High on the Desert Cochise County Master Gardener Newsletter

Vol. 19, No. 1 JANUARY 2008

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

The Virtual Gardener—Net Flicks

The other day I checked out an online video of John Begeman, University of Arizona Horticulture Agent and columnist for the *Arizona Daily Star*, demonstrating how to repot a plant at www.azstarnet.com/athome/. In his excellent 4 minute tutorial, John shows how to determine if a plant needs repotting and how to choose and prepare a new pot, loosen and prune pot-bound roots, prepare a soil mix for the plant, and transfer the plant to a new pot. (By the way, John will be a speaker at the upcoming High Desert Gardening & Landscaping Conference.) Seeing this video inspired me to see what other videos I could find on the Web that cover gardening and landscaping topics, so I turned to Google for help.

Searching for videos using Google is similar to searching for documents or images, except that you have to select "Video" as the search type. If that category doesn't already appear on your Google start page, look for a link called "more" with a small downward pointing triangle next to it and click on that. The video search category should be one of the choices on the drop-down list that appears. After you select that category, you will get a search page that looks very much like other Google search pages. Just follow your nose from there.

Before I go any farther, I should warn you that downloading videos to watch on your computer is not very practical if you have a dial-up connection. The files are just too big and will require a lot of time to download. You really need a high-speed connection to enjoy the experience.

A search for videos on "gardening" brings up over a hundred thousand hits. Of course many of these are not pertinent for a serious gardener so you must be choosy. Nevertheless, there are many excellent educational gardening tutorials out there in cyberspace that are well worth watching. Some may be very long (the longest one I found was a whole series on how to be a gardener that lasts nearly 4 hours), but about 80 percent of them are 4 minutes or less in length and nearly all of them are no longer than 20 minutes.

One I found interesting was about planting an herb garden in a container http://www.youtube.com/watch?v=G8Q9Rw6sRVA. The video was well done and interesting to watch, but what I found most interesting was a tip for maintaining moisture levels in your container by using disposable baby diapers. The diapers, so the

(Continued on page 2)

Inside this issue:

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

1140 N. Colombo, Sierra Vista, AZ 85635
(520) 458-8278, Ext. 2141

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

(Continued from page 1)

video explained, contain hydrophilic polymer crystals that soak up moisture and release it slowly back to the plants. I'm not sure how well this will really work, but I'd like to find out.

I think the diaper tip illustrates one of the great reasons for looking at these videos. Since they produced by hundreds or even thousands of folks, you are likely to find many original ideas in them, some of them of the "why didn't I think of that" variety and others of the "I never would have thought of that" kind.

In addition to tips and tricks, there are many professionally produced videos that are very educational. For example, there are some great educational videos on permaculture. If you're not sure what permaculture is, check out the six-part video series on *The Permaculture Concept* (Part 1) is at **http://www.youtube.com/watch?v=vUr4uPe9WBk** where you can watch Bill Mollison, the originator of the permaculture movement, tell you all about it. In addition there are many other videos on the same topic, including some on specific permaculture techniques.

Internet videos can be addicting. Once you get hooked on them, it's hard to stop.

Until next time…Happy Surfing!

Gary A. Gruenhagen,
Master Gardener
virtualgardener@cox.net

It's not too late!!!

High on the Desert

High Desert Gardening & Landscaping Conference Scholarship Application

The Cochise County Master Gardeners Association (CCMGA) is awarding up to three full scholarships to the 2008 High Desert Gardening & Landscaping Conference to be held at the Windemere Hotel & Conference Center, Sierra Vista, AZ, February 15 & 16, 2008. Applicants are invited to submit an essay on one of the following topics:

- **Gardening for food production**
- **Landscaping with native plants**
- **Environmental stewardship**

Essays must meet the following criteria:

1. **750 to 1,000 words in length.**
2. **Double spaced and typed on plain bond paper — a disk or CD included.**
3. **Represent original scholarship and be suitable for publication. All references and authorities cited must be properly attributed.**
4. **Entries must be accompanied by an official cover sheet available from the Cooperative Extension Office at the University of Arizona South campus or from the web site: www.ag.arizona.edu/cochise/mg**
5. **Entries must be received at the Cooperative Extension Office, 1140 N. Colombo, Sierra Vista, AZ 85635 not later than close of business on January 18, 2008.**

Entries will be judged by the Cochise County Horticultural Extension Agent and a committee of Master Gardeners appointed by the President of CCMGA. The awardees will be notified not later than January 25, 2008 and their names published in the February 2008 Master Gardener Newsletter.

