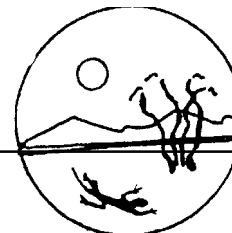


High on the Desert

Cochise County Master Gardener

Newsletter



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

What I've Learned About Landscaping— A Tale of Two Landscapes

Landscape #1: This was a friend's yard. The back yard was flourishing while the front yard looked like a bomb hit it. So I hauled out my "high-tech" soil penetration kit. Fellow Master Gardener, Gary Gruenhagen, wrote about this nifty device in the May 2000 Newsletter for using it as a portable drip system. It's great and I use it all the time, but it also does double duty to test soil penetration rates. It consists of a one-gallon drip emitter attached to a 24 inch long piece of ¼ drip irrigation tubing poked into the bottom of a one-gallon plastic milk jug. Fill the jug up with water, elevate it on a 5-gallon nursery pot, and let the water drip onto dry soil in the garden area. In about 1½ hours go out and probe the spot. This is an easy way to calculate the approximate depth that one gallon of water will penetrate!

The back yard soil test result: one (1) gallon of water penetrated 8 inches of soil. The front yard soil test result: one (1) gallon of water penetrated 2 inches of soil.

The different soil structures at each site indicate the need for tailored irrigation schedules. Despite the fact both yards were receiving the same irrigation schedule, it is not surprising that the back yard had the healthiest looking plants due to the fact that the penetration rate was deeper and promoted a healthy, well-distributed root system. The front yard penetration rate was low resulting in a shallow root system, an unstable plant, and wasted water.

Solution: Irrigate the front yard longer to the rooting depths the plants require or transplanting some of the healthier looking plants to the back yard and replanting the front with super-hardy, poor soil loving plants. The owner chose the latter, cut off the irrigation system to the front yard, and has been in love with their landscape ever since!

Landscape #2: This was at a local apartment complex. Let me add here that Master Gardeners do NOT make house calls. This one came into the office as a distress call because their *Leucophyllum* plants (Texas Rangers) were dying rapidly. The office knows of my fondness of Texas Rangers and directed the call to me.

Penetration rates at this site were good—about 11 inches for a gallon of water. Plant selection was predominately evergreen with Indian Hawthorn, Mock orange, Desert Spoon, Texas Ranger, Rosemary, Ash, and Oak trees. If you read my article on Xeriscape Zones then you might have already diagnosed the problem. Texas Rangers do not like their roots very wet and were dying of root rot. A classic case of a Zone 3 plant in a Zone 2 non-desert watering situation. To compound the problem they had been planted next to the building walls and were being continually pruned to keep them hedge-like and under the windows.

(continued on next page)

Cochise County Cooperative Extension
www.ag.arizona.edu/cochise/mg/

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(520) 458-8278, Ext. 2141

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(520) 384-3594

Solution: Because many of the Texas Rangers had died or were on their way out it seemed silly to replant although it could have been done and irrigation to these plants cut off. Instead it was decided to remove the rest of the Rangers and replant with Redtip Photinia (*Photinia fraseri*), which is more adapted to the Zone 2 non-desert watering schedule, tolerates being trimmed into hedges, and more importantly will be more aesthetically pleasing to the existing landscape.

The owners also had concerns about the entire irrigation system. The run time was 2 hours once every two weeks, 22 inches of irrigation depth for one-gallon emitters. The trees and annual bedding garden were not thriving. The trees were showing signs of stress from underwatering, had to be stabilized with stakes to keep them from falling over in winds, and had been severely attacked by aphids. The annual flower garden, well it was dead. Everything was connected and run on one irrigation line system. The annuals needed to be watered every 3-5 days, the shrubs were doing fine, and the trees would have benefited from a deeper AND wider irrigation.

Solution: Expand the drip emitters for the trees to the drip-line and increase the amount of emitters and volume output. Wetting the drip-line root zone will encourage the tree roots to spread out and give it a chance to stabilize itself. Since the idea of using soaker hoses attached to a garden hose that would run across the greeting area and parking lot to reach the annual garden was out of the question, the annual bed concept was abandoned and the area planted with low growing ever-

January Reminders

- ✓ Winter pruning
- ✓ Remove old mulch/replace
- ✓ Dig tree holes
- ✓ Prepare soil for spring
- ✓ Water periodically
- ✓ Stratify seeds
- ✓ Fertilize asparagus
- ✓ General garden clean-up

green shrubs that would do well with a Zone 2 irrigation schedule.

