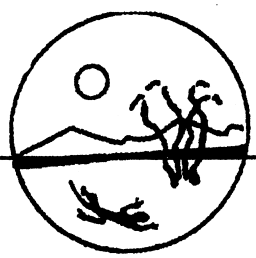
VOL. 9, NO. 5 The University of Arizona Cooperative Extension MAY 1998

High on the Desert

Cochise County Master Gardener

Newsletter



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

Garden Basics:
Zones and Double Duty Plants

Last month I discussed *WaterWise* and Firescaping audits. This article will cover what zeriscape and defensive space zones are and the plants that are both *WaterWise* and Firescape smart.

First let's discuss zones. In zeriscape there are three zones. **Zone 1** is the place closest to the house and is the mini oasis in your landscape. Potted plants, a small lawn or water feature, and thirstier plants are typical in this area.

Zone 2 consists of low water use plants that would only need an occasional deep watering during the hot, dry months. This is a good area to use contouring techniques such as berms to catch rainwater or installing a drip irrigation system.

Zone 3 is the transitional area, where plants that require little or no supplemental irrigation are used. If you have any natural vegetation and plants in this area on your property–keep it. Since this is the zone furthermost from the house and probably least visited, the emphasis here is to use plants that can survive on rainfall alone.

In Firescaping there are four zones.

The first is **The Home Zone, 0 to 6 feet**. The goal is to prevent the spread of fire from the structure to vegetation or vegetation to structure. It is recommended that all fuel sources from this zone be removed. The objective is to landscape this zone with gravel, concrete, or left bare. Using less flammable plants, small lawns, and flower beds are good choices if they are kept well watered.

The Yard Zone, 6 to 30 feet. The goal is to prevent a fire from moving from ground fuels to brush or tree crowns and to slow the rate of fire spread. The objective is to eliminate fuel ladders, limit litter layers to three inches or less, removing dead materials off the ground and from plants, and pruning branches of trees to at least 10-15 feet above the ground.

The Brush and Screen Zone, 30 to 75 feet. The goal is to keep a wildland fire on the ground to minimize intense burning and damage to overstory vegetation. It is the primary zone for fire suppression. The objectives are the same as the yard zone.

And finally there is **The Woodland/Forest Zone, 75 to 100 feet**. The goal is to provide a space where a fire will "cool down, slow down, and stay on the ground" to maintain fire safety. Objectives are the same as the yard zone to include creating patchy landscaping, thinning trees to 20 feet trunk spacing, and remember that the fuel reduction zones increase for properties on ridges and slopes.

As for plants, any succulent plant such as ice plant, sedums, sempervivums, portulaca, prickly pear, barrel and hedgehog cactus are highly recommended for use in the home zone, being the most fire resistant plants for firescaping. Other *WaterWise*/Firescape-wise plants include desert marigold, globemallow, penstemon, desert willow, daleas, salvias, and the *Atriplex* species, particularly fourwing saltbush, which is very fire resistant. There are dozens more plants on both lists–too numerous to list here so I've listed my favorites!

(continued on next page)

Cochise County Cooperative Extension

1140 N. Colombo, Sierra Vista, AZ 85635
(520) 458-8278, Ext. 141

450 Haskell, Willcox, AZ 85643
(520) 384-3594

Now for the "Risky Business"– these are the plants that are very volatile and should be avoided, if possible, in the home and yard zone for firescaping: Acacia, Cedar, Cypress, Eucalyptus, Juniper, ornamental grasses, Pines, Carolina Jessamine, Bougainvillea, and berry vines.

Special Thanks! to Cado Daily and Mary Dalton for providing source information. To receive an audit contact Cado Daily, The University of Arizona Cooperative Extension, Water Conservation Educator, *WaterWise* Program, at 458-8278 ext.141. Mary Dalton, Fire Prevention Technician, Sierra Vista Ranger District, Coronado National Forest, can be reached at 378-0311. Visit the Home Fire Protection website at http:/www.firewise.org/.

