



The Virtual Gardener —

Garden Myths - Learn the truth about gardening



Blog My Books List of Topics Don't Buy These Products Garden Fundamentals Videos Free Books Public Speaking Media Kit About

There's an apocryphal story about a university student who decided to conduct a series of experiments to study the causes of hangovers. For the first of his experiments he consumed a sizeable amount of bourbon and water and woke up the next morning with a hangover. For the second experiment he consumed a sizeable amount of scotch and water and again woke up with a hangover. On the third experiment he switched to rum and water and once again woke up with a hangover. He concluded from his experiments that water must be the cause of the hangovers because it was the only common element in each of his experiments.

The student's error is transparent to us as we read this silly story, but similar reasoning patterns have led to many myths about the best ways to garden. This month I want to invite your attention to a

fun and informative website—**Garden Myths**—created by Robert Pavlis, a Master Gardener from southern Ontario, Canada. Pavlis has more than 30 years of experience as a gardener and a background in chemistry and biochemistry. His passion is to understand the “why” in everything, especially gardening. In addition to writing his blog, he is also a published author and speaker on gardening-related topics.

I first stumbled upon his website when I was looking for information about “bloom booster” fertilizers. There are a number of companies that sell fertilizer formulations that are advertised as promoting flowering of plants. The secret to all of them is a larger percentage of phosphorus (the “P” in the “N-P-K” formula on the container—actually the percentage by weight of

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COLLEGE OF AGRICULTURE AND LIFE SCIENCES
COOPERATIVE EXTENSION
Cochise County

Cochise County Cooperative Extension

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P₂O₅). After a thorough review of the topic and a discussion of scientific research on the subject, Pavlis concludes that there is very little evidence to support the claims made for these fertilizers.

In another interesting analysis, Pavlis examines the often repeated warning that eating rhubarb leaves can kill you. The premise of the warning is that the high level of oxalic acid contained in the leaves is poisonous. While it is an established scientific fact that oxalic acid, consumed in sufficient quantities, is toxic to humans, with an LD 50 of 385 milligrams per kilogram of body weight. This means, for example, that on average half the people weighing 143 pounds (65 kilograms) who consume 11 pounds of rhubarb leaves in one sitting will die of oxalic acid poisoning. Do you find that very surprising? I don't!

The leaves of rhubarb contain about 0.5 milligrams of oxalic acid per 100 grams of leaf material. This, by the way, is roughly the same as the stalks that are touted as being safe to consume. By way of comparison, carrots contain about the same percentage of oxalic acid as rhubarb leaves while chives, parsley, and spinach contain much more, and none of those are considered dangerous to eat. Hmmm!

These are only a couple of samples of the kinds of things you can find on the Garden Myths website. The site offers much more. The main menu provides access to blog entries that stretch back to 2012. The alphabetical list of links to topics covered by the blogs contains 243 entries beginning with "*Acanthus hungaricus*" and ending with "zika."

Each debunked myth is explained in detail along with the scientific rationale for the debunking and a list of references to support the argu-

ments. You may choose to agree or disagree with Pavlis' conclusions, but if you disagree you'd better be prepared to defend your position with a strong case.

In addition to the blog entries, the site contains a link to Pavlis' YouTube channel called [Garden Fundamentals](#) where you will find 11 instructional videos on gardening-related topics. Six of the videos discuss techniques for germinating seeds. I found the [video](#) on the "baggy method" for seed sprouting to be fascinating and learned some new tricks I can't wait to try.

Pavlis also lists on his website 13 free books on gardening-related topics that can be downloaded from the internet, including Norman Deno's classic studies on seed germination (see my article, *The Science of Seeds*, in the [Dec 2015 issue of the Cochise Country Master Gardener Newsletter](#)). Other free books listed include both technical and general discussions of organic gardening, botany, plant nutrition, native bees, soils, and seed starting.