An irrigation system layout problem is something that I see over and over again. The solution is in the design phase. Ideally separate irrigation lines should be installed for the following:

- ▶ Turf (12 inch irrigation depth)
- ▶ Vegetables (12 inch irrigation depth)
- ▶ Annual bedding plants (12 inch irrigation depth)
- ▶ Desert drought tolerant plants (plants are adapted to our climates – requires less irrigation)
- ▶ Non-drought tolerant plants (plants are NOT adapted to our climates – requires more irrigation)

Due to the different irrigation depths for both desert and non-desert plants, separate irrigation zones should be considered for:

- ▶ Trees and very large shrubs (36 inch irrigation depth)
- ▶ Perennial Flowers and Shrubs (24 inch irrigation depth)

Remember, plants don't waste water—people do. Design your system to irrigate the landscape efficiently and save time, energy, and water!

For more information see the Arizona Master Gardener Manual chapter on irrigation at

<http://ag.arizona.edu/pubs/garden/mg/irrigation/index.html>

At the Seventh Annual High Desert Conference, February 2000, Donna DiFrancesco, Water Conservation Specialist, presented a seminar on “The Mysteries of Landscape Watering” with an excellent handout. Please stop by our Sierra Vista office to pick up a copy.

Next time: Got Mulch? – what is the difference between mulches and soil amendments and how to use them.

*Cheri Melton
Master Gardener*

Cuttings 'N' Clippings

◆ Cochise County Master Gardeners meet the first Wednesday of each month at the Sierra Vista Library.

◆ Remember! The High Desert Gardening & Landscaping Conference is February 15 & 16 at the Lakeside Activity Centre, Ft. Huachuca. Registration forms are in this newsletter and on our web site. Hurry and register early as space is limited and avoid late fees! There will be no registration at the door.



Robert E. Call
Extension Agent, Horticulture
Carolyn Gruenhagen
Editor

Full Conference:

\$60.00

Includes both day sessions,
2 breakfasts, 2 lunches,
& closing reception

One Day:

\$40.00

Includes one day sessions,
1 breakfast, 1 lunch,
& closing reception, if Friday

Register by February 2, 2001
to avoid late charge

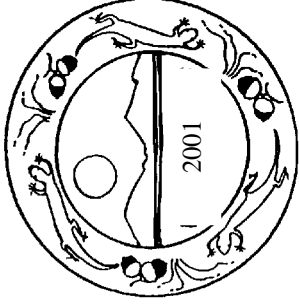
(\$70.00 full - \$45.00 one day)

**Pre-Registration required—
due to space limitations
there will be no registration
at the door.**

Sun Canyon Inn, Sierra Vista
(located just outside the
Main Gate of Ft. Huachuca)
is offering special room rates for
conference participants.

Please make reservations with
Sun Canyon Inn (1-800-822-6966)
and ask for special
Master Gardener Conference
rate before February 1, 2001.

High on the Desert



**Eighth Annual
High Desert Gardening
&
Landscaping Conference**

**February 15 - 16, 2001
Lakeside Activity Centre
Ft. Huachuca, AZ**

Sponsored by:

Cochise County Master Gardeners
Association in conjunction with
The University of Arizona
Cooperative Extension

Cochise County Master Gardeners Association
1140 N. Colombo
Sierra Vista, AZ 85635

High on the Desert

Date _____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Full Conference \$60.00

Thursday & Friday
(After February 2, \$70.00)

One Day \$40.00

Check 1: _____ Thursday _____ Friday
(After February 2, \$45.00)

Amount Enclosed _____

(No refunds after February 2, 2001)

Please make check payable to: **CCMGA**

Mail to:

CCMGA

1140 N. Colombo

Sierra Vista, AZ 85635

To help with our planning, indicate preference for each session - this is very important this year!