Cheri Melton
Master Gardener/Staff Writer

MAY REMINDERS

- Deep water
- Plant warm season crops
- Check tree ties
- Control pests
- Control weeds

(*Controlling Weeds* - a bulletin available from the Cooperative Extension)

Newsletter Staff:
Carolyn Gruenhagen
Cheri Melton
Virginia Westphal

Robert E. Call

Robert E. Call,
Extension Agent, Horticulture

Cuttings 'N' Clippings

► Cochise County Master Gardeners Association meets the first Wednesday of each month in the Mona Bishop Room of the Sierra Vista Library at 5:00 pm. The May 6 speaker is John Miller, Ft. Huachuca Forester. All certified Master Gardeners/ Trainees are invited to attend.

► The Sierra Vista Area Gardener's Club meets the third Thursday of each month at 2:00 pm at the Mona Bishop Room of the Sierra Vista Library. On May 16 they will have a plant sale at the Sierra Vista flea market and the May 21 meeting will feature an E.M. Product demo.

► Park Naturalists at the Saguaro National Park East Unit will conduct a leisurely one-mile Desert Bird Walk on May 10 beginning at 8:30 am. An Early Bird Breakfast and Walk event is scheduled for May 9 at 7:00 am. Participants are expected to bring their own sack breakfasts. Longer, more vigorous Sunrise Bird Hikes begin at 6:00 am on May 2 and 16. Advance registration is recommended. To register or for further information, call the Visitor Center at (520) 733-5153. It is suggested that walkers bring water, binoculars, and a bird field guide.

► If you cut the bottom out of gallon-sized plastic milk jugs, they make excellent covers for small garden plants. They are transparent enough to admit sunlight. Remove the caps to let in fresh air.

► If you have a large garden, but not a lot of time to weed, put two layers of newspaper between your rows. This keeps the weeds down and saves you a lot of time.

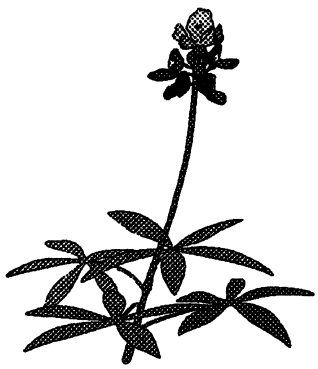
1998 Xeriscape Garden Tour

sponsored by
Master Gardeners
&
WaterWise

Saturday, May 2
9:00 am to 1:00 pm

Three low-water use landscape gardens and the new Plant Science Center at The University of Arizona Sierra Vista campus will be on display in the Sierra Vista area. Guides will be at each stop to describe the xeriscape plants and designs.

A plant sale will be held at the Plant Science Center
9:00 am to 3:00 pm
(this day only).



Tour maps are available from the Sierra Vista Cooperative Extension office, 1140 N. Colombo, through Friday afternoon. On Saturday morning, after 9:00 am, they may be picked up at the Plant Science Center.

The Virtual Gardener-
Native Plants

Master Gardeners advocate landscaping with native plants. Since the spring planting season is upon us, I thought it might be fun this month to take a look at what the Web has to say about landscaping with natives.

What is a native plant? For starters, we can assert that native plants must be plants that grow "wild" but that's not the only requirement. Some plants that grow in the wild are not native. A perfect example in our area is Lehmann's lovegrass (*Eragrostis lehmanniana*) which grows profusely in this area but is not native here. It is a South African plant that was introduced by cattlemen less than 100 years ago to provide range grass for cattle. Since that time it has become naturalized and spread widely, choking out some of the true natives. The standard definition of a native plant requires not only that the plant grow naturally in the wild but also that it has not been introduced by humans . . . or at least so far as we can tell.

Left to themselves, plants in nature over generations migrate slowly from place to place to accommodate themselves to changing environments. The slow pace of this migration means that the plants bring their enemies along with them—insects, diseases, and competing plants. When humans speed up the process by transporting seeds or living plants across long distances, the enemies usually get left behind.

One of the dangers of introducing exotic plants into an environment is that without natural enemies, they may take over an area. Such plants are said to be invasive. A good example for those of you who have traveled in the South is the kudzu vine which was brought from Japan in the late 1800's as an ornamental. Finding itself in a favorable environment and without any natural enemies, kudzu has spread a smothering, green mantle throughout the South, covering 2 to 4 million acres and killing entire forests. In addition to killing off local vegetation, invasive exotic plants also destroy wildlife habitat. Less dramatic but a little closer to home, is the popular ornamental fountain grass (*Pennesetum sp.*) that naturalizes in our area and often becomes a nuisance.

