High on the Desert Cochise County Master Gardener Newsletter

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

Reining in Landscape Costs

In a time of tight family budgets, one of the first areas that gets cut is landscaping. However most realtors will tell you optimally a home's landscape (both hardscape and softscape) should represent approximately 10-15% of your home's total value. So cutting back too severely on landscaping can seriously negatively impact your home's resale value. It can also make you the object of the neighborhood's scorn. So, unless you enjoy being the subject of derision or just like that trashy chic "natural" look—spending time and a few bucks can pay big dividends both aesthetically and financially.

Nevertheless, having great landscaping does not have to drain one's bank account. With just a little hard work, creativity, and compromise you can have a great looking landscape. Some of the most beautiful landscapes are not budget-busting creations.

One of the first things you need to do to control costs is to develop a landscape plan. Planning will save a lot of time, avoid future headaches, and save big bucks. There are many resources available at the local library on basic landscape design. You can also hop in the car, drive around, and get ideas from your neighbors. Don't be afraid to inquire if you see a particular feature or plant that you admire. Most gardeners are eager to give advice, or seeds/plant shoots if you ask.

Once the plan is developed, look at it critically to seek areas where economies are possible. Doing the landscape project in stages may make it possible for you to take advantage of seasonal sales at nurseries/landscape supply centers and search the internet, catalogs, and local sources for supplies (you might even find possible substitution for more expensive options, or make

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Cuttings 'N' Clippings

❄ The next CCMGA meeting is 5:00 p.m. Thursday, April 7, 2005 at the University of Arizona South campus, Room 503.

❄ The free *Water Wise* Workshop on Saturday, April 2, from 9:00 to 11:00 a.m. at the University of Arizona South campus will be presented by Penny Artio called *Build a Drip System.* Drip systems are not maintenance free and can waste a lot of water. Participants will be outside to build, maintain, and repair a drip system. Bring a hat, water, and wear work clothes. For more information contact Cado Daily at the Cooperative Extension, Ext. 2139.

❄ Cochise College is offering another Pond Building and Maintenance Class, Saturday, May 7, 2005, 1:00—5:00 pm. For more information, call 515-5446, Instructor will be Angel Rutherford.

Correction: Rob Call was selected to work with the farmers in Tajikistan last fall—not the Republic of Georgia..

Robert E. Call

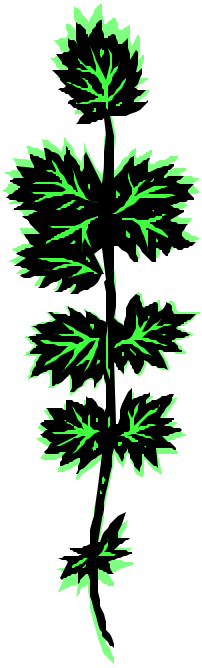
Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

In a Desert Garden

Mediterranean Herbs

Most of the herbs that do well in our High Desert are native to the Mediterranean. These are all very tough plants that can take abuse. They accept poor soils, salt, drought, and heat. In their native habitat they grow on rocky cliffs, close to the sea line, touched by the salty tide in hot sun, and with very little rainfall.



One of the first to come to mind is Rosemary. When I lived in Europe, I used to spend my summer vacations in Corsica, an island in the Mediterranean Sea. In those days I used to scuba dive and the waters around that island had a lot to offer. The sea is fairly rough and there are lots of sunken ships to visit. By the way, Corsica is the birthplace of Napoleon. There I fell in love with Rosemary—*Rosmarinus*. This plant is very easy to grow here and widely used. Mostly grown here are the upright and the prostrate variety. I love Rosemary for the spicy smell and the lovely true blue flowers that bloom in a season when very little does—winter.

Another plant I admired on my visits to this lovely rugged island is Myrtle—*Myrtus communis*. This plant is used in the Corsican kitchen, and in Germany we like to use it in bridal bouquets. The Catholic Church uses this herb dried as incense.

