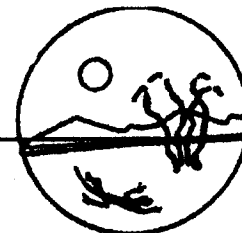


High on the Desert

Cochise County Master Gardener

Newsletter



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

Howdy Spring!

Signs of spring are forthcoming in spite of the surprising late freeze. Hummingbirds are visiting the feeders, bees are busy gathering pollen and nectar and this is good news for the gardener as they also pollinate many of our food crops, the cowbirds are back –ugh (time to switch the bird feeders from birdseed to all black-oil sunflower seed to discourage the cowbirds from hanging around), and of course the howling winds to be followed by the blazing heat that will soon send me running for shade.

This spring I was able to resist the urge to buy plants knowing full well that it's the worst time for planting in the High Desert. Instead I'll be concentrating on details in the garden that I have been putting off until it can no longer be ignored. It's time to maintain the drip irrigation system and do repairs, replace old emitters, and expand the system to keep up with the maturing plants. This entails adding and moving existing emitters so they are watering plants at the root zone or commonly known as the

drip line. Plants such as the Apache Plume (*Fallugia paradoxa*) and Cliff Rose (*Cowania mexicana*) are now established and I can take them off drip as they can exist on rainfall alone. Some plants are just not happy at all and it's time to either remove them permanently or wait for the summer rains and transplant them into a happier environment.

I came across an amazing discovery last season. Due to good weather conditions the Devil's Claw (*Proboscidea parviflora*) was plentiful in the garden. I didn't plant them. They were volunteers, as we gardeners like to call them. One morning I found a Tobacco Hornworm on it! These large green caterpillars have diagonal white stripes on the sides with a red horn at the rear. Sometimes confused with the Tomato Hornworm which can be distinguished with V-shaped white marks on its side and the rear horn that is black. I checked the other plants and they also had Tobacco Hornworms on them. Interesting there was none on the nearby tomato plants. Only when they devoured all the

Devil's Claws did I start to find them on the tomato plants. My neighbor must have thought I was a nut watching me run around the yard with big green caterpillars in my hands looking for Devil's Claw plants to "transplant" them to! I've saved the seeds from these plants and plan to grow a "crop" of Devil's Claw for the Hornworms. The Tobacco Hornworm caterpillar turns into the Tobacco Hornworm moth, one of our two larger moths, to include the White-lines Sphinx moth which visits and pollinates desert gardens.

If you're interested in learning more about our unique desert pollinators check out the *Gardening for Pollinators* brochure, published by the Arizona-Sonora Desert Museum in cooperation with the Arizona Native Plant Society. This brochure pulls out into a beautiful watercolor poster of the pollinators of the Southwest. I picked up my copy at the San Pedro House located on Hwy 90 near the San Pedro River. Happy Spring!

Cheri Melton
Master Gardener

Cochise County Cooperative Extension

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What to do . . . May

Begin deep watering: If you haven't started yet, now is a good time to begin deep watering trees and shrubs. Deep watering is the most effective way to water trees and shrubs in Arizona. Flower and vegetable gardens will also benefit. Roots will not grow in dry soil and contrary to popular gardening myths, roots do not seek water. You must provide them with a good supply of water where you want them to grow; roots that are given water will grow, roots that are not will die. Since shallow roots dry out quickly and provide only minimal support for your tree's frame, deep roots are the ones you want to encourage to thrive. Not only is the soil cooler and damper around deep roots, a deep root system provides a much

stronger anchor for your tree. Deep watering also helps move harmful soil and water salts out of the plant's root zone where they can build up and burn roots.

The best way to tell if your tree has had enough water is to press a 2 to 3 foot metal rod (water probe) into the soil around the tree. If the rod is easy to push through the soil, the soil probably contains enough moisture. Repeat this in 3 or 4 places around the tree to make sure the water is distributing evenly.

Plant warm season crops: May is a good month for setting out warm season vegetables such as bush beans, corn, peppers, cucumber, and squash. You can still set out

tomato plants though they might not set fruit during June and you may have to wait until July or August for your vine-ripened tomato.

Control weeds:

The weather is perfect for weeds and those that infiltrate your garden will soon be out performing the cultivated plants. Whereas weeds are valuable as soil stabilizers in open areas where nothing else will grow, they are bullies in the vegetable garden and will sap your soil of the nutrients and water needed by your vegetables. The safest, and unfortunately, most time-consuming method for weed control is hand pulling—preferably before the weeds get taller than two



inches. Other methods include pre-emergent herbicides and contact herbicides. The

*For winter's rains and ruins are over,
And all the season of snows and sins . . .
And frosts are slain, and flowers begotten,
And in green underwood and cover
Blossom by blossom the spring begins.*

—Chorus from "Altalanta"
Algernon Charles Swinburne

Cooperative Extension has a brochure, *Controlling Weeds*, available through the Sierra Vista or Willcox offices.

