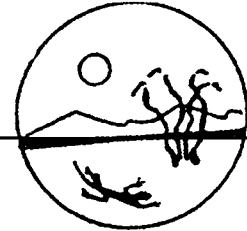


High on the Desert

Cochise County Master Gardener

Newsletter



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

Gardening: Don't Give Up!

If you have just about had it with gardening and are about to throw in the trowel—don't despair! Here are some basic things you can do to assist your plants and yourself to successfully gardening in the High Desert.

Install an Irrigation System: Installing a drip irrigation system is one of the best things I've ever done. My plants struggled for the first gardening year due to irrigation with a hose. Plants suffered the torture of dragged hoses crushing them, water never penetrating the soil to the depths the roots required (which was a waste of water since the plants couldn't use it) and massive deaths occurring. Modern irrigation methods are the most efficient way to irrigate combined with the correct amount of water applied at the right time and at the right place—the root zone. Use a soil

probe to assist in determining when irrigation needs to be applied and water to the proper rooting depth. The rooting depth for annuals, vegetables and lawns is 12 inches, 12 to 24 inches for perennials and shrubs, and 28 to 36 inches for trees. Reapply irrigation when the probe cannot penetrate any deeper than 3 to 5 inches. I like using soaker hoses for the vegetable garden. Every couple of years when the hoses clog up I submerge them in a water/white vinegar bath (I fill up the yard cart with water and add a gallon of vinegar). Let them soak for a few days to clean out the mineral deposits and they will work like brand new. This works on drip emitters too.

Mulch, Mulch, and Mulch: The benefits of mulch are outstanding! A 2 to 3 inch top-dressing of mulch conserves water, inhibit weeds, and modifies soil temperatures. Best of all, it adds a finishing touch to the landscape. Mulches can be either organic (bark or wood

chips, leaf mold, grass clippings, compost, hay, straw) or inorganic (gravel, decorative rocks, sand, boulders, decomposed granite). Weed fabric may be used under the mulch as an added measure to keep weeds down—do not use black plastic, as it doesn't allow the exchange of water and oxygen that plant roots require. Plastics also permit rainwater to runoff the property—you want to retain it for the plants. Conducting one of my experiments last year, I went out to probe the garden after the first rainfall. Where I had used mulches the probe went down 3 to 4 inches. I could only probe down to ½ to 1 inch in the bare soil. The mulches slowed down and trapped the rain allowing it to filter into the ground whereas runoff occurred on bare soil. My personal mulch choices are mixes of decorative rock/decomposed granite in the native garden (they don't blow or float away) and in the veggie garden I love alfalfa hay.

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Proper Plant Selection: Choosing plants by researching and making selections according to their horticultural requirements that match your site will go a long way to ensure plants will thrive in the garden. Native drought-tolerant plants are adapted to our unique soils, climate and as a bonus attract wildlife. Favorites in my garden are *Penstemon's*, *Salvia's*, *Dalea's*, *Agave's*, *Buddleia marrubifolia* (Woolly Butterfly Bush which has the most intoxicating clove fragrance), *Chilopsis linearis* (Desert Willow), *Chitalpa tashkentensis*, *Cowania mexicana* (Cliffrose), *Fallugia paradoxa* (Apache Plume), *Hesperaloe funifera* (Coahuilan Hesperaloe) & *H. parviflora* (Red Yucca), *Larrea tridentata* (good old Creosote-bush), *Leucophyllum's* (the beautiful Texas Rangers sans the sheared balls and squares), *Nolina microcarpa* (Bear Grass), *Rhus microphylla* (Littleleaf Sumac), *Verbena gooddingii*, *Zexmenia hispida* (Devil's River), *Sphaeralcea amgigua* (Globemallow), *Forestiera neomexicana* (Desert Olive), the native *Acacia's*, and *Yucca's*.