The herb I like most is Lavender—*Lavendula*. There are many varieties, but not all of them are hardy enough for our freezing winter nights. This plant is grown in abundance in the South of France. I have visited the Lavender farms where these plants are grown for the perfume industry. It is hard to describe the fields and fields of beautiful color and fragrance. Lavender plants need very good drainage and are not long lived. After a few years they get woody and leggy and need to be replaced, but it is sure worthwhile to grow them. My French Lavender does self-seed quite freely and I always have some growing somewhere. My all-time favorite is Fern leaf Lavender—*Lavendula dentata*. It is not winter hardy, so I grow it in a pot. It has been blooming all winter long. On cold nights I cover it. Two very good varieties for our area are English and Spanish Lavender.

The next herb is Calendula or Pot Marigold—my mother's favorite flower, and also a Mediterranean native. My mother used to dry the flowers and then make a broth to rinse her hair with it. I lost my mother many years ago, but Calendula has always stayed with me. I bring the seeds with me whenever I move. It was blooming in my yard this January. Calendula petals can be used as a substitute for the very expensive saffron. Saffron gives rice that nice yellow color. The flowers are very pretty and look like yellow daisies and the plant is drought tolerant.

Next month I will discuss a few more Mediterranean herbs.

Reining in Landscape Costs cont'd

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changes while it is still possible to avoid expensive after-the-fact redesign projects).

I try to use readily available natural sources of materials to minimize costs and maximize the more bang for my buck. Here is where a little creativity and imagination can pay big dividends. For example, I have used a lot of natural rock in my landscape for borders and ground cover. These are generally easy to obtain and give a great natural look to the southwest garden. I have also used nursery pots in lieu of expensive pottery. I find that the nursery pots will far outlast pottery, and with a little plastic paint and imagination, look great. I have also incorporated other natural (free) materials such as Manzanita wood and cactus spines.

Be creative in looking for free or low-cost sources of plant materials. WARNING: Never, ever remove native flora without checking/securing proper permits. Arizona has very strict laws to protect native flora. Don't risk a severe fine or jail time by violating the law. Seed gathering is usually not restricted. Additionally, most gardeners are happy to share seeds or plant starts—all you have to do is ask. For example, to start a Cholla or Opuntia all you need is a single pad—throw it on the ground and voilá—you have a cactus! To start Ocotillo all you need is a mature piece of Ocotillo wood. I usually just take the Ocotillo stick and put it in some pumice and water it occasionally. Within a few months, I have a new Ocotillo at no cost, to move into the garden. There are many many other plants both native/adaptive and non-native that are very easy to start. Again a warning—it is a violation of federal law to propagate patented plants by asexual means.

Another way to save lots of money is to select plants appropriate to the landscape. Trying to make your little piece of the High Desert look like Vermont or Ohio will cost megabucks and ultimately fail. Always select plants that will thrive in our environment. If in doubt, check with local nurseries, fellow gardeners, the Cooperative Extension, or just look around the local landscape. If you don't see a particular plant in the area, its a good bet it won't grow satisfactorily here. Remember, this isn't Tucson or Phoenix! Many plants in those locales will NOT grow here. Always consider location when selecting plants. Ask yourself if the plant you have selected will thrive in the particular microclimate in your landscape. Note that I used the word thrive vice survive. Do you REALLY want to fight Mother Nature and drain your pocket book trying to grow plants that nature never intended to be in this environment?

In addition, selecting native or adaptive plant material will save time and money where supplemental watering is concerned. As population increases, pressure on the aquifer will increase resulting in price increases to support new infrastructure and to promote conservation. Don't think that if you have a private well that you will be immune. We all draw from the same water source and if the water table declines, you will have to shoulder the cost of drilling deeper for water. Also few hand pump water so the cost of electricity must be factored in.

These are just a few thoughts about having a beautiful High Desert friendly landscape without a one-way trip to the poor house. I am sure many of you have suggestions on how to economize on landscape costs. Let us hear from you.