The website also provides links to the Amazon listings of Pavlis' two recent books: *Garden Myths* (published January 2017) and *Building Natural Ponds* (published April 2017). Both listings provide "look inside" peaks at the contents of the books. A copy of *Building Natural Ponds* is available in the Cochise County Library System but *Garden Myths* is not yet available in the library.

And finally, Pavlis provides links to several of the blogs he regularly reads and websites he likes.

I found this website to be informative and entertaining and highly recommend it. Check it out.

Until next time, happy surfing!

Gary Gruenhagen, Master Gardener
virtualgardener@cox.net

Cuttings 'N' Clippings

✿ The next CCMGA meeting will be on Thursday, August 10 at 2:00 PM in Room 503 UA Sierra Vista.

✿ Every Wednesday morning until further notice, Master Gardener work sessions in the Discovery Gardens will be from 9:00 AM to noon. For Cochise County Master Gardeners Association information contact Valerie at:

valeriedavidson@email.arizona.edu or the Cochise County Master Gardeners web site at:

<http://cals.arizona.edu/cochise/mg/>

You can also follow them on Facebook at:

www.Facebook.com/CochiseCountyMasterGardeners

✿ Water Wise will be holding the next workshop on **Saturday, July 8 from 9:00 AM—Noon**. Join Water Wise on a guided tour of local rainwater harvesting sites. A pre-tour talk will be held at UASV with the tour to follow. **Registration is required!** Contact the Cooperative Extension at 458-8278, Ext. 2141 for more information and to register. Check out the Water Wise web site for their 2017 schedule at:

<http://waterwise.arizona.edu/>

✿ The Cochise Chapter of the Arizona Native Plant Society will resume meetings in September. For more information, follow AZ Native Plant Society on their web site:

<http://www.aznps.com/chapters/cochise/cochise.htm>

Cochise County Master Gardener Association (CCMGA) Annual Meeting Update

A new slate of CCMGA Board Members was voted upon and produced at the Annual Business Meeting held on June 8, 2017.

President: Cal Kelley

Vice-President: Mary Jackson

Secretary: Jody Sharp-Webb

Treasurer: Donna Blackburn

Appointed Members-at-Large: Deborah Hargrove, JoAnne Ehasz

Cal Kelley moved to Cochise County last year from Yuma, where he had been a past president and active member of the Master Gardeners for several years. Upon his arrival here, he jumped in, took the Cochise County Master Gardener class series, and threw his hat in the ring for president right after graduation! He brings with him new ideas, organization knowledge, and lots of enthusiasm!

Mary Jackson is a 2016 MG graduate who has been totally engaged from the moment she started the class—working hard on our High Desert Conference for two years, participating in events and meetings, working in the Discovery Gardens, helping with the Spring and Fall Plant Sales, and now—major work with our new CCMGA Seed Library!

Jody's countless hours of volunteer work for the Master Gardeners in numerous capacities are never ending over the past several years. It is not possible to list all the things she brings to our organization with her breadth of skills and total dedication to CCMGA.

Donna's dedication to her position as Treasurer for many years produces beautifully kept records, intricately prepared budgets, and a mindful watch over our hard-earned dollars. We have kept her

particularly busy the past couple of years with the numerous activities with which we are involved!

Awards presented this year were as follows:

“Soakin’ Up Knowledge” (most education hours) Deborah Hargrove

“Ocotillo Award” (most office hours) Jeff Platt

“Rookie of the Year” (most volunteer hours by MG Student) BJ Searcy

“Fastest Grower” (most volunteer hours) Jody Sharp-Webb

“Fastest Grower” certificates for Master Gardeners that went above and beyond:

100+ volunteer hours were recognized for Deborah Hargrove, Julie Barton, Donna Blackburn, and Evie Van de Bogart

75-99 hours were recognized for Cliff Blackburn, Steve Fletcher, Mary Jackson, and Kathy Youngblood

50-74 hours were recognized for Susan Cheves, Sheila DeVoe Heidman, JoAnne Ehasz, John Harris, Gigi Haynes, Cal Kelley, Linda Lawson, Jolene McGowen, Elizabeth Riordon, BJ Searcy, Kris Williams, and Mark Woods

25-49 hours were recognized for Fred Cleere, Ed Faux, Evelyn Green, Beth Hester, Melanie McCaleb, Jeff Platt, Roxy Sheveland, Olivia Sinks, Susan Tipling, Geri Wallace, Gail Westmoreland, and Sue Wolhart

That is a tremendous amount of hours, work, and dedication to help support the many activities of CCMGA! Many, many thanks to everyone!