Robert E. Call
Extension Agent, Horticulture

Carolyn Gruenhagen
Editor

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

Agaves

Agaves are among the most stunning native plants in the southwest. The genus *Agavaceae*, a member of the *Amaryllidaceae* family, has about 200 - 250 species and is native to tropical and subtropical regions of the Americas, the West Indies, as well as some areas of the deserts and mountains in the Southwest. Sometimes it's difficult to distinguish young plants in the wild. Young yuccas may look like agaves, but agaves generally have broader, stiffer leaves, and stems that are well disguised by symmetrically arranged leaves. The leaves of all agaves are evergreen, firm and tipped with a hard and sharp spine. In some varieties, they also have prickles. Some form colonies from underground rhizomes, but all reproduce from seeds. Agaves generally produce flower stalks only once after about eight to twenty years, but the *Agave harvardiana* takes from 25 to 55 years before it finally sends up a 10 to 20-foot stalk. Unfortunately, most agaves die the year that they flower.

In addition to their ornamental qualities, agaves have been valued for food, fiber, medicine, and soap for millennia. Both historically and today, every part of the agave is put to use by peoples of the Americas. Agaves are cultivated in Mexico on a very large scale to produce beverages, but people of the Americas have eaten agaves for hundreds, perhaps thousands of years. The crowns of agaves, stripped of leaves, were roasted in pits lined with hot stones. The heat converted the starch in the plant to sugar, and made this vegetable a tasty and nutritious dish called mescal. The Mescalero Apache are called so because they extensively used mescal as food. In what was later to become Cochise County, Arizona, those now called the Chiricahua Apache also ate mescal. In Arizona, *A. murphyi* has been found only with archaeological sites that include roasting pits and rock walls. This leads ethnobotantists to conclude that the plant has been kept alive over the centuries as a food source.

Agaves are also extensively cultivated in both Mexico and Central America for fiber. But this, too, is nothing new. Evidence from sites in Mexico indicates that agave fibers were used more than 9,000 years ago. Fibers from the *A. lechuguilla*, common in the Chihuahuan Desert, can be made into nets, baskets, mats, and sandals. The sharp tips of species like *A. neomexicana*, native to New Mexico and *A. parryi*, native to Arizona, with fibers still attached, made excellent needles and thread.

In the United States, agaves are used most often as potted plants, both inside and outside the house, and as additions to the landscape. When grown indoors, agaves should be placed in a sunny window. They thrive when the temperature remains between 65° and 75° F. but even the less hardy varieties will tolerate temperatures as low as 45° F. Make sure they don't touch the window glass when temperatures dip in the winter and protect them from sunburn in the summer with a screen or light shade. Remember, too, that agaves in pots require more supplemental water than their siblings who reside in the garden.

Several species are especially attractive in pots. *A. filifera* have decorative narrow olive-green leaves that bear loose curled threads at the margins. *A. pecta* have narrow pale green leaves with white margins and small black teeth. Probably the quintessential agave for containers is *A. victoria reginae.* It is a striking plant with olive-green leaves beautifully penciled with white edges. It grows to only about a foot across and will maintain its compact, geometric form for many years before flowering and dying.

Landscape professionals have long recognized the agave's extraordinary ability to create a particularly beautiful focal point in the garden. The *A. americana*, with its six-foot rosette

Agave americana

packed with sword-shaped leaves and sharp teeth is as indestructible as it is eye catching. *A. attenuata* is also big and bold. It grows to five feet across with soft gray-green leaves with smooth leaf margins. And my favorite, *A. parryi huachucensis*, is a spectacular granite-like botanical sculpture. Its leaves have black spines at the margins.

Both in the mountains and in the cultivated landscape at lower elevations agaves thrive in alkaline, well-drained soils. Sunny slopes or raised beds ensure that their roots stay dry between rainfalls or watering. When they must be installed on level or nearly level ground, dig the hole beneath them to a depth of at least two feet. Replace the excavated soil with a light gritty mixture. Dig a well around the plant. This prevents water from moving away from the plant and allows it to penetrate the ground slowly. As the plant grows, the well around it must be enlarged as well. In climates with very hot summers, it is best to plant agaves in the fall so that the root system can grow during the mild winter months.

If you would like more information about agaves, look for *A Beginner's Guide to Agaves* on the Cochise County Master Gardener website.

Terrie M. Gent, Master Gardener

High Desert Gardening & Landscaping Conference
February 15 & 16, 2008

Global Warming: Fact or Fiction? Part 1

Global warming and greenhouse gases have waxed and waned throughout the Earth's life. The impact was probably diverse and in some regions devastating in each period, but Mother Earth has cycled through her normal patterns without the help of scientists telling her how much she has cooled or warmed. There were no politicians using scare tactics to cure her.

There is something fascinating about science. One gets such wholesale returns of conjecture out of such a trifling investment of fact.

