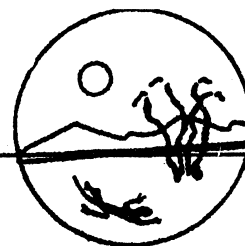


High on the Desert

Cochise County Master Gardener

Newsletter



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

GARDEN BASICS: Tool Time

"If it ain't broke, don't fix it" is a motto that does not apply to power equipment and hand tools. Annual maintenance at the end of the garden season can extend their lives to a ripe old age. With the season winding down and cooler, fall temperatures ahead, it's a great time to prepare tools for winter storage.

First let's talk about servicing gasoline engine machines. Most large machines such as lawn mowers, tillers, and chipper/shredders are four cycle engines. This type of engine burns pure gasoline and uses oil in a separate chamber to lubricate moving parts. Before servicing any engine disconnect the spark plug cable from the spark plug. Drain oil according to the owner's manual and take it to a service center that recycles oil. Please do not dispose of oil or gasoline on to the ground!

I reuse the oil for cleaning hand tools. Fill the engine with fresh oil.

Cleaning or replacing the air filter is also vital. A dirty filter hinders performance by limiting air to the carburetor. Foam filters contain oil and can be washed in warm soapy water. Rinse and squeeze dry. To recoil the filter, place it in a plastic bag and add about three tablespoons of motor oil and knead the filter until it is

**"...it's a great time to
prepare tools for
winter storage."**

saturated. Blot the filter to remove excess oil and reinstall. Paper filters should be replaced with a new one. It's also a good idea to replace the spark plug every year. Other things to check for are clogged mufflers and chutes, cracked fuel lines, frayed starting cords, electric cords as well as any extensions cords. Sharpen or replace blades, clean and charge batteries on engines with electric starters, and brush the engine free of dirt and debris. Finish by lubricating all moving parts with a few drops of motor oil or spray

lubricant and wiping down the exterior with a damp cloth. Then connect the spark plug and run the engine for a few minutes to distribute the fresh oil. This will provide the engine with a protective coating.

Now is the time to either drain the fuel tank or add a fuel stabilizer. Gasoline that is allowed to stand for more than eight weeks can go stale, clogging fuel lines and the carburetor with a gummy residue. Two cycle engines, such as chainsaws and string trimmers, have no separate oil reservoir. Gasoline and a special oil is mixed in specific proportions and added to the fuel tank. Servicing is simpler and oil changes are eliminated but they are harder to keep running smoothly because oil mixed with gas can clog and corrode small engines. It is essential to drain the tank if the engine will not be used within two or three weeks. Refer to the owner's manual when servicing equipment as they have extensive guidance, checklists, and instructions.

(Continued on next page)

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On the other hand, probably the most neglected tools in the servicing department are the hand tools. Routine care should include cleaning after each use. After pruning diseased and infected plants, tools should be cleaned in a 1:10 bleach/water solution. Brush off any excess dirt and dip the metal blade into a bucket of sharp builder's sand several times to clean thoroughly. This is where I recycle the used motor oil—mix it into the sand—it gives the metal a protective coating and keeps it from rusting. Handles can get worn down—sand and apply a coating of linseed oil. If cracked, buy a new replacement handle or retape with hockey tape.

Sharp tools will perform efficiently and effortlessly but only if they are kept sharp. A standard flat file will do the job or have your tools professionally sharpened.

Declare a tool time weekend and service your tools. You'll feel better and both you and your equipment will be ready for the warm, sunny spring days ahead.

*Cheri Melton
Master Gardener/Staff Writer*



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"Buy Recycled" Myths

1. Recycled products are hard to find. This used to be true, but no longer. From the neighborhood grocery store to national retailers, stores sell thousands of products made from or packaged in recycled content material.

2. Recycled paper isn't as good as nonrecycled paper. Recycled content papers now share the same printing and performance characteristics as their virgin equivalent. Recycled papers no longer look different. You can now find recycled content papers with the same whiteness and brightness as virgin papers. They also offer the same level of run ability and high quality imaging on copiers, and laser and ink jet printers.