Fortunately, most of the plants available from commercial nurseries do not threaten us with a massive kudzu-type invasion. This is because plants are carefully screened before they are placed in the commercial trade. The greatest danger of creating a green invasion comes from the accidental introduction of exotic species when seeds or spores hitchhike a ride into an area or the deliberate introduction by people who travel to other areas and bring exotic plants back with them. Although the danger of introducing an exotic pest is a good negative reason to stick with natives, there are some positive reasons as well.

From the gardener's perspective, the best reason for landscaping with native plants is that natives require much less care and maintenance than most non-natives. Most of the non-native plants that people attempt to grow are just not adapted to our soils and climate. Plants that are not used to the high temperatures, low humidity, and alkaline soils found here in Cochise County have to be kept in botanical equivalent of intensive care for their entire lives. This means that the gardener is constantly fighting with nature to keep the plants alive. Native plants have chosen this area to grow in because they like the local environment. They thrive in alkaline soils and have developed mechanisms to deal with the heat and dryness.

Another, more subjective, reason for choosing native plants is that they look like they belong here while many non-natives don't. Alpine vegetation looks good in the mountains and jungle plants look good in a rain forest but neither look very good in Cochise County, Arizona. If you really like living here, why try and make it look like someplace else?

The last reason to go native is for the animals that live in this area. They are adapted to the native vegetation which provides them with food, protection, and nesting materials. If you like birds and other animals in your yard, plant native.

If you are interested in this subject and would like to learn more, do a Web search on "native plants." My search on AltaVista gave more than 16,000 hits. Some specific sites that I found interesting include: www.nfw.org/nwf/habitats/workplace/natives, www.maxinet.com/garmour/cnps-ml2.htm,noumenon.cfa.cmu.edu/nmr/research/nativeplants.html, lgx.com/Native.Plants/, and www.flsun.com/wildlife/lookback.htm. Another interesting site is the Arizona Native Plant Society at www.azstarnet.com/~anps/.

Happy surfing!

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

The Agent's Observations

Q Last year my bermuda grass lawn seemed yellow in the spring so nitrogen fertilizer was applied. The lawn looked better but later in the summer it looked yellow again. Nitrogen was applied but the lawn was still yellow. Why did the spring application of nitrogen work and the summer application did not?

A Nitrogen is needed for fast spring growth. Iron becomes less available in alkaline soils as the season progresses. Nitrogen deficiency shows up in older leaves that are yellow. Plants can break down nitrogen containing compounds and move it where the greatest need is, normally growing points, leaving older tissues yellow. On the other hand iron is used by plants to produce several compounds including chlorophyll. Plants can not broken down iron and moved it to other parts of the of the plant. As the growing season progresses alkaline soils bind iron and it becomes less available. So new leaves become chlorotic. Iron chlorosis has visual symptoms of green veins on new leaves but the interveinal spaces are yellow. Excessive watering can also cause iron chlorosis because soil oxygen pore space is filled with water. No oxygen–no root growth and little if any iron uptake.

Control: To correct iron deficiency, apply either ferrous sulphate, ferrous ammonium sulphate, or a chelated iron source to the lawn following label directions when first symptoms appear. Chelates are more expensive but will last longer than the other products, which will need to be applied more often. Usually two to four ounces of product are applied per 1,000 square feet. Mix the product with enough water to apply one to three gallons of water per 1,000 square feet of lawn area. Spray the lawn in the morning letting the spray dry all day long. Water the lawn before mowing. Excess iron spray will be stored in the soil and/or taken up by the turfgrass. Be careful not to stain concrete areas with the iron spray. Within a few days the turf should start greening up.

Q When my roses bloom they have brown and black petal edges and are deformed. Also the leaves are sticky. Some of the leaves are covered with yellow spots mixed with the green color of the leaves. What is causing these problems and what can I do?