—MARK TWAIN

Scientists produce ambiguous pieces of research in which all possible scenarios are considered. Then activists latch onto the worst case scenario and translate the projections into declarations of truth. Pressure groups are able to raise money from a frightened, non-thinking public while politicians respond to the alarm by feeding more money to scientists. To get people to act, you have to make sure you incorporate a fear factor. Canada will be an ocean and the United States will be a desert by the year 2020. As western societies have become more affluent and safer one would expect the population to become more relaxed, more intelligent, and feel more secure; however, the opposite is true. Western societies have become panic-stricken, gullible, non-thinking over reactors. This is evidenced in the full acceptance of global warming issues to the type of foods that are good/bad for consumption. People have been conditioned to be fearful by the incessant warnings and crisis criers of the media.

Since most research is government funded, scientists confine their research to the reigning world view which was postulated by political posturing and fear mongering. In addition, scientist must conform to peer consensus which ensures that only papers in support of the reigning theory are published; hence, receive funding that gives money to research into the reigning theory. An unscientific, vicious circle that leads one to ask if environmental attitudes are a matter of the favorite flavor of the month? The apparent scientific consensus over global warming only exists because it is enforced by a scientific establishment who feeds at the government trough aided and abetted by governments self-promotion, and political savvy to play the politics of fear.

Mankind seems to have a bandwagon mentality for flawed theories. We are too readily accepting of the views of the so called intelligentsia and world leaders. "*The world wide accepted theory of eugenics postulated a crisis of the gene pool leading to the deterioration of the human race. Eugenics research was funded by the Carnegie and Rockefeller Foundations and had supporters such as: Theodore Roosevelt, Woodrow Wilson, Winston Churchill, Alexander Graham Bell, H. G. Wells, George Bernard Shaw and several Nobel prize winners. The National Academy of Scientists, the American Medical Association and the National Research Council also jumped on the bandwagon, as did other countries. In the end, a non-existent crisis led to the deaths of millions of people.*"(1) Similarly in Europe, one of the reigning theories in the sixteenth century, that politicians (ruling class) and scientists (intelligentsia/clergy) believed was that human beings had made contracts with the devil. On the basis of this unsubstantiated, fear producing belief, countless people were tortured and fifty to sixty thousand were killed.(2) In the 1960's the book *Silent Spring* by Rachel Carson had world-wide acceptance. In retrospect, Carson's book was seriously flawed and is about one third right and two thirds wrong. What about acid rain and all the fish in lakes and rivers dying? Nothing much is said of this proposed disaster. The most highly praised book of the 1970's was *The Cooling* by Lowell Ponte. It warned of an ice age and was filled with dire projections. Most research in the 1970's strongly suggested that human influence on climate was leading to cooling not warming, and another Ice Age was about to be triggered. All of the aforementioned theories were totally accepted much like the so called factual evidence for global warming is accepted by the general public and environmentalists who act like evangelists.

Helen Morgan, Master Gardener

Footnotes:

1. Crichton, Michael. 2004. *State of Fear.* Appendix 1.
2. Levack, Brian 2006. *The Witch Hunt in Early Modern Europe,* Third Edition.

Cuttings 'N' Clippings

❄ The next CCMGA meeting is 5:00 p.m. Thursday, January 3, 2008 in Public Meeting Room at UAS. The speaker will be Valerie McCaffrey on *Local Sustainable Agriculture.*

❄ The free Water Wise lectures begin on January 5, 2008 at UAS in the Public Meeting Room from 9:00—11:00 a.m. The speaker will be Dr. Gregg Garfin on *Is There a National Water Crisis?* For information on upcoming lectures go to **www.ag.arizona.edu/cochise/waterwise** If the 2008 schedule is not up yet, it will be very soon.

The Agent's Observations

Q What are the black bugs that are eating my Texas Rangers? They have stripped every leaf off these four-year old plants! We live next to an alfalfa field. What can be done?

A A sample was brought to the office and it was determined that the insects were black blister beetles (*Epicauta pennsylvanica* (De Geer)).

Description: Blister beetles vary by species in shape, size (3/8 to 1 inch long) and color (solid gray to black or with paler wing margins, metallic, yellowish striped or spotted). Most are long, cylindrical narrow-bodied beetles that have heads that are wider than the first thoracic segment (pronotum). The wing (elytra) covers are usually soft and pliable. There are many types, with over 100 species in Texas alone.

Life Cycle: Complete metamorphosis; heterormetamorphosis. Winter is spent in later larval stages and pupation occurs in the spring. The pupal stage lasts about two weeks and adults appear in early summer. Female beetles lay clusters of eggs in the soil. The first stage (instar) larva hatching from the egg is a tiny, active, long-legged larva that seeks the appropriate host. Once there, the larva develops through a number of stages, each with progressively reduced appendages and increasingly grub-like in appearance. The first number of larval stages develop within about one month, but the second to the last (pseudopupa) can remain for about 230 days before molting into the last (sixth) larval stage in the spring. Generally, one generation occurs per year although some develop in 35 to 50 days while in others, development takes 3 years.