Jan Groth, Master Gardener Program Coordinator



July Reminders

- ◆ *Keep the pests under control*
- ◆ *You can still plant something*
- ◆ *Keep watering!*

Garden Tips

1. To remove salt deposits from a clay pot, combine equal parts of white vinegar, rubbing alcohol, and water in a spray bottle. Apply to the pot and scrub gently with a plastic brush. Let dry thoroughly before use.
2. Small clay pots make good covers for protecting young plants from sunburn, overnight frosts, and freezes.
3. The next time you boil or steam vegetables, save and cool the water when drained. Use it to feed patio plants. They love this “veggie soup.”
4. Leftover tea leaves and coffee grounds will help acidify soil for acid-loving plants such as gardenias, camellias, and even blueberries. A light sprinkling on the surrounding soil will help keep it more acidic for good plant growth.
5. Chamomile tea helps fight the damping off fungus when attacking young seedlings. Use a little tea at the base of the plant or as a foliar spray.
6. When potting a plant, place a coffee filter over the drainage hole in the bottom of the pot, which will help to prevent losing soil from the pot.

Cal Kelley Master Gardener

Cochise County Master Gardener Association (CCMGA) Announces its New Community Seed Library

Community Seed Libraries and Seed Banks are popping up and being well utilized all over our country. With a mission of preserving good-performance heirloom seeds, breeding locally adapted seed varieties, discovering new varieties, and becoming models for sustainability, a seed library can provide to the community:

1. Seed lending and check-out to community members.
2. Seed interchanges or “swaps” among community gardeners.
3. Receipt of grown-out and harvested seeds from gardeners back into the library.
4. Workshops and brochures on the techniques of starting, growing, harvesting, saving, and exchanging seeds..
5. Workshops educating community gardeners on the importance and procedures of participating with seed library activities.

Participants we hope to be involved with a seed library include community garden organization members, Master Gardeners and Master Gardener students, school garden teachers and classes, and backyard gardeners.

All that said, we have exciting news! Deborah Hargrove and Mary Jackson, both 2016 Master Gardener graduates, have been working on the development of our own CCMGA Community Seed Library. In fact, they’ve run full-speed with their work and are ready to offer the “mobile library” to our public now. Their first public presentation of the mobile library for community use will be on Saturday, August 26 at “Breakfast in the Gardens” at the Sierra Vista Community Gardens from 7:00 AM to 10:00 AM.



We are setting up a permanent location in our Discovery Gardens at UA Sierra Vista for the Seed Library where seeds will be housed, organized and catalogued and checked out to the public. The Seed Library can then be visited by community gardeners on designated days to be announced very soon. Watch for the announcements!

The Seed Library is already incredibly full of a huge variety of Heirloom, non-GMO, and open-pollinated seeds which can be grown and harvested true to type. Seeds have been acquired in the following ways:

1. Deborah applied for and received a grant from Tucson Native Seeds/SEARCH which provided 181 packets of 30 varieties of seeds!
2. Liberty Seed Vault donated over 5,000 seeds – 290 packets of 29 varieties
3. Greenlee County Treasury of Seeds donated 81 packets of 7 varieties

Deborah and Mary have spent more than 60 hours developing, counting, and packaging these great beginnings of the Seed Library. They have both already

started experimental garden sections at their homes to grow out, hand pollinate, and save seeds from the [Native Seeds/SEARCH](#) grant.

The next and very important step is to solicit Volunteer Growers of seeds from the Native Seed/SEARCH grant. We will also be planting varieties of grant seeds in our Discovery Gardens. Progress and observations on results of all grant seed growing will be written up in reports to be sent back to Tucson Native Seed/SEARCH as part of the grant activity.