A Your roses have two insect problems and a virus. The flower petals are brown or black because of a very small insect called the **western flower thrip**, *Frankliniella occidentalis* (Pergande). Adult thrips are about 1/8", (2 mm), in length, usually tan-to-dark brown-bodied, with four feather like wings. The young or nymphs are creamy white and wingless and develop into adults in about two weeks. The adults enter a rose bud and lay eggs inside the immature flower. The eggs hatch and the resulting nymphs and adults injure the plant by rasping the bud, flower and leaf tissue of host plants and then suck the exuding sap. This causes petal tissue to die and results in brown or black petal edges. hrips also affect other flower, fruit and vegetable plants. These include apples and peaches which result in surface damage to the fruit. Onions, snap beans, chrysanthemums, gladiolus and iris are also damaged by other thrips species. There have been many more thrips the last couple of years because of the above normal rainfall which has provided abundant wildflower and weed crops for the thrips to live on and thus increased populations. The other insect problem is **aphids**. These small insects are yellow to green in color and suck sap from plants that they infect. The "sugars" which they do not metabolize are excreted and fall onto the leaves of the plant. This is the sticky, shiny substance that you see. Sometimes ants and flies will "milk" aphids for this exudate and feed on it. So if ants are spotted on plants there is a good chance that aphids are present. The yellow marks mixed with the green color of the leaves is a **virus** or a complex of several viruses. The spotted yellow-green leaf color is known as mottling and is very symptomatic of viruses. These viruses generally do not kill the plant but can weaken it.

Control: Several insects are predators of thrips and aphids. These include ladybird beetles and their larva, minute pirate bug and lacewings. Thrips have alternate hosts

(continued on next page)

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture, James A. Christenson Director, Cooperative Extension, College of Agriculture, The University of Arizona and Arizona Counties cooperating. The University of Arizona College of Agriculture is an equal opportunity employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to sex, race, religion, color, national origin, age, Vietnam Era Veteran's status, or disability.
The information given herein is supplied with the understanding that no discrimination is intended and no endorsement by Cooperative Extension is implied.
Any products, services, or organizations that are mentioned, shown, or indirectly implied in this publication do not imply endorsement by the University of Arizona.

of weeds and wildflowers. By controlling host plants thrip populations will be lowered. Because thrips do damage inside the rose buds a systemic insecticide should be used. There are several products on the market which control thrips and aphids systemically. Sometimes disystox, a systemic insecticide, is included in rose fertilizer. **Always follow label directions when applying pesticides**. To reduce the problems of viruses in plants purchase virus-indexed or certified virus free plants. Virus infected plants can be a source of infection that can be transmitted to healthy plants by aphids or other insects. Therefore, control the aphids and other insects vectors to control the spread of virus diseases.

Source: *Insect Pests of Farm, Garden and Orchard.* 7th Ed. R. H. Davidson and W. F. Lyon. pp. 305-6, 311-12.

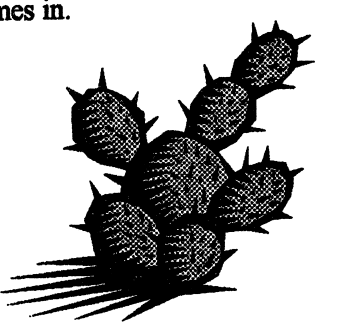
Robert E. Call
Extension Agent, Horticulture

Plant Science Center– An Update

Has anyone seen the orange (now faded to white) marking flags along Highway 90 to Benson? In January 1997, the Sierra Vista City Council launched a special task force to study the feasibility of developing a local plant science research facility to propagate and reintroduce endangered, threatened or rare plants. That group soon evolved into the current Plant Sciences Task Force, and began focusing its efforts on an important initiative to salvage native plants that would otherwise be lost to highway widening and improvement projects. The orange flags are marking plants destined for the new Plant Science Center, affectionately known as the Plant Prison. These plants will be used to relandscape those same roadsides and other municipal landscaping projects as well. Located on the South side of The U. of A. Sierra Vista campus building, the Center houses eight holding beds for cacti, agaves, yuccas, ocotillos, grasses and other assorted salvaged plants. Already the center has 61 barrel cacti (*Ferrocactus wislizenii*) and more than 100 grass plants including bush muhly, Arizona cottontop, black grama, and only 3 miles on one side of the road has been salvaged!