Dispense With Plants: What's the point in taking care of a plant you don't like or isn't performing well—especially after 3 to 5 years. If it's the right plant but in the wrong place dig it out and relocate it, otherwise put it in the compost pile or give it to a friend and plant something in its place that you love. When planting in the garden I deadhead any existing flowers in bloom, spent flowers, and new buds for the first six months to a year. This puts all the energy the plant is using to produce flowers into energy, overcoming transplant shock and growing new roots. If possible I try to buy plants without flowers or buds.

Happy gardening and dance in the rain!

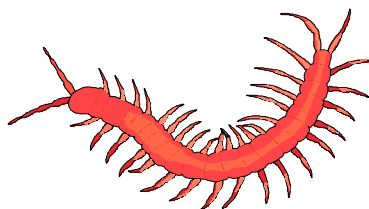
Cheri Melton
Master Gardener

Cuttings 'N' Clippings

► Cochise County Master Gardeners will not be meeting in July. There will be, however, a general meeting of people interested in working on the High Desert Gardening & Landscaping Conference. The meeting will be held July 7, 5:00 pm at the Sierra Vista Library. All interested Master Gardeners and Associates are invited to attend. The 7th annual conference is going to be the best ever with your help!

The Agent's Observations

Q We have just moved into a home that was not lived in for several months. There are several centipedes in the house. What can we do to get rid of them?



A The giant desert centipede, *Scolopendra heros*, is native to our high deserts. They are multi-segmented, elongated arthropods that have a distinct head and one pair of legs per body segment. They are flattened, fast

moving predators, and generally brownish-yellow in color. Centipedes are 2.5 to 25 centimeters or more in length, with 10 to over 100 legs depending on the species. The giant desert centipede has a "pseudo head" for a tail which mimics the head in look and movement when preyed upon. This presumably will give the animal a fighting chance when attacked by birds, bats, or other enemies. These critters hide in cool places—under rocks, boards, loose bark, or in other dark moist places during the day. They actively seek prey at night, stunning or killing it with modified legs, called gnathopods, that are equipped with a poison gland. Their prey are insects and other arthropods, and in the case of the giant desert centipede, small mammals or birds also. Their bite is not mortal to humans but is painful, similar to a wasp sting.

Control: If a centipede is found in the house capture it in a box, bag, or sack using gloved hands with a stick or tongs for guidance. Release it outside where it can prey on other insects like cockroaches. Sealing up the house, particularly outside door thresholds or holes where pipes enter the house, should prevent this beneficial arthropod from entering your living space.

Source: *Venomous Animals of Arizona*, 1992. Robert L. Smith. The University of Arizona Cooperative Extension, Tucson, AZ. pp. 24-26

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Robert E. Call

Robert E. Call
Extension Agent, Horticulture
Carolyn Gruenhagen
Editor

GOING NATIVE?

No—I'm not talking about putting on a loin cloth and dancing in the woods (too many thorns - ouch!) Rather I want to discuss planting and caring for plants in our high desert environment. First off, let me say that I am not one who advocates rounding up those who dare to use non-native plants and staking them out in the hot desert sun; but it saddens me to see the majority of newcomers and semi-natives who have chosen to settle in this special place attempt to transform it into some vulgarized version of "back east." I want to stand on the top of Miller Peak and shout out, "Open your eyes, look around you and behold the natural beauty of this place. Learn from nature, imitate it, nurture it rather than wage a losing war against it." The Arabs have a saying that the desert will reclaim its own. You may in the short term succeed in transforming your little piece of turf into a version of Bouchard Gardens (a wonderful botanical delight in Victoria B.C.) At great cost to the environment not to mention your wallet and sore back but in the end nature will win, the non-adaptive plants will wither and over a very long period the natural ecosystem will prevail. So let us rather discuss ways to have a lush garden using native and adaptive plants without undue strain on scarce resources.