Deborah and Mary will be doing a workshop at our August 10 Master Gardener meeting on how to plant, grow, pollinate, harvest, and save seeds. They will then discuss the procedures on how gardeners can interact with the Seed Library. This same workshop will be presented to the public on a date to be determined soon.

You can find Deborah’s and Mary’s work on their very active **Facebook** page which has already received hundreds of hits! Search for **CCMGA Seed Library**. Follow them for tips, tricks, info, and even short videos on manual pollination techniques!

For more information, please feel free to call our Master Gardener office at 520-458-8278, ext. 2176. We’ll have announcements on the CCMGA Seed Library opening in our local newspaper and our CCMGA email roster very soon!

*Jan Groth, Master Gardener
Program Coordinator*

It's a Bloomin' Cochise County Native Plant of the Month—Ratany

Close Inspection Rewards Ratany Viewers

Range Ratany or Chacate, *Krameria erecta*, syn. *glandulosa* and *parvifolia*, is a shrub that is reported to get to 1.5 m tall, but the plants I've seen in disturbed areas in lower Miller Canyon and elsewhere are almost prostrate. This may be due to sensitivity to freezing, according to Dr. Tom Van Devender. They're not imposing, but the irregular, bright magenta flowers are eye-catching. Some have likened them to orchids or pea flowers. A little over 1 cm wide, the flower sports 4 or 5 colorful, petaloid sepals with petals in two groups. The upper three are united at the base with blades much shorter than the sepals. The lower two are modified into oil-bearing glands called elaiophores, which attract digger bees in the genus *Centris*. These solitary bees collect the petals' oily secretion on specialized structures on their legs to nourish their larvae, which develop underground. Digger bees are important pollinators of palo verde, ironwood and smoke trees. The fruits of *K. erecta* are single-seeded, spherical, about 8mm in diameter, and covered with barbed spines.

There are 16 - 18 species of ratany worldwide, all in the New World. Of the 4 species that occur in the U.S., three are found in



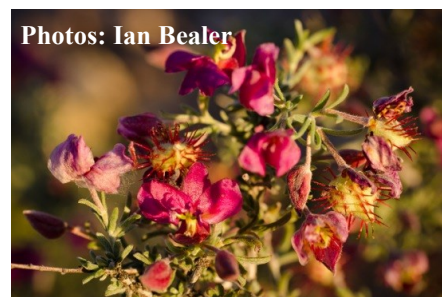
Arizona. Chacate grows in habitats ranging from desert to oak savanna and chaparral below 1650 m (5400 feet), flowering from March to October. *Krameria lanceolata*, syn. *spathulata*, is herbaceous from a woody, underground stem. In contrast to *K. erecta*, whose 4 stamens are of two lengths, its stamens are of equal lengths, its flowers arise from only one side of the flower stalk, and its fruit's spines are not barbed. This species occurs in the same habitats as *K. erecta*. *K. grayi* syn. *bicolor*, is a desert shrub with distinct petaloid petals and gray, canescent leaves.

Linnaeus honored Austrian Army physician and botanist Johann Georg Heinrich Kramer (1684-1744) when he conferred the family name, Krameriaceae on these plants, the only ones classified in the family. The ratanies are partial parasites, capable of photosynthesis but acquiring water and some nutrients from other plants through roots. Though I didn't find a specific host plant named for Range Ratany, I did find a list of genera

and families utilized by South American species, including lovegrass (*Eragrostis*), of which there are several local native and non-native species occurring where Range Ratany is found.

There are several medicinal uses described for ratany, of which the most widely reported is a topical infusion from the twigs used to treat sores at the openings of the gastrointestinal tract. The Tohono O'odham applied this to sore eyes as well. "Krameria root" is the name given to dried roots of South American species, *K. argentea* and *K. lappacea*. Rhataniatannic acid from these roots has been used to treat toothache. Powdered roots have produced an extract that the Portuguese have added to wines to color them red. This or a related dye may be the substance used by Native Americans to color wool.