Check tree ties: Make certain your tree's vigorous spring growth is not being strangled by tree ties applied when the tree was younger and smaller. Tight tree ties not only restrict growth, they can injure bark making the tree vulnerable to disease and pests. Loosen ties and relocate them if necessary.

Control pests: Watch out for grape leaf skeletonizer towards the end of the month.

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

Cuttings 'N' Clippings

► Cochise County Master Gardeners Association meets May 5 at the Sierra Vista Library Meeting Room from 5:00 - 7:00 pm. The guest speaker will be Mark Pretti, Naturalist, The Nature Conservancy, who will have a slide presentation on the Biodiversity of Southeast Arizona.

► The 1999 Spring Xeriscape Tour sponsored by WaterWise and CCMGA will be held May 8 from 9:00 am - 1:00 pm. For details see the back page of this newsletter.

► The Sierra Vista Areas Gardeners Club will be visiting the Bisbee Mining and Historical Museum on May 7. The club meets on May 20 at the Sierra Vista Library from 2:00 - 4:00 pm. Guest speaker will be Lynn Lewis who will present a workshop on floral arranging. The annual Spring Plant & Seed Sale will be at the Lyons Flea Market, Hwy 90 on May 15.

► A Rainwater Collection - Building a Ferrocement Cistern workshop will be held May 15 - 17 just outside Bisbee on the developing 10-acre demonstration site of Sustainable Systems Support. For more information or to register call (520) 624-1673 or check out the website at:

<http://bisbeenet.com/buildnatural>

► A Garden Plant Demo Workshop will be held May 22, 9:00 - 11:00 am at U of A Plant Sciences Center. Call the Extension office in Sierra Vista for info. (free)

Robert E. Call

Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

Converting to Organic Gardening

Many gardeners have become concerned about the proliferation of chemical usage such as insecticides and fertilizers and about the long term environmental effects that may result. Nevertheless, many would be “organic” gardeners are deterred from converting their gardens either by lack of knowledge or fear that organic gardening will prove too time consuming or costly. However, anyone concerned with chemical overuse can readily convert to organic gardening methods by following these six steps:

- 1) **Choose a good garden site**
- 2) **Feed and prepare the soil**
- 3) **Select regionally adapted and problem resistant plant varieties**
- 4) **Plant, space, support and water correctly**
- 5) **Control weeds**
- 6) **Control insect and animal pests without pesticides**

If you already have an established garden site, by all means continue to use it. If not, take the time to locate an appropriate site. Selecting a poor location will cause reduced output from your garden and cause you continuous problems no matter how much life energy and money you invest in it. We would all love to find the perfect location with perfect soil but here in Arizona those places are few, if they exist at all. Nevertheless, less than perfect soil can be made much more productive and water thrifty by adding copious amounts of organic matter.

Select a garden location that is reasonably level and in full sun.

Avoiding slopes will make watering easier and more efficient. Sunny locations will enhance fruiting production of most plants. Some shade may be required for some vegetables in the high desert and should be considered when selecting a location.

Once you have selected a good gardening site, then it is time to feed the soil. This is a somewhat different concept as most gardeners are used to feeding their plants with high nitrogen chemical fertilizers.



The organic gardener, however, provides organic matter to the soil that promotes the growth of beneficial organisms which then in turn feed the plants. Care should be taken in adding organic matter to the soil. Inattention to the type of organic matter can result in the unintentional introduction of weed seeds into your garden. This is not a good thing. A good rule of thumb is to use well aged compost from a pile that you are sure has been kept at high temperature long enough to destroy the germination capability of the weed seeds in it and also never had Bermuda grass clippings added (again not a good thing).

Feeding the soil is only the first step in good soil care. The good organic gardener determines garden layout before planting so that garden paths can be determined and optimized to avoid unnecessary

compacting of soil and damage to plants as you attempt to navigate through. Also the organic gardener has to know his soil. You must know your soil's pH and mineral deficiencies so they can be corrected. This is especially important to the organic gardener as organic fixes are generally not as rapid as chemical fixes and therefore must be worked on in an on going basis.