John L. Phillips, Master Gardener

Xeriscape Tour

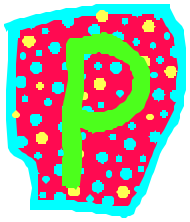
The free Spring Xeriscape Tour sponsored by *Water Wise* and the Cochise County Master Gardeners is scheduled for Saturday, May 7. Tour maps will be available from the Cooperative Extension office in Sierra Vista (520) 458-8278, Ext. 2141, about the middle of April. Visit these yards and see how much choice you have in creating your very own water wise yard!

April Reminders

- Stake new trees
- Plant cool season veggies
- Fertilize
- Prepare for pests

The Virtual Gardener—Garden Chemistry II

Last month we looked at nitrogen and its effects on plant growth. This month we will take a look at the second element in the NPK triad—phosphorus (chemical symbol *P*).



Although plants do not require phosphorus in the same quantities as nitrogen, they cannot live without it. It plays an important role in gluing together the components of deoxyribonucleic acid (DNA) and ribonucleic acid (RNA), the substances that carry genetic information in all living things. It allows plants to convert sugars to energy which can be used to assemble proteins and other complex molecules. And it plays an important role in controlling the movement of chemical substances across cell membranes.

We noted last time that plants are immersed in an atmospheric sea of nitrogen that they can't directly use. A similar situation applies to phosphorus but for a different reason. Although phosphorus is the eleventh most abundant element in the crust of the earth, it is difficult for plants to get enough of it from the soil because much of it is tightly held in relatively insoluble phosphate ($-PO_4^{--}$) salts of calcium (Ca^{++}), iron (Fe^{++}), and aluminum (Al^{++}). Since the form in which plants absorb phosphorus is as $H_2PO_4^-$ or HPO_4^{--}, the salts need to be dissolved in order to make the phosphorus available to them. In the alkaline soils that are common in our area, much of the phosphorus is held in calcium compounds which is more soluble, and therefore more available to the plants, than the iron and aluminum salts that form in more acidic soils.

Just as there are some bacteria that can extract nitrogen from dead organic matter and convert it to ammonia, there are also *phosphatizing* bacteria that extract phosphorus from dead organic matter in the soil. This provides another source of phosphorus for plants.

Plants have the highest requirements for phosphorus right after germination when it promotes the growth of shoots and roots and also during the formation of fruits and seeds. The chemical fertilizers sold as bloom enhancers are high in phosphorus. For example, one such fertilizer I use has a composition of 10-50-10, indicating that 50 percent of the weight is P_2O_5, while only 10 percent of the weight is nitrogen. Note that the percentage reported here is not for elemental phosphorus but P_2O_5.

How can you tell if your plants are deficient in phosphorus? Since phosphorus requirements are high during germination and initial growth of a plant, stunted shoot and root growth is one symptom you might observe or shoots that are weak and spindly. Maturity, especially the formation of flowers and fruits may be delayed or substandard. The leaves can also provide clues to a phosphorus deficiency. They can take on a purplish color, especially on the undersides and in veins and stems, and the tips may look burned.

I mentioned last time that the three numbers on a fertilizer container tell you the percentages by weight of nitrogen, phosphorus, and potassium in the fertilizer. To determine the amount of phosphorus (actually P_2O_5) in a quantity of fertilizer multiply the second of the three numbers by the weight of fertilizer and divide by 100. For example, 5 pounds of the bloom promoting fertilizer I mentioned above (10-50-10) contains (5 X 50)/100 = 2.5 pounds of P_2O_5.

To learn a little more about plant nutrition and phosphorus, check out the following Web sites :**http://www.ext.colostate.edu/pubs/garden/07730.html**

http://cecommerce.uwex.edu/pdfs/A2520.PDF

Until next time, happy surfing

Gary A. Gruenhagen, Master Gardener
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Gardeners know the best dirt!

Rainwater Tank Installation and Painting Party

Help install a 1,550 gallon polyethylene water tank in the Plant Sciences Center's Demonstration Garden on April 16 from 10:00 am to Noon. Bring a hat, water, and wear work clothes. Location: UA South, 1140 N. Colombo Ave, Sierra Vista. For more information call 458-8278, Ext 2141.