One of the reasons why many resist using native and adaptive plants is just ignorance. This is a very unique environment unlike what most are familiar with either back east or here in Arizona. We all have to learn the idiosyncracies of our geology and weather. Plants that can thrive here without excessive intervention on our part, must be able to cope with: hot dry

winds in spring, long periods of drought, intense sunlight during the growing season, sudden severe freezes, early and sometimes very late freezes, and a scarcity of supplemental water. Native plants have evolved over the millennia to cope with these harsh conditions. Adaptive plants, although technically not native, have evolved under similar climatic conditions.

To ensure gardening success, you must understand the micro climates of your property and work with them. Gardening books oriented to the Southwest can help but cannot give you all the information that you will require. I have yet to find a book that would get specific enough to tell me which plants survive on which side of the house, list water requirements by type of soil, list the insect pests you will have to contend with, or tell you which ones our four-legged varmints won't eat. I personally find that observing these plants in their natural environment and then imitating that in my own garden works best. When that is not possible, I never hesitate to ask gardeners who have been successful or other experts. Questions to ask include, water usage, sun exposure, wind exposure, have they had to use soil amendments (I am not above putting a little manure or compost every so often on plants, but I refuse to run an intensive care unit for plants), what is the kind of soil the plant prefers, can it survive benign neglect, and bottom line—does it **really** thrive for you.

I **really** made a mess of gardening when I first came to the Apacheria twelve years ago. I had been quite a successful gardener in the south but rapidly learned to my chagrin that azaleas are "foo foo" plants here and not to put lime and wood ashes in the flower bed (oops). Even now, I marvel at my

ignorance as I sit under my beautiful Chilean mesquite tree (20 ft. tall, 6 years old) and look at a very small magnolia grandiflora (planted same time; will keep it—reminds me of my childhood). I have, after years of toil, slowly resolved to change my ways. I do not have a water-thirsty lawn but native grasses and flora. Even in the midst of this severe drought, I have zinnia grandiflora, desert primrose, globe mallow and other unidentified flora in bloom across the yard. I didn't have to scatter seeds, fight off the local seed-eating fauna, plow the back forty, use blasting powder to get through the caliche or drag hoses all over creation for any of them.



I do have a garden near the house full of lantana, coreopsis, chocolate flower, gaillardia and a host of others that thrive on once weekly watering and minimal care. I still have a few roses, camellias, and others that have been given to me but even these must thrive on my once weekly watering. I select sites carefully, mulch heavily, and water thoroughly. And I **do not** try herculean rescue efforts if one of these begins to decline; rather, I accept that it wasn't meant to be, rip the offender out of the ground, toss the remains on the compost

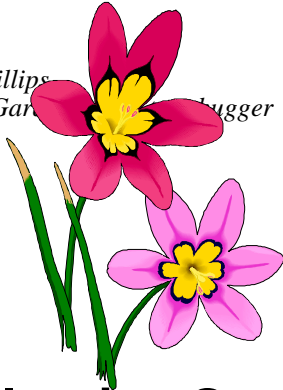
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pile and replace it with a native or adaptive plant.

I hope this short introduction has given you all food for thought. In subsequent articles, I will describe some of the plants with which I have had success.

Happy, successful gardening and remember walk softly upon the earth.

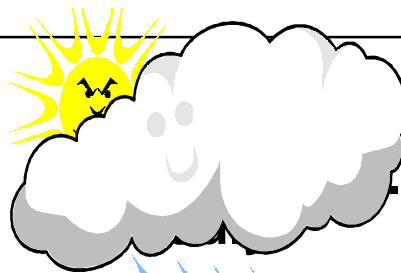
*John Phillips
Master Gardener Bugger*



Allergies Got You Down?