3. Recycled products cost more. This used to be the case for some materials, but things have changed. Many recycled products are priced competitively with their nonrecycled counterparts. In fact, some may be less expensive.

4. Recycled products are inferior in quality. This is simply not true. Recycled products have the same quality, reliability, and dependability. A 1996 survey by the Buy Recycled Business Alliance asked hundreds of corporate purchasing agents about their satisfaction with recycled content products. The survey results showed that 97% of respondents were pleased with the performance of recycled content products.

**KEEP RECYCLING
WORKING:
BUY RECYCLED**

WE HEARD IT ON THE GRAPEVINE:

ACE Garden Place, Sierra Vista, is looking to hire two certified Master Gardeners with energy and interest in learning as salespersons. Opportunities are part-time and full-time. Interested? Call Jerry Ambrose at 458-3650 for details.



Cuttings 'N' Clippings

READERS TAKE NOTE!!!

Please complete the enclosed sign-up form if you wish to continue receiving the Cochise County Master Gardener Newsletter and return it by mail or drop it off at the Willcox or Sierra Vista Cooperative Extension Office. It is required by penalty mail laws that our mailing list be updated. If we do not receive your completed form by November 21, your name will be dropped from the mailing list. We don't want to lose any of you! Do it right away!

The November 5 and December 3 Cochise County Master Gardeners Association meetings will be held at the Ace Hardware Training Room, 3756 E. Fry Blvd, Sierra Vista, at 5:00 pm. They will end promptly at 6:00 pm due to the advanced training class.

First Annual America Recycles Day

Thousands of Americans across the country will be joining together to celebrate the first America Recycles Day on November 15. Arizona is taking part by holding Arizona Recycles Day on the same day. To participate in this national public awareness campaign, Co-chise County residents can pledge to keep recycling working by sending in a pledge card. Everyone pledging to recycle more in whatever way they choose, will be entered in national as well as state drawings for great prizes. The grand prize is a \$200,000 American Green Dream House built of recycled and energy efficient materials and there is a children's prize of a trip to Disney World for four.

America Recycles Day is a spin-off of the very successful Texas Recycles Day. In 1996 some 145,000 Texans pledged to increase their recycling efforts and 300 special events were held. Vice President Al Gore is Honorary Chairman of this first national recycling drive and sponsors are a mix of public and private groups including U. S. EPA, U.S. Postal Service, Steel Recycling Institute, Home Depot, Solid Waste Association of North America, Safety-Kleen, Union Camp Corporation, and the U.S. Conference of Mayors.

According to the Co-Chairs of America Recycles Day, "This is a tremendous opportunity for us to educate, encourage, and persuade all Americans that recycling is not a trend but a necessary component of a sustainable environment." The message they want to get across is that recycling is alive, well, cost-

effective and good for our environment.

The average American throws away more than 4 pounds of garbage every day, which added up to about 208 million tons of trash in 1995—a decrease of more than 1 million tons from 1994. This decrease is due to the increase in recovery rates for recycling, including yard waste composting and mulching as well as efforts by manufacturers to reduce or lightweight packaging.



Chairman Vice President Gore says that he "...applauds the efforts that have resulted in one of our most significant environmental achievements in the

last twenty years—the establishment of thousands of recycling programs all over the country." The U.S. as a whole is doing a better and better job of separating out recyclable materials from their trash with the national average of 27% of garbage recovered and recycled. However, to build on this and keep recycling working, by boosting the sagging market value for recyclables, we all need to make the effort to buy recycled.

Therefore the theme of this year's event is "Keep Recycling Working: Buy Recycled." Remember the three chasing arrows in the recycling symbol. The first arrow represents collection of recyclables, the second, manufacturing into a new product, while the third arrow is the purchase of recycled content products. By choosing a shopping cart with this recycling symbol in it

as this year's logo, the message is emphasized, that you're not really recycling until you "Buy Recycled."