Adjusting soil pH is relatively easy to do. Here in SE Arizona our soils are almost always alkaline. The exceptions may be old garden plots where copious amounts of organic matter have routinely been added. The regular addition of organic amendments to your soil along with soil sulfur will not only feed your soil but lower the pH into a range more conducive to plant health.

Specific nutrient deficiencies can be overcome organically also. Addition of bonemeal or gypsum can help alleviate calcium deficiencies (a primary cause of blossom end rot in tomatoes); Epsom salts can be used to overcome magnesium deficiency. Granite meal and/or rock phosphate are useful to combat phosphorous deficiency. Many of these minerals are present in our soils naturally but are inaccessible to plants oftentimes due to excessive alkalinity. Lowering the pH many times will allow plants to acquire the minerals they need. If in doubt, contact the Cooperative Extension office for information as to where you can send soil samples for testing.

Next provide appropriate care for each plant variety. Plants that are overfed/underfed, overwatered/underwatered, choked by weeds, or inappropriately planted (*i.e.* too much/too little sun) are stressed plants. Once again that is not a

(continued on next page)

good thing. Choose varieties of plants appropriate to our climatic conditions and your garden location's microclimate. It may be a brilliant glimpse of the obvious to some but escape others as to why certain plants are inappropriate to grow here. If in doubt, ask other gardeners in your area about their experiences. Once you have selected appropriate varieties for our high desert climate, plant them at the right time of year (*i.e.* don't plant cool season crops in June and expect success).

Next you need to control weeds. Weed removal is essential as they rob nutrients and water from the soil that your plants need to thrive. The most effective and environmentally sensible means is simply to hand pull. Keeping on top of this chore will minimize the amount of time and effort required. This is a good thing. Since seeds need light to germinate, application of a thick layer of mulch around seedlings will minimize weed sprouting. A variety of materials can be used such as, shredded bark, leaves, old newspapers, compost, etc.

Information on organic methods of insect and disease control was previously discussed in last month's newsletter in an article entitled *Minimizing Pesticide Usage*.

This has been a rather simplistic overview of converting to organic gardening methods. There are many excellent books on organic gardening available in bookstores and in local libraries. In addition, there are many organic gardeners in our local area who would be happy to share their wisdom and experiences with you. In conclusion, dare to be unconventional and give it a try. The Earth will thank you.

John Phillips
Master Gardener

Mystery Solved!

The thief is caught! The problem with the cacti disappearing at the U of A Plant Science Center is solved. The White-throated wood rat, better known as the pack rat (*Neotoma albigula*) is the thief.



The pack rat builds its house of sticks, twigs, cactus joints, animal dung, and assorted debris, and often built within a prickly pear cactus patch. When night brings cooler temperatures and higher humidity, pack rats emerge to forage for mesquite beans, cholla buds, and prickly pear fruit, palo verde seeds, and other plant material. If there is one pack rat, you can be sure there is another! Any ideas as to how to solve this problem?

Maxine Walker
Master Gardener Associate



Stressed Wildland Trees Predict a Dry and Fire-filled 1999

Wildland stressed trees are predicting both a very dry summer and a long fire season for 1999.

This spring, stressed trees seem to be in one of two weather-related categories:

1) Many home gardeners are aware that the leaves of their fruit trees have been affected due to recent cold conditions;

2) Most people are unaware that the wildland trees, manzanita and oak, for example, are losing leaves due to a lack of water, stemming from inadequate winter moisture.

Local U.S. Forest Service officials believe that our wildland areas are in for a bad fire season as a result of the winter moisture problem. In fact, some individuals believe, "1999 may be as dry as the 1958 season, a very bad season seen 40 years ago," said Bill Wilcox, Fire Management Officer (FMO), Sierra Vista Ranger District.

Recent snows have not made up for depleted winter moisture levels. As a result, wildland trees have been showing evidence of dry conditions as early as March of this year which aren't normally exhibited until June. To compound the situation, high winds have pulled out much needed soil moisture.

Continue to mulch your home trees and plants. Be thankful for your drought-tolerant vegetation.

Will summer rains reverse the dry conditions? First, the summer rains have to arrive. Late July and August will be months in which to anticipate precipitation, if the rains are to appear at all this summer.

For now, the use of "common sense" in areas where combustible dry vegetation is located (with the use of campfires and smoking materials), will prevent most fires. Don't try a "controlled burn" unless you have a burn permit from your local fire department.

Home hazard/fire prevention inspections are available free of charge from the U.S. Forest Service, Sierra Vista Ranger District (for an appointment, phone Mary Dalton, 378-0311). Also, local fire departments may offer similar inspections.