The Center was built with generous contributions from various businesses and individuals. Materials were supplied by the Arizona Department of Transportation, the City of Sierra Vista provided funding, approx. 14,000 square feet of land was donated by The University of Arizona Sierra Vista campus, Cathy Wertz of Chulo Canyon Seeds consulted, lots of leg work is still being done by Jan Groth, De Lewis drives a mean trencher and tractor, utility poles and electric installation were donated by SSVEC, Valley Rentals donated machine time. Phew! The list could go on.

I can't forget to mention our Horticultural Technician–a name you are all familiar with–Cheri Melton. We were very pleased to have hired her, assuring the best care possible for plant survival. She is responsible for hardening off the plants after they arrive, and getting them ready to go back into the hot, harsh world! Cheri is found at the center during the week trimming roots and leaves, painting sulfur solutions over the wounds to guard against fungal rot, keeping records of what came in and what's going out and of course oohing and ahhing over all the neat stuff that comes in.



Besides the aforementioned plants, the center also has *Calliandra eriophylla* (fairy duster), *Ephedra* sp. (Morman tea), *Mammillaria gummifera* (cream pincushion) which is blooming!, *Echinocereus triglochidiatus* (claret cup), *Echinocereus pectinatus* (rainbow cactus), *Opuntia engelmanni* and *Dasylirion wheeleri* (desert spoon).

We're hoping that this salvage center will serve as an example for what other projects can do involving the clearing of large tracts of land. The Center also serves as an excellent educational site for viewing native vegetation which will help others with species identification. It is a source of information on the success of salvaged plants, what size plants survive salvaging, how to care for them while waiting transplant, and what affect stress has on them. Already we are finding out that a type of Miridae bug (called a plant bug–really!) is sucking the juices and creating little spots on the agaves!

Master Gardeners and Trainees, if you would like to volunteer for Master Gardener hours at the Center, please call Cado Daily at 458-8278 ext. 141.

Cado Daily
Master Gardener/WaterWise

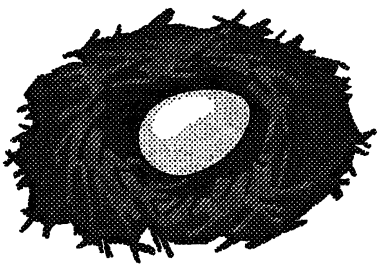
COOPERATIVE EXTENSION
U.S. DEPARTMENT OF AGRICULTURE
THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA 85721

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

BULK RATE
POSTAGE & FEES PAID
USDA
PERMIT No. G268

Portrait of a Parasite

The cowbird is a brood parasite that lays its eggs in the nests of other birds. *Molothrus ater*, the brown-headed cowbird, measures seven and one half inches long. The male has a metallic blackish-green body, dark brown head with a finch-like bill. The female is grayish-brown with slight streaking. *Molothrus aeneus*, the bronzed cowbird, is six to nine inches long, the male sporting a black body with a bronze sheen, has a larger bill than that of the brown-headed cowbird, and has a red eye. Females plumage is gray and she also has a red eye. Cowbirds are a gregarious species that is often seen mixed with blackbirds. Due to the female and juveniles dull streaked plumage and small size they can be often mistaken for a House Finch or Sparrow. Cowbirds do not build their own nests or even raise their own young. The female, who mates several times in the season, May through August, is capable of laying one egg per day at the peak of the



breeding season which may translate into 30-40 nests parasitized. She finds a nest where eggs have already been laid and often removes one of the eggs and replaces it with her own. The young cowbird is usually the first egg to hatch, larger than the other birds, therefore exhausting the "host" parents for its feeding routine and can crowd the nestlings out of the nest, perishing them in the process.

Sheri Williamson, Southeastern Arizona Bird Observatory (SABO), Bisbee, suggests keeping cowbirds from hanging around the yard by taking down bird feeders during the breeding season or switching over to black oil sunflower seeds which cowbirds seem to dislike.

Sources: SABO, (520)432-1388, e-mail: sabo@SABO.org; Website: www.sabo.org, Smithsonian Migratory Bird Center - Fact Sheet No. 3, Gulf's Field Guide Series - *A Field Guide to Birds of the Desert Southwest*, Barbara L.Davis.

Cheri Melton
Master Gardener/Staff Writer