*Virginia Bealer, Guest Author
Herbarium volunteer*



Photos: Ian Bealer

Cochise County Master
Gardener Newsletter Editor
Carolyn Gruenhagen

July Gardening

Editor's Note: This article written by Bill Schulze was adapted from a July 2012 article published in the *Sierra Vista Herald*.

Dang! It's been hot! My wife and I moved here from Mesa in 2008. That first year summer, I laughed (under my breath) at folks who thought Sierra Vista was hot. Well, now I'm humbled and I'm roasting just like everyone else. Let's hope for a great monsoon and an early, long fall!

There's still plenty of time to plant a summer vegetable garden. Many knowledgeable gardeners wait until late June or early July to plant so as to avoid the high temperatures, low rainfall conditions, and stiff winds of May and June. Come July, the monsoon will arrive (please!), bringing cooler temperatures and welcome rains that your garden will love. Go ahead and plant tomatoes, peppers, cucumbers, melons, okra, beans, eggplant, summer squash, winter squash, and pumpkins (really just another winter squash). Please note that despite the terms "summer" and "winter," all squashes are planted during the warm summer season; neither type will survive cold weather. The term "winter squash" likely arose because these squashes (acorn, butternut, hubbard, *etc.*) store well long into the winter, unlike zucchini and other summer squashes.

July is still a great time to plant many herbs. Among the choices you have are basil, mint, oregano, thyme, sage, lavender, and rosemary. Most herbs produce small blue flowers that will attract bees into your garden. Bees tend to be attracted to blue, hummingbirds to red. For annual flowers, choose zinnias, cosmos,

Discovery Gardens UA Sierra Vista
Photo: Jan Groth



marigolds, vincas, sunflowers, lisianthus, and portulaca. Good choices for perennials include lantana, sun drops (*Calylophus hartwegii*), red yucca (*Hesperaloe parviflora*, which comes in yellow, too), and gopher plant (*Euphorbia rigida*, consider other *Euphorbia* species as well). If you do plant perennials, be sure and pay attention to their water needs until they are well established. To identify plants of all types that will do well in our climate, see the list of recommended plants for Sierra Vista on the Cochise County Master Gardeners website at: <https://cals.arizona.edu/cochise/mg/plant-list>

If you're interested in planting large shrubs or trees, wait until August or September, when cooler weather and (hopefully) more rainfall will reduce stresses on your new plants. Think hard about the choices you make for long lived plants. Selecting native species that are adapted to our climate will make your life a lot easier when it comes to maintaining them. The above referenced plant list provides a great many choices for you.

Watch your plants for signs of nutrient (*i.e.*, fertilizer) deficiencies. The following publication gives some good photos and descriptions of typical nutrient deficiency signs:

<http://www.unce.unr.edu/publications/files/ho/2002/fs0265.pdf>. Common deficiencies in our high desert soils are those of nitrogen, zinc, and iron. Be careful to apply fertilizers in strict accordance with label instructions. Do not be tempted to give more than recommended; more is not better. Too much fertilizer can actually kill a plant and excess fertilizer, whether "chemical" or organic, can pollute ground water. Less drastically, an excess of nitrogen will lead to lush green growth with little flowering. Lush tomato plants with no flowers do not make for tasty BLTs. Overly rapid growth resulting from too much nitrogen is believed to lead to insect pest attacks as well.

It isn't too early to think about fall planting which can begin in August or September. In addition to the typical winter crops like carrots, beets, cabbage, and lettuce, consider planting garlic, which is very easy to grow. The plant itself resembles a tall daffodil or tulip (minus the flower), with long slender upright leaves. Early October is a good time to plant garlic, which you'll harvest in May or June of the following year. The plants stay green all winter (garlic sailed easily through the Big Freeze) and can be planted among other plants, even in containers or flower beds, for a nice leafy green accent

Happy gardening!

Bill Schulze, Master Gardener