Habitat and Food Source(s): Mouthparts are for chewing. Blister beetle species feed on flowers and foliage of a wide variety of crops including alfalfa, ornamental plants, potatoes, soybeans, garden vegetables, and other plants. Immature stages feed on grasshopper eggs, live in solitary bee hives or are predaceous, depending on species. Adults can be found on flowers or infested crops. The neighboring alfalfa field is the probable source.

Pest Status: Adults usually occur in loose groups or swarms that feed on leaves of certain plants, especially legumes. Their bodies contain a toxin (cantharadin). Care should be taken to not handle them. Handling blister beetles can cause blisters on the skin as a reaction to cantharadin. Never handle blister beetles preserved in alcohol because the cantharadin dissolves in alcohol and will cause blisters on the skin. Animals, particularly horses, ingesting beetle contaminated feed become extremely ill and may die Larval stages feed on grasshopper eggs or are predaceous and are thus considered to be beneficial, although a few species feed in nests of solitary bees.

Control: The cold winter weather will kill the adults. If they appear next year exclude them from plants with hardware or shade cloth. A general use pesticide may also be used.

Source:
http://insects.tamu.edu/fieldguide/bimg167.html
Further information on blister beetle toxicity to horses see:
http://citybugs.tamu.edu/FastSheets/Ent-2006.html

Robert E. Call
Extension Agent, Horticulture

Grasses of Cochise County

Kim McReynolds, Area Extension Agent, Natural Resources, presented a very informative program on grasses at the December 5, 2007 CCMGA meeting. She will also be presenting at the High Desert Gardening & Landscaping Conference, February 15-16, 2008.

General Overview

Grasses belong to the family Poaceae and are one of the most important types of plants in the world. There are over 6,000 species in the world. The world's most important food crops (rice, wheat, and corn) are grasses; and they play a significant role in animal forage. Grasses are also used for soil conservation, landscaping, and shelter. Grasslands appear on every continent of the world—hot deserts to arctic regions. And, if you are a habitat gardener, they provide seed and nesting material for birds.

There are three grassland areas in Arizona: 1) Mountain – species rely on winter moisture; 2) Plains – 5-7,000 foot elevation; species rely on monsoon rains; and 3) Desert – species also rely on monsoon rains; these are our warm season grasses.

Grasses are divided into two groups according to growth habit: 1) bunchgrass – individual tuft or clump derived of many small stems; or 2) sod-forming – rhizomes or stolons cover the ground in a dense stand. But, some grasses have adapted as both bunch and sod forms; i.e., blue grama is a bunch

(Continued on back page

The University of Arizona
Cooperative Extension
Cochise County
450 S. Haskell Avenue
Willcox, AZ 85643-2790

NONPROFIT ORG
US POSTAGE
PAID
PERMIT NO.
70

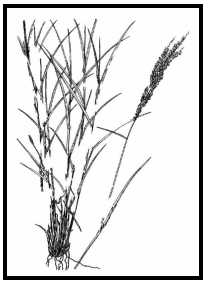
(Continued from page 5)

grass here; but in Montana in it grows more like a sod-forming grass.

Characteristics of grasses: the flowers are not showy and usually are the same color as the stems and leaves; the leaves alternate in two rows on the same stem; the veins in the leaves are parallel; the stems are jointed and usually hollow; and the roots are fibrous. Grasses are a good adaptation for grazing because the growth part of the plant is at ground level.

Kim's presentation covered over twenty cool and warm season grasses of Cochise County. If you would like a list of those grasses contact Sarah at **asmcran@cox.net.**

Interesting sidenote: 1) Lehmann Lovegrass arrived sometime around 1930 at the Boyce Thompson Arboretum for seed trials; shortly thereafter it was released into rangelands by the then Soil Conservation Service and the rest is history; and 2) Bufflegrass is not cold tolerant and does not grow in Cochise County; however in Texas the USDA Agricultural Research Service is trying to develop a cold-tolerant species.



Arizona cottontop

For more detailed information check: *Grasses of Southeastern Arizona,* produced by Coronado RC&E Area and Conservation Districts of SE Arizona, Wilcox office, 520-384-2229 x 123, *Arizona Range Grasses: Their Description, Forage Value, and Grazing Management* **http://cals.arizona.edu/pubs/natresources/az1272/** or hardbound can be purchased through Calsmart **http://pubs1.cals.arizona.edu/sales/index.cfm?b=434213**
USDA Plants Database **http://plants.usda.gov/index.html**

Sarah Turan, Master Gardener

Editor's Note: The Lemmon's milkweed referred to in last month's newsletter was actually *Asclepias lemmonii* pictured on the right.