



High on the Desert Cochise County Master Gardener Newsletter

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The University of Arizona and U.S. Department of Agriculture Cooperating

When all Else Fails—

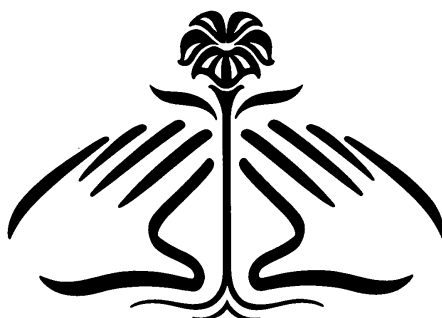
There are many variables when it comes to one's garden. In fact, you spend a great deal of time turning from one book to another and sometimes the books all say the same thing, and what they say doesn't help.

You wonder where to go for help. How fortunate for us to live in an area filled with people who have been where you are and are available to help.

These people are the Master Gardeners. They have been trained by the University of Arizona Cooperative Extension and are here to help the gardener with their problems. If the Master Gardener doesn't know

the answer, they will research it, talk with Rob Call, Horticulture Extension Agent, or other experts and get back to you with the answer. The service is free.

Call the Cooperative Extension offices either in Willcox or Sierra Vista at the numbers below. If you should get an answering machine please leave your name and number and someone will return your call.



Master Gardener

Several of the Sierra Vista nurseries have Master Gardener/Arizona Nursery Association owners or employees ready to help you out also.

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In a Desert Garden

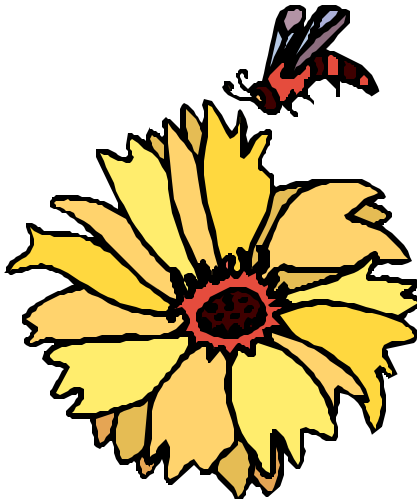
Calylophus – Sundrops

The plants described in this article are growing in my little garden and I am writing about my experience with them. Sundrops is my all-time favorite and they really do well for me.

C. hartwegii was one of the first plants I planted in our backyard after my landscaper left me with a moonscape of rocks and gravel. I could not resist the wonderful yellow blossoms resembling evening primroses. The plant was planted in 1998 into my heavy clay soil and is thriving there ever since. Gardening books say the plant needs excellent drainage. That is something I cannot provide in my backyard but as it gets very little irrigation it has survived so far.

C. hartwegii is the largest plant in this family. Mine has grown 2 feet tall and about 3 feet wide. This spring it has bloomed so profusely that one can hardly see the leaves. These plants are western natives and will flower on and off all summer long till fall.

On my island in front of our house, I have planted *C. drummondianus*. It grows somewhat smaller, 1 foot by 1 ½ feet. The



flowers are not quite as large but it flowers just as nice from spring to fall. On the island the soil has good drainage and is not as compacted as in the backyard. This plant has taken over my island. It spreads by rhizomes and pops up everywhere. It is another plant that is very showy and undemanding. It gets very little additional water and I have never fertilized it in all these years. It has never gotten any pond water either. Pond water is how most of my plants get fertilized.

The third plant in this family is *C. serrulatus*, a little wildflower found in the prairies from Canada to Texas. This one has only grown 1 foot by 1 foot. It is sitting next to my dry streambed in the middle of rocks. The flowers are also a lot smaller but it is a charming little plant. Spring is its main flowering season and at the moment it is covered with yellow flowers. It will stop flowering in the summer and have another flush in fall. All three plants stay evergreen in winter and the leaves are attractive all year long

Angel Rutherford, Master Gardener

What Is Compost Tea?