	I	II	III	IV	V	VI
A		A	A	A	A	A
B		B	B	B	B	B
C		C	C	C	C	C

Handicap access for steps to dining room

will be provided

_____ **I will need handicap assistance**

For information call:

The U. of A. Cooperative Extension Office
Sierra Vista, AZ (520) 458-8278, Ext. 2141

2001 Conference Program

Thursday, February 15

7:30 - 8:45 am Registration & Breakfast

8:45 - 9:00 am Welcome

9:00 - 10:15 am General Session

Tricia Gerrodette, *Birds, Gardens, and the San Pedro River*

10:30 - 11:30 am Session I

A. Jan Groth, *Basic Desert Gardening A to Z**

B. Bill Fowler, *Native Seeds/SEARCH, Seed Collecting & Gardening*

C. John Miller, Ft. Huachuca Forester, & Cheri Melton, *Landscape Mistakes*

11:30 - 11:45 pm Exhibits

11:45 - 1:15 pm Lunch, Door Prizes & Exhibits

1:30 - 2:45 pm General Session

Sandy Anderson, *Critters in the Garden, Snakes in the Squash, Birds in the Beans . . .*

3:00 - 4:00 pm Session II

A. Angel Rutherford, *Houseplant Basics**

B. Jason Jomilonis, Executive Chef, Westward Look Resort, Tucson, *Gardening & Cooking with Herbs*

C. Jane Livingston, *Let's Talk Trash*

4:15 - 5:15 pm Session III

A. Sherri Wooldridge, *Basic Flower Arranging**

B. Kazz Workizer, *Wildlife Habitat Gardening*

C. Rob Call, *Pest Control in Fruit Trees*

*Denotes Basic Gardening Session

NOTE: ALL SPEAKERS, TOPICS, AND TIMES SUBJECT TO CHANGE WITHOUT NOTICE

Friday, February 16

7:30 - 8:45 am Registration & Breakfast

8:45 - 9:00 am Welcome

9:00 - 10:15 am General Session

Cecile Lumer, Ph.D., Research Associate, Missouri Botanical Garden, *Garden Pollinators*

10:30 - 11:30 am Session IV

A. Cheri Melton, *Soil Probes, Xeriscape Zones, & Plants, OH MY!**

B. Jim Koweek, *Native Grasses for Revegetation*

C. John White, Extension Agent, Dona Ana County, NM, *Drip Irrigation in Landscapes*

11:30 - 11:45 pm Exhibits

11:45 - 1:15 pm Lunch, Door Prizes & Exhibits

1:30 - 2:45 pm General Session

Ronnie Sidner, Ph.D. Bat Biologist, Tucson, AZ, *Bats in Your Garden*

3:00 - 4:00 pm Session V

A. Chris Jones, Extension Agent, Gila County, *Basic Tree Care**

B. Eric Clark, Civano Nursery, Tucson, *Landscaping With Native Plants*

C. Cado Daily, Water Wise Educator, *Water Harvesting, Swales, & Basics*

4:15 - 5:15 pm Session VI

A. Payton Charnack, *Organic Gardening**

B. Tom DeGomez, Ph.D., Extension Agent, Coconino County, *Pests of Native & Exotic Plants*

C. Peter Gierlach, *Just Glad to be Here: Stories and Songs from the Banks of the Ol' Guajolote*

5:30 - 7:00 pm Reception

The Virtual Gardener— USDA Hardiness Zones

Cold hardiness is a characteristic of all plants. Some plants tolerate—or even like—cold temperatures, but all plants die when the temperature drops below a certain minimum. If we are going to be successful with our gardens and landscapes, we must know the cold hardiness of the plants we select and not fight Mother Nature by attempting to grow plants that are not suited for our area. One of the tools we have available to guide us in selecting perennial plants is the Plant Hardiness Zone Map put together by the United States Department of Agriculture.

The USDA Plant Hardiness Zone Map was first created in 1960 under the supervision of Henry T. Skinner, then director of the U.S. National Arboretum. Since winter hardiness was chosen as the most critical factor for plant survivability, the basic concept of the map was to divide the United States and southern Canada into ten zones based on 10 degree Fahrenheit differences in average annual minimum temperatures. The lower the number, the colder the climate. For example Zone 1 has minimum temperatures of -50°F and below while Zone 10 has minimum temperatures of $+30^{\circ}\text{F}$ and above. Plants were classified as suitable for different zones on the basis of their ability to thrive in a zone, not just to survive.