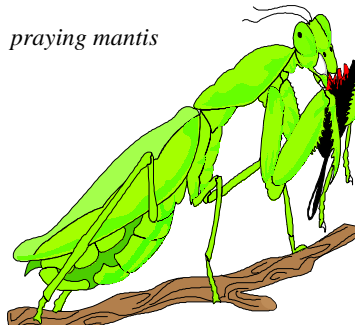
The Newspaper Enterprise Association's Dr. Gott offers suggestions to avoid allergens. The following are particularly suited to gardeners:

- ◆ Avoid outdoor activities in the spring and summer between 5:00 and 10:00 a.m. when pollen levels are at their highest.
- ◆ Keep your car and home windows closed during the allergy season.
- ◆ Keep air conditioners and humidifiers very clean to prevent mold or pollen buildup in the machinery and filters.
- ◆ Wear a mask when gardening or lawn mowing and keep the lawn trimmed short because clipped grass is less likely to bloom and spread pollen.
- ◆ Shower and shampoo following pollen exposure.



Bugs, Bugs, & More Bugs:

People aren't the only ones who welcome the summer rains. Bugs of all shapes and sizes, giggling, buzzing, creeping, and flying have been waiting just like us for a break in the heat and the dryness. If you avoided gardening chores during June, July is definitely the time to get back out there. In addition to caterpillars, aphids, and Mexican bean beetles, we are about to be invaded by spiders, spider mites, crickets, and GRASSHOPPERS. And, boy are they hungry! Wise gardeners always plant a little extra for the bugs—it keeps the peace and still leaves enough flowers and vegetables for the human appetite. If the bugs in your garden start eating more than their share, however, all treaties are forgotten—it's time for swift and decisive action. Organic gardeners rely on age-old methods such as homemade sticky traps, truly deadly sprays of pepper, soap, garlic, and onion juice, and "superhero" bugs like lacewings,



praying mantis

praying mantis, and ladybird beetles. Handpicking is generally safe and effective. If you've ever come up against a blister beetle or an assassin bug, you will

understand the part about "generally safe." Other gardeners like fast-acting, man-made pesticides, and this is certainly an effective, though less creative way to handle bug problems.

One more time: It's easy to think that we can stop watering now that the rains are here. After all, one afternoon's monsoon drops buckets and buckets of water on our gardens. Unfortunately, most of that water runs right off the surface of our soil and down the street. The summer rains deposit so much water in such a small period of time that the hard packed soil can't absorb it fast enough. Plants have a fascinating adaptation which helps them conserve water in arid periods, but can make them more vulnerable when the rains arrive. Plants absorb and release moisture through tiny openings in their leaves called stomates. When water is scarce, the plant keeps those stomates tightly closed to reduce water loss. When water is available, as in a rainstorm, the plant opens all of its stomates wide to absorb as much moisture as possible. If a monsoon fizzles or produces little actual rain, the plant can lose more moisture than it takes in. This is why it is just as important to watch our gardens for signs of heat or moisture stress in July and August as it was during the rainless months. This obsession with water—not too much, not too little—is one of the inescapable realities of desert gardening.

You can always plant something: Call our Cooperative Extension office to get a copy of the *Vegetable Varieties for Arizona* pamphlet for ideas on the best varieties to plant.

*Jackie Dillon-Fast
former Cochise County Master Gardener
(Reprinted from the Cochise County
Master Gardener Newsletter, July 1990.)*

THE VIRTUAL GARDENER=

Weed Warrior IV

Listen up Weed Warriors! This month we are going to enter the dark side of weed combat—chemical warfare—so I want you to pay careful attention to what I have to say.

The chemicals we use to defeat our weed enemies are herbicides. Don't forget that the term "herbicide" belongs to the "cide" family of words. Some of its cousins include "pesticide," "insecticide," "fungicide," "homicide," and "suicide." All these words have in common the suffix "cide" which is derived from the Latin verb *caedere* meaning *to kill*. The substances that we euphemistically refer to as "herbicides" are substances that have been engineered to kill living things, namely plants, and we must treat them with respect. Because the biochemistry of plants is so much different than the biochemistry of animals, some herbicides may not pose the immediate threat to you that other poisons do, but they still must be treated with respect.