Compost tea allows you to use your compost nutrients for indoor plants, flowers, garden vegetables, or as a foliar spray (spray on leaves) on other plants. Compost tea is a good source of microbial solution produced by extracting beneficial microbes from vermicompost or regular compost. This “brew” is produced by adding nutrients to water that is highly aerated. Compost or vermicompost is placed in a “tea bag or basket,” suspended in water, and the extraction process begins. Using the proper equipment, good quality compost tea can be brewed in 24 hours.

Compost tea provides:

Direct Nutrition—

A source of foliar and soil organic nutrients.

Microbial Functions—

- ◆ Compete with disease causing microbes
- ◆ Degrade toxic pesticides and other chemicals
- ◆ Produce plant growth hormones
- ◆ Mineralize plant available nutrients
- ◆ Fix nitrogen
- ◆ Plant surfaces are occupied by beneficial microbes leaving no room for pathogens to infect the plant.

Healthy plants growing in soils that are vibrant and full of microbial life, may—

- ◆ Suppress disease-causing and pest organisms;
- ◆ Improve the nutritional quality of the plant;
- ◆ Produce good soil structure, improving water infiltration, oxygen diffusion, and water-holding capacity.

(Continued on page 4)

Robert E. Call

Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

The Virtual Gardener—Root Camp II



Last month we learned that roots provide water and nutrients to plants

and anchor them to the soil. This month we want to begin putting our knowledge of roots to work.

Just as the Army gives physical examinations to volunteers before inducting them, so we want to give a physical examination to our potential plant recruits before we bring them home from the nursery. Specifically we want to take a closer look at the roots of the plants to see if they are healthy.

Our examination of the roots can begin with a visual inspection of the plant in its container. The first thing we want to look at for shrubs and trees is the overall size of the plant compared to the size of the container. Sometimes nurseries allow plants to outgrow their containers instead of repotting them to a larger sized pot. This can result in a plant whose above ground parts are too large for the roots to adequately support and may not allow the tree or shrub to become properly established in the landscape after it is installed. The American National Standards Institute (ANSI) recommends, for example, that a tree in a five gallon nursery pot be no taller than 10 feet and have a trunk caliper no greater than 1 inch at 6 inches above the ground (see the Web site referenced at the end of this article for data on different sized containers).

Another external check we can make of the plant in its container is

for roots protruding through the drainage holes at the bottom of the pot. Depending upon how the plant has been treated in the nursery some small fibrous roots may poke out of the drainage holes and this is usually okay, but if roots larger than about twenty percent of the diameter of the trunk are growing out of the pot it's probably a good idea to find another plant.

After the external examination it's time to look inside the container. To do this you must remove the plant from the pot. For one gallon pots you can easily do this yourself. For larger sized containers you should ask for help from a sales person.

When unpotting a plant to examine its roots, you should never pull it out of the pot by the stem or trunk. Instead (smaller pots only), place your hand flat on the surface of the potting medium with the stem or trunk between your outstretched fingers and invert the pot. The root ball should slide right out. If it doesn't, a few gentle taps on the side of the pot with your other hand should loosen the root ball.

Once the pot has been removed, you should see two kinds of roots, a dense mass of small diameter fibrous roots and a few larger diameter roots. The fibrous roots should be moist and have a whitish color. The larger roots will usually have a darker color. The fibrous roots are the ones that absorb water and nutrients from the potting medium. The larger roots are conduits for water and nutrients. Examine the roots carefully.

Look at the configuration of the roots. In the ground the roots would spread radially outward from the center. In the unnaturally confined space of the container, the roots will be massed close to the plant. The fibrous roots that have grown outward to the wall of the container will be deflected to circle along the wall of the container. This should not alarm you unless you see a great mass of circling fibrous roots at the edge of the root ball. This indicates a root-bound plant and will, at the least, require you to do some root pruning before installing the plant. If possible look for another plant that is not root-bound. Of more concern are large circling or kinked roots. Large circling roots will increase in diameter after the plant is installed and ultimately kill the plant by strangulation. Also look for large roots that are growing above the surface of the soil or medium. Shrubs or trees with this condition will have difficulty in the landscape. If you have the opportunity, dig up a tree or shrub that has died after a few years in the ground and examine the roots. Often you will see a circling root has choked the plant to death.

