W Stroud Street, Randolph, WI 53956-1343.

W. Atlee Burpee & Co. Still another old time provider of both flower and vegetable seeds and plants. They also carry grape and berry plants and garden supplies. Online at www.burpee.com; their address is 300 Park Avenue, Warminster, PA 18974.

*Bill Schulze
Master Gardener Associate*

Hydroponics and the Lettuce Garden

This fall I decided to try my hand at growing some items indoors. I purchased a basic hydroponics book, *How-To Hydroponics*, Fourth edition by Keith Roberto. In the book I found a design for a lettuce raft system. This is a very simple system that does not take a lot of skill to build and makes use of very simple materials that are available in our area. The biggest problem I had in finding materials were the two inch net cups. For those you need to go to a hydroponics store either on-line or in Tucson.

I decided to substitute my own design instead of trying to purchase the two inch cups. I used the plastic seven mesh for counted cross stitch and made my own. This is food grade as you can make items that would hold food, so I felt it was safe to use. This turned out to be a time consuming process and if you put value on your time the purchased cups are probably less expensive. I substituted a Sterilite tank for the Rubbermaid tank recommended after confirming the plastic is food grade. (The Sterilite was on sale.) Be sure the rigid foam sheet is 1.5" in thickness. I tried a thinner sheet and it let the system sink too much to be useful. A hot knife is helpful in cutting the foam but insure it is long enough or it gets problematic cutting the holes for the cups. If you use a regular cutting instrument, do this part outside as you will have bits of the foam everywhere.

I did purchase premixed nutrients for the tank. There are recipes for them in the book and I assume it would be less expensive if you make you own, but I was not ready to try this art yet. I want to try a couple different things with

pre-mixed items and then start working on my own formula for nutrients.

This year I decided to try this system in front of some south facing windows. I found if I did not keep the nutrient level high enough the lettuce on the south side did not get enough sun and its growth was stunted. Shifting the raft on a regular basis should take care of this if you do not want to use the extra water. I purchased butter crunch lettuce from a local box store at a clearance sale and got a discount due to the poor quality of the plants. The plants were in a dirt mix so I carefully washed the dirt off the roots and set them in plain water for a week and then started adding nutrients. The room did get a little too warm so I needed to open windows on warmer days. I used a recycled glass medium I purchased from a hydroponics store to hold the roots in the cups. This is a very clean medium and has great properties for keeping the nutrients around the roots. It is also very light and can be reused over and over.

The only electricity it takes is an air pump for the air stone that keeps oxygen going to the roots. You do not need to check it daily as the water level does not change much day to day. This makes it a good system for those who are too busy to keep a regular garden.

The lettuce is crisp and fresh and does not take much washing as there is no dirt to get between the leaves. If you are looking to try hydroponics this is a very simple inexpensive system for a first effort and the reward of fresh lettuce is not to be missed.

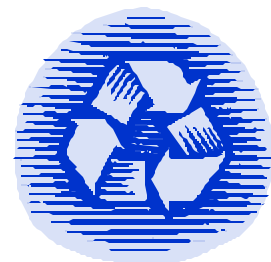
Rebecca Hillebrand
Master Gardner Associate

Cuttings 'N' Clippings

* The next CCMGA meeting is 5:00 p.m. Thursday, **January 7** at the University of Arizona South Campus Public Meeting Room. It's not too early to think about getting ready for spring planting. Rob Call, Cochise County Agriculture Extension Agent, will speak about how to prepare soil for all kinds of spring planting including landscaping, vegetable growing, trees, shrubs, and berries.

* On **January 9**, 9:00—10:30 a.m. *The Challenge of Local Water Supplies—Can We Have It All?* will be the next FREE Water Wise presentation at the University of Arizona South Campus Public Meeting Room. Come learn about local water issues and what we can do to reduce our dependence on groundwater supplies while still maintaining our quality of life. Presenters will be Tom Runyon, Ft Huachuca Hydrologist and Mark Apel, UA Extension Community Development Specialist.