Peggy Dierking
Master Gardener

The Agent's Observations

Q I have an Arizona ash and a fruitless mulberry tree that have leaves that turned dark green, drying up, dying, and falling off the tree. Is there a virus that is affecting shade trees.

A No there is not a virus that affects trees in the manner that you described. It sounds as if the recent frost that has occurred may have frozen the tender tissue of the leaves. Many times the newest leaves will be injured by frost. The older leaves are more developed and hardier and do not freeze. Trees will produce new leaves from secondary buds and they will help replace those injured from frost. In the middle of the summer the injured leaves will not be missed.

Q The cottonwood in our back yard has several limbs that are dying in the center of the tree. It is growing in a fescue lawn. What is causing this to happen?

A Cottonwood trees are native to rivers, streams and washes in Arizona. They require a lot of water. You need to water the lawn and then deep soak for the cottonwood tree. If you water shade trees with only the 1 to 2 inches of water per week required by the lawn you will not supply the 3 to 6 inches of water per week that large trees will need. This is because lawn roots are primarily in the first foot of soil. The majority of tree and shrub roots will be in the top two to three

feet of soil. During the hot summer weather trees will extract large amounts of water from the soil each day. Shallow watered tree roots will tend to be closer to the surface of the ground. However, the genetics of the tree has a lot to do with the depth of rooting. I have known of several cases where the tree roots have grown up to the soil surface and the owners cut the roots out so they would not have to run over them with the lawn mower. By doing this you sever the roots that uptake nutrients and water to specific limbs of the tree causing them to die.

*Robert E. Call
Extension Agent, Horticulture*

What is Xeriscape?

A free xeriscape class is offered by the WaterWise program through Cochise College's non-credit program, May 6, 6:00 - 8:00 pm. Call the Sierra Vista Extension office for more information.

THE VIRTUAL GARDENER- Xeriscape Principles

The Weed Warrior is taking R&R this month but will be back ready for action next month. In the meantime, I thought those of you who will be attending the WaterWise/Cochise County Master Gardemers Association Xeriscape on tour on May 8 might like a quick review of what xeriscaping is all about.

The term *xeriscape* was coined by the Water Department of the City of Denver, Colorado in 1981. The word combines the Greek word *xeros*, meaning *dry*, with the English word *landscape* and refers to landscaping techniques for conserving water. There are seven principles for creating a xeriscape:

1. Plan and Design. In xeriscaping, as with almost every other endeavor, a good plan is the key to success. A xeriscape design is centered around a concept of grouping plants in zones according to their water requirements. High water users are clustered close around the house in a mini "oasis." Surrounding the oasis is a zone comprising plants of intermediate water requirements, and at the farthest extremes is a zone containing the plants with the lowest water requirements.

2. Create Practical Turf Areas. Turf is the largest consumer of water in most yards. Turf areas are minimized in xeriscapes.

3. Use Appropriate Plants and Zone the Landscape. This should be obvious. Xeriscapers like to use native plants in their gardens and yards because they are adapted to the local climate.

4. Soil Improvement. The xeriscaper improves the water retention properties of the soil by adding lots of organic material.

5. Use Mulches. Organic mulches such as straw, bark or compost, or inorganic rock mulches trap moisture and keep the soil cool to minimize losses to evaporation.

6. Irrigate Efficiently. Use drip irrigation wherever possible to cut down on water usage.

7. Maintain the Landscape Appropriately. Once you have installed your xeriscape, check it periodically to make sure it is doing what you intended. Be sure to check your irrigation system for leaks.

For on-line information on xeriscaping search Alta Vista or any of the other search engines or meta engines for the term "xeriscape." For an extensive list of books covering xeriscaping and related topics, try:

<http://www.greenbuilder.com/institute/resources/landpub.html>

Enjoy the garden tour!

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1999 Spring Xeriscape Garden Tour

sponsored by

WaterWise & Cochise County Master Gardeners Association

Saturday, May 8

9:00 am – 1:00 pm

This year there will be five landscapes on display!

Each landscaped area has special and unique features: a challenging small steep sloped area which incorporates berms and many colorful plants; a return visit after 2 years to a classic three-zoned xeriscape yard (mini oasis, transition zone and desert zone); and three newly xeriscaped yards; one with a formal front area incorporating different colored gravels for distinction accented by ocotillos, a naturally landscaped desert yard utilizing many native plants, boulders, and contours, and the third new yard featuring several hidden "sumps" to recharge excess rainwater. Guides will be at each stop to describe the plants and designs.

For a tour map call the Cooperative Extension office in Sierra Vista at 458-8278, Ext. 141 or stop in and pick up a map before noon May 7.