While you're looking at the roots, note any other conditions you find unusual or suspicious and ask the sales person about them. Is there an unpleasant smell coming from the root ball? Is there evidence of insects or insect damage in the root ball? Are there weeds growing from the root ball?

(Continued on page 5)

(Compost Tea continued from page 2)

The use of both compost or vermicompost tea is becoming more popular by farmers and golf course managers. It is very cost effective (environmentally and economically).

Making and using compost tea:

Any large container will do, from a 5 gallon bucket to a 55 gallon drum. Fill a gunny sack or other “bag” loosely with a variety of compost. Place in the large container and fill container with water. Stir mixture every day. After a week your tea is ready to use.

Drain off the liquid tea. Use a strainer if possible to keep solid particles out of the tea. If you are going to use the tea in a sprayer you need to strain the tea through cheesecloth to remove small particles that can clog the sprayer.

Pure compost tea is too strong for your plants and may burn the plants. Before applying the tea to your plants, mix 10 parts water with one part compost tea. This 10:1 ratio dilutes the nutrient levels, so the tea can be safely applied.

Left over solid material can be



July Reminders

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

spread on your garden, put back into a composter, or returned to the compost pile for later use.

Tip: Try foliar feeding by spraying the diluted compost tea on the plant leaves.

Important Note: The liquid nutrients in compost tea are used immediately by your plants. But, because it is in liquid form, it can wash out of your soil quickly. Frequent applications are recommended.

*Richard James
Master Gardener Associate*



**Cuttings
'N'
Clippings**

* Congratulations to the 26 new Master Gardener Associates who completed the 13 week class. They now will volunteer 50 hours in the next year to become Master Gardeners.

* CCMGA elected the following as their 2004-2005 officers:
President: Charlie Narburgh
V. President: Penny Artio
Secretary: Carolyn Gruenhagen
Treasurer: Emily Boyd

* The next regular meeting of CCMGA is 5:00 p.m. August 5, 2004 at the University of Arizona South campus. CCMGA members watch for details in your email.

* Saturday, July 10 from 9:00 a.m.—2:00 p.m. a free *Water Wise* Water Harvesting Tour will be held. See back page of this newsletter for information.

**Poliomintha
maderensis**

In the fall of 1998, Greg Starr from Starr Nursery in Tucson, wrote an article for the Botanical Garden plant sale, promoting three plants, one of them being *Poliomintha maderensis*. At that time the trademark name by Mountain States Wholesale Nursery was Lavender Spice. I went to the plant sale and was able to secure three one-gallon plants that looked somewhat decent. I installed them in solid caliche, covered with a few inches of imported soil, where they received mid to late afternoon shade from an adjacent ramada.

During the second growing season, they performed just as described in the article. The spectacular flowers start in May, continue during the hottest and windiest season with little supplemental watering, get somewhat soggy-looking during the rainy season, but then pick up again lasting well into the autumn. The “pinky lavender” tubular flowers are very attractive to hummingbirds. This shrub is quite cold-hardy, tolerating lows of at least 10 degrees F, and improves with shearing in late winter. It is somewhat brittle, and in my windy location, I usually lose a few twigs. Its spring growth is so vigorous, though, that the plant makes up for this loss. Even after fairly heavy pruning, the shrub grows back to about 3’ height.

For a few years after that autumn of 1998, no *Poliomintha maderensis* seemed to be available. Now a few nurseries carry them.

(Continued on page 5)

(*Root Camp II continued from page 3*)

Of necessity this has been brief discussion. If you would like to find out more about examining roots and choosing healthy trees, check out the Web site by Dr. Ed Gilman, professor of environmental horticulture at the University of Florida at <http://hort.ifas.ufl.edu/woodyplanting>. You will find more than a hundred pages of great information about growing trees at Dr. Gilman's site.

Next time we will take a look at how to install your new plant recruit. Until then, Happy Surfing.