The Agent's Observations—Curtis W. Smith, Ph.D.

NMSU Extension Horticulturist Specialist, Guest Author

Olla Gardens

This article is a recap of my presentation at the 2005 Sierra Vista "High on the Desert" Conference. Many of the gardeners attending the conference expressed a desire to use the olla garden concept.

Irrigation of plants by means of ollas, unglazed pottery jars, is an ancient practice. It was brought to the American Southwest by Spanish settlers and adapted to local gardens by Native American gardeners as well as by the Spanish settlers.

Over time, modern irrigation systems were adopted, but these modern systems are not as efficient as irrigation by seepage from buried ollas. Modern systems, even surface drip irrigation systems loose more water to evaporation and more likely to clog than ollas. When ollas are used properly, plant roots will proliferate around the moist clay jar, intercepting water before it can move through the soil by capillary action. This water intercepted by plant roots will then be used in the plant transpiration stream. This results in almost 100% of applied irrigation water being absorbed by the plants.

Olla irrigation solves problems for gardeners who cannot irrigate frequently. Ollas allow gardeners who travel as well as gardeners whose irrigation frequency is limited by water conservation ordinance to irrigate infrequently while still maintaining the health and beauty of their garden plants.

Proper plant and olla selection is important. Woody plants may break the pottery jars as their woody roots grow in diameter. Herbaceous plants are less likely to damage ollas. Olla porosity, size, and shape must be matched to plant water needs, root size and root distribution. Deeply rooted plants benefit from deeper ollas, shallow rooted plants are more efficiently irrigated with shallow ollas. The diameter of the olla may also be chosen to match the diameter of the plant cluster. Shallow, broad, ollas will provide adequate irrigation for clumps of grasses and annuals,

Olla plantings should be planted in clusters to maximize water use efficiency. While the planting group may be of one plant type, mixtures of grasses, annuals, biennials, and perennials may also be planted around a single buried olla. Mixtures of plant types may be used to create a more natural landscape. The olla clusters may themselves be clustered to create more expansive or linear plantings.

The olla pottery may become a decorative element in the landscape along with large rocks and flagstones. Portions of olla left exposed above ground should be treated to prevent evaporation.

To modernize these ancient irrigation systems, the jars may be

recharged by a drip irrigation system, timed and sized to replace water lost from the ollas. Recharge of ollas may be done daily, or as frequently as allowed by water conservation ordinances.

Some gardeners make ollas from plastic bottles pierced by pin holes to allow slow leakage of water. When buried near the plants to be irrigated they serve well as ollas, however, the plastic breaks down quickly if exposed to sunlight and should be covered with flagstone or other material to protect from sunlight.

In the search for ollas to irrigate woody plants and trees we are experimenting with porous concrete ollas reinforced with plastic or metal mesh. The recipe for a porous concrete will be the subject of a follow-up article next month.

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High on the Desert

Our 12th Annual High Desert Gardening & Landscaping Conference has come and gone. From all reports everyone had a great time and learned so much. It is with great pleasure that we say, "Thanks! Job well done!" to all the dedicated volunteers of the Cochise County Master Gardeners Association!

Special thanks to our sponsors:

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A great big THANK YOU! We couldn't have done it without you!

Committee chairpersons and CCMGA Members who gave so much of their time, energy, and talents to make it all work: Conference Coordinator: Charlie Narburgh; Finance Committee: Emily Boyd; Publicity Committee: Penny Artio, Kunie Kummer; Program Committee: Rob Call, Linda Dempsey; Sponsorship Committee: Penny Artio, Angel Rutherford, Cathy Schneider, Peggy and Deke Descoteaux; Registration Committee: Dave Crandall, Dave Barry, Peggy and Deke Descoteaux, Karen LeMay; Facilities Committee: Wes Culp, De Lewis; Artist: Joan Wakefield, and the Cooperative Extension Staffs in Sierra Vista and Willcox.

Thanks to all of you!
YOU made it happen!

Master Gardener