Herbicides can be classified in different ways. One useful classification is by the persistence of the agent. Some herbicides remain active in the environment for long periods of time and others are lethal to plants for only a short period of time. Generally speaking, those that remain active for long periods of time and especially those that have a fair degree of mobility in the environment are to be avoided. Preference should be given to those that are non-persistent and non-mobile.

Another useful way of classifying herbicides is by their affect on

plants in different stages of growth. Herbicides that are effective against plants very early in their life cycles are called *pre-emergent* herbicides. Those that are effective against plants later in their life cycles are called *post-emergent* herbicides. Because the best time to apply pre-emergent herbicides to control summer weeds is just before the arrival of the summer monsoons. I will discuss pre-emergent herbicides this month. Specifically, I will talk about one popular type of herbicide based on the chemical called *Orzalin*. You are more likely to run across it by the trade names *Surflan* or *Ryzelan*.

Orzalin-based pre-emergent herbicide is the orange-colored liquid you sometimes see Sierra Vista city crews spraying around medians. Before you ask, no this is not "Agent Orange." Orzalin is brightly colored because it was originally developed as a paint pigment.

Orzalin is effective against many of the annual grasses that sprout during the monsoon season as well as some of the annual broadleaf weeds, including prostrate spurge. To be effective, it should be applied one to two weeks prior to weed germination and watered in well or applied within 21 days of at least a half-inch of rain. Once in place, Orzalin bonds tightly to the soil and will not leach out after even heavy rainfall or irrigation. It remains effective for up to eight months, although in our climate it is probably best applied twice a year just before the summer and winter rainy seasons. Carefully follow the directions on the

container to determine the amounts to apply in your yard or garden and observe all the recommended safety precautions.

Orzalin interferes with the germination of seeds by a process that is not well understood. It is well understood, however, that the substance has no significant impact on plants that have already sprouted. This makes it ideal for suppressing weeds around existing plants. Despite its effectiveness in killing seeds, Orzalin is a fairly benign chemical.

According to the Material Safety Data Sheet (MSDS) for Orzalin, the LD50 for both oral ingestion and skin absorption is 5000 milligrams per kilogram of body weight in rats. LD50, or *Lethal Dose 50*, is the amount of a substance that will cause a 50 percent mortality rate to the "ingestee." In the case of Orzalin, this means that a person weighing 150 pounds (~68 kilograms) would have to ingest or absorb 341 grams (~12 ounces) of the stuff in order to reach the LD50 level. To give you something to compare to, the LD50 of aspirin at 200 milligrams per kilogram of body weight is about 25 times that of Orzalin. Further, Orzalin may cause slight transient eye irritation and prolonged exposure may cause skin irritation. It is not considered carcinogenic and does not cause birth defects.

If you would like to find out more about Orzalin-based products, take a look at the following Web sites:

- ▶ http://www.dowagro.com/turf/weed_mangement/surflan_nursery.htm
- ▶ <http://ace.ace.orst.edu/info/extoxnet/pips/orzalin.htm>
- ▶ <http://www.greenbook.net/free.asp>

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Q

What is the proper time to plant a turf lawn?



A

The climate in Cochise County allows the growing of two general classes of turf. They are warm season

and cool season grasses. Warm season grasses are those that flourish during spring and summer and then go dormant (brown) in the fall and winter. Warm season grasses include Bermuda grass, buffalo grass, grama grass, sideoats, St. Augustine, and zoysia grass. These grasses should be sown, plugged, stolonized or sprigged, (planting shoots with leaves), or sodded in the spring when temperatures are warming up. Cool season grasses grow best during cool weather but are green

during the heat of summer if they are watered. They will remain green if winters are mild. Cool season grasses include Kentucky bluegrass, fescue, and rye grasses. Cool season grasses are best sown or sodded in the late summer (late August or September) or early fall. The second best time to plant or sod these grasses is in early spring.

Robert E. Call
Extension Agent, Horticulture

"I know a little garden close
Set thick with lily and red rose,
Where I would wander if I might
From dewy morn to dewy night."

-William Morris

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