Gary A. Gruenhagen, Master Gardener
gruenha@sinos.com

(*Poliomntha maderensis continued from page 4*)

However, they look scraggly in their pots before they bloom, and take a couple of years before getting established in the ground. In the meantime, I found a few more one-gallon plants and installed them on top of the caliche in the topsoil. There seems to be no difference in performance.

The latest *Sunset Western Garden Book* describes them on page 540 as Mexican Oregano. It calls the plant a "native to eastern Mexico and tolerant of many soils." Hence its great performance in my caliche garden!

Giselheid Regner, Master Gardener

"Do not think of it as a waste of time to cultivate a few flowers."

-*The Old Farmers Almanac 1983*

Roses, pansies, nasturtiums (good in salads), and other flowers add wonderful color to your garden, but did you know you can eat some of these flowers, too? When it comes to flower eating, organic growing is best. Many popular flowers such as foxglove, Carolina jasmine, heavenly bamboo (nandina), ivy, oleander, sweet pea, and periwinkle are poisonous. If eating flowers is new to you, go at it slowly. Some people are allergic to flowers. However, even given all the warnings, certain flowers make a tasty and colorful addition to the diet.

The Agent's Observations

Q

When should I plant native warm season grasses and how should I prepare the soil?

A

Warm season native grasses include but are not limited to the bluestems, buffalos, grammas, Indian rices, love grasses, sideoats, and wheats. Planting of most of these grasses should occur just before the monsoon rainy season begins in July. Seeding rates vary between different grass species. For example buffalo grass is seeded at 3 to 4 pounds and blue gramma grass is seeded at 1 to 2 pounds per 1,000 square feet. In most situations it is advisable to mix 2 or more compatible species together and sow them so there is more diversity in the planting.

For best germination and stand, till the soil 4 to 6 inches deep (this is very necessary on new construction sites because of compacted soil), rake smooth, spread seed, and top dress with compost or composted manure. The dark compost will warm the soil and hold moisture which aids in germination.

Many of these warm season grasses make attractive landscape areas but are not suited to heavy traffic and play. However, breeding programs are currently developing turf type lawn grasses from native warm season grass species that will withstand traffic. Also, many of these grasses are more drought tolerant than the more traditional turf grass and require less water than Bermuda grass.

Robert E. Call
Extension Agent, Horticulture

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Rain Water Harvesting Tour

July 10, 2004

sponsored by the University of Arizona Cooperative Extension's Water Wise Program
Come and learn how three residences in the Sierra Vista Sub-Watershed rely totally (or almost totally) on collected rainwater for their water needs.

One residence of three buildings (one under construction) totals 3,000 sq. ft. collection area, and has 5 tanks totaling 12,800 gallons. The home houses two adults (one works out of the home), a washing machine, a dishwasher (soon), a Sun-Mar compost toilet, and the standard amenities. They rely totally on rainwater, including drinking needs. See a "first wash" system and filtering systems. The owners live comfortably on 7" - 22" of annual rainfall.

The second residence has a collection of 1,200 sq. ft., houses two commuting adults and has storage for 6,000 gallons. The home has a garden, compost toilet, and the standard amenities. The owners hope to soon add a washing machine. Because the galvanized roof is not coated, they do not drink the rainwater, but use it for all their other needs. They live comfortably on annual rainfall of 7" - 11".

A project under construction, the third residence has a total collection area of 2,100 sq. ft. for two commuting adults, with a storage capacity of 9,500 gallons (not including the septic tank in which they also store rainwater). They do not drink the rainwater, but use it for all their other needs. They do not have a washing machine or dishwasher, and have a compost toilet. They put their greywater through a sand filter in an indoor greenhouse for non-food plants.

This is a self-guided tour. The three homes will be open during a two hour time slot each beginning at 9:00 am and ending at 2:00 pm. For a map and further details, call the Water Wise Program at 458-8278 X 2139 or email jwilliam@ag.arizona.edu

For more information on water conservation, visit www.ag.arizona.edu/cochise/waterwise/