* Recycle your Christmas tree at the recycling center on Hwy 90 or by curbside pickup if you live in Sierra Vista. For information call 458-7530.



The Agent's Observations

Q We recently bought a foreclosed home. There is no irrigation system in place because the previous owner's dog destroyed it. I know the trees did not receive water for several months. The backyard has two huge tall palm trees along with a short but very lively palm. There is a layer of palm fronds that need to be trimmed and they are turning brown. I don't want to see the trees die. So, in the interim I have moved the river rock away from the base of the trees and have taken the water hose and watered the bases of them in the morning and the evening when the sun is not bearing directly on them. I am not sure how long to run the water and do not want to over water the palms. Also, a neighbor said he was planning on planting palm trees during the winter. Is this the right season?

A Palm trees generally have a higher water requirement when compared to other desert trees. Several species do well in the high desert like the Mediterranean Fan Palm and the Windmill Palm. This time of year watering once every two or three weeks should be sufficient. Give them about 20 gallons of water in a basin a couple of feet from the trunk at each watering. Palms are not terribly

deep rooted so watering excessively deep will not cause roots to grow deeper. They respond well to frequent watering so water them once every week or two during the summer. This should result in some improvement in the plants, but you will not see it until next growing season. It is too late now to remove any of the damaged palm fronds. Wait until late winter—during March is the best time to remove the damaged fronds as new growth begins. Leave some of these fronds attached to the tree through the winter. Even though they are not very good looking the fronds may help protect the central bud or growing point from cold weather. If the central bud dies the tree dies! Cut the fronds close to the trunk. Fertilize them when you are doing the frond removal. Concerning planting palms in the winter, **do not do it!** Your neighbor will be wasting his time and money. Plant palms when the soil is warm. May is the best time to plant palms in the High Desert.

Source:

<http://www.unce.unr.edu/areas/southern/newsletters/> December 7, 2009

Q I have three pine trees that need trimming. Is there a best time of year to do this? Also, they have been dropping lots of needles lately. I also have a 'Raywood' ash that my husband planted five years ago. It goes through the cycles of losing its

leaves in the fall and getting new ones in the spring and it looks quite healthy. However, during all that time it has only grown about six inches taller. Do you have any idea what the problem could be? One last question—how often should these trees be deep watered?

A



Major pruning of pine trees should be done during the winter. Light pruning can be done anytime. Needle drop is normal but if the tree canopy is thinning (you can see through it more and more) then you are probably not giving them enough water. Deep watering should occur more frequently in the summer than winter; something like once every ten to fourteen days in the summer and once every four to six weeks during the winter if there is no precipitation. Watering should be incrementally increased as the weather gets warmer and decreased as the weather gets colder. Typically, if the 'Raywood' ash is in rock mulch it will not grow very well. It will do better in organic mulch like wood chips. You might be able to get it to grow better in rock mulch with fertilizer applications. This includes iron if

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458-8278 Ext 2141 or

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for registration form

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the young leaves have been yellow during the growing season. Apply foliar iron fertilizer when the first sign of yellow leaves appear in the late spring or summer. The choice of iron is important and should contain iron ED-DHA, a chelated form of iron, as the main ingredient. Regular deep irrigations will be important for good growth. As these trees grow larger, increase the number of minutes of watering or add more drip emitters if on a drip system. Use a soil probe to determine when the soil is dry and

when to water. This is a simple and inexpensive way to know when to water and how deep an irrigation event penetrates the soil. For 'Raywood' ash each water event should penetrate the soil two feet. For further information on using a soil probe contact your local Cooperative Extension Office or download:

<http://cals.arizona.edu/pubs/water/az1298.pdf>

Source: Xtreme Horticulture,
www.unce.unr.edu/areas/southern/newsletters/

*Robert E. Call
Area Horticulture Agent*

January Reminders

- ◆ Winter prune
- ◆ Remove old mulch/replace
- ◆ Dig tree holes
- ◆ Prepare soil for spring
- ◆ Water periodically
- ◆ Stratify seeds
- ◆ Fertilize asparagus
- ◆ General garden clean-up