The map was revised in 1965 and again in 1990. The current version

covers all of Canada, the United States, and Mexico and is based on temperature data from nearly 8,000 reporting stations. Average minimum temperatures for the United States and Canada are based on data covering the period 1974 to 1986. Averages for Mexico are based on data covering the period 1971 to 1984. The original map included 10 zones. The latest map introduced an 11th zone representing areas that are totally frost free. And finally, the current map subdivides zones 2 through 10 into subzones *a* (lower temperatures) and *b* (higher temperatures), representing 5 degree Fahrenheit differences

In using the USDA plant hardiness zones, gardeners should realize that there are other factors that determine the health and survivability of plants besides minimum temperatures. In this area we should also be especially concerned with water requirements, soil pH, maximum temperatures, and total radiation as well. Nevertheless, these other factors can be controlled much easier than the low temperatures our plants are exposed to on cold winter nights.

Most areas in Cochise County fall into USDA Zones 6 (-10°F to 0) and 7 (0 to $+10^{\circ}\text{F}$), although mountain areas may be colder. Sierra Vista is in Zone 7 while Bisbee is in Zone 6. Depending upon where you live, look for plants that are rated for your zone or colder.

Zone ratings for plants are often found in plant references and sometimes on the tags on plants in the nursery. When checking these for hardiness, you should be aware that Sunset Publishing Company has also developed a zone rating system (more about that in a future article) and the numbers do not correspond to the USDA zone numbers. Most of Cochise County is in Sunset Zone 10. In fact, the two rating systems are based on different criteria and cannot be compared. The USDA numbers tend to be more widely used than the Sunset numbers. You may also find the hardiness listed as a minimum temperature for a plant.

One of the biggest mistakes made by newcomers to this area is to trust that any plant sold by stores here is suitable for growing here. This is definitely not the case. I have seen outdoor perennial plants for sale here (in a store that shall remain nameless) that were rated for minimum temperatures of only $+40^{\circ}\text{F}$! So, a word to the wise is to remember your USDA hardiness zone and check the hardiness of every plant you intend to buy before you buy it.

If you would like to read more about the USDA hardiness zone system and see on-line copies of USDA hardiness zone maps, check out the Web site for the National Arboretum at: www.ars-grin.gov/ars/Beltsville/na/hardiness.

Until next time, happy surfing.

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

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Address Correction Requested

“Toto, This Isn’t Kansas!”

“What is this place I have just made my home and what was I thinking when I decided to move to the moon? The soil (if you can call it that) isn’t anything like I’m used to, and I like cacti, but can I grow anything else?” These may be some questions you are asking yourself if you, like many in the Sierra Vista area, moved here from a completely different climate. If so, “Toto, This Isn’t Kansas” may just help you out.

This second in a monthly series of workshops from the Water Wise program will focus on the high desert and what makes it unique. Cado Daily, a water conservation educator, will be presenting and knows what it

is like to move to this climate from a completely different one. Cado grew up in New England and moved to this corner of the state 18 years ago.

This workshop will help you become familiar with many elements concerning landscaping and gardening in this high desert. Average temperatures, precipitation rates and frost dates will be some of the topics covered. There will be soil maps available for participants to use to locate their specific soil type and to identify the depth of rooting, caliche content, and pH.

Native plants and their attributes will be discussed for those who would like to include the natives in with their landscape design or just to know what “that green thing” is in their back yard. Sonoran desert

plants and Chihuahuan desert plants will be compared, shedding some light as to why you can’t plant everything you see at Home Depot in Tucson.

This hour-long workshop will be held Saturday, February 3 from 9:00 am to 10:00 am at the University of Arizona South, 1140 N. Colombo, Sierra Vista (behind Cochise College) in room 108. This is the second in a year long series of monthly workshops. Other sessions will include Xeriscape, Irrigation, Plant Selection, Water Harvesting, and much more. For a full schedule contact the Water Wise Program at 458-8278, Ext. 2141. Oh yes, the best part of all of this is that it is FREE!

Cado Daily, Water Conservation Educator, Water Wise Program