Many recycled content products are now available at similar prices and quality to "virgin" products. By looking for the symbol when we shop and choosing those products, we can do our part in protecting our environment by conserving natural resources, saving energy and landfill space and creating jobs. By buying recycled, the nation's consumers can vote for recycling and build markets for finished products made from the recyclable steel, glass, paper, plastic, and aluminum materials they place at the curb or in drop-off facilities. If you can't find any recycled products at your stores, talk to the managers about carrying brands that have recycled content such as Green Forest household paper products.

Arizona is way behind most of the nation in recycling with a 10.4% state average in 1996. It is one of only four states that has not set state recycling goals. Master Gardeners can help send a message to the state as well as to the county that they want more recycling by sending in a pledge card. Posters in post offices and elsewhere in each town will let you know where to get pledge cards. For more information about how your community will be celebrating America Recycles Day, how you can help set up recycling, or where to get pledge cards please call Doug Dunn at 384-3594 or Valerie McCaffrey 642-3842.

To get pledge cards by mail call 1-800-CLEAN-UP, the Environmental Recycling Hotline or pledge via the America Recycles Day Web site (www.americarecyclesday.org).

Valerie McCaffrey
Guest Writer



The Virtual Gardener— Water and Plants

In last month's article we learned a couple of important facts about how water behaves in the soil. This month we will begin learning how to effectively water our plants—where to apply the water, how much to apply, and how to judge when we need to apply more water. Before we address those issues, however, we need to consider what happens when water is applied to the soil.

Water falling on the soil may infiltrate into the soil, run off to other locations, or evaporate back into the air. Only the water that infiltrates into the soil becomes potentially available to our plants. Water that runs off or evaporates is not available to the plant we are watering. We can prevent the runoff loss by applying water slowly and containing it around the plant with berms or depressions, and we can reduce the loss to evaporation by applying a thick layer of mulch around our plants.

Water that infiltrates into the soil initially moves downward under the force of gravity until it is grabbed and held to soil particles by electrostatic attraction, is taken up by the roots of plants, or reaches the ground water table. Where the water table is very deep—the usual case for us who live in the High Desert—none of this infiltrating water will reach the water table. Instead it will be captured by soil particles where it will remain until it is liberated by a plant or evaporated back into the atmosphere. Most of the water that is taken up by the roots of plants moves through the plants to the leaves where it is *transpired* back into the air as water vapor. Very little of

the water that a plant takes in is actually held within the plant. It is estimated, for example, that a field of corn may transpire as much as 15 inches of water during a single growing season. We can envision a plant as a straw sucking water out of the soil and returning most of it to the atmosphere. As the water is depleted from soil particles around the roots, those particles steal water from particles farther away, replenishing the water available for the plant until the available water is used up.

Since the roots are the organs primarily responsible for providing water to plants, we should apply water where the roots are, more specifically where the water absorbing parts of the roots are. As obvious as this seems, applying water to the wrong location is a frequent mistake, especially with shrubs and trees. The roots of most plants have a branching structure that looks much like the branches that we see above ground. The roots are large in diameter near the plant and become smaller and smaller in diameter outward from the plant. The large root structures themselves are merely conduits. Water and nutrients are actually absorbed by tiny structures attached to the roots called *root hairs*. You might think of these as analogous to leaves on the branches of trees. Just as leaves are found near the ends of branches, so root hairs are found near the ends of roots. In the case of shrubs and trees, most of the root hairs are concentrated in a ring extending from about half way to the *drip line* outward up to three times the radius of the *drip line*. The drip

line marks the outer limit of where water dripping off the leaves of the tree would fall on the ground. This line may be of considerable distance from the trunk. For example, I have a mesquite tree in my yard with a drip line that is nearly 30 feet from the trunk. That means that most water absorption for that tree probably occurs starting at a distance of about 15 feet from the trunk and extending to as much as 150 feet from the trunk, an area of nearly 70,000 square feet! Compare these numbers with the sizes of the wells or the locations of drip emitters many people place around their trees and you can see that it's no wonder that their trees and shrubs often suffer stress from lack of water. In addition to spreading outward from the plant, most plant roots are found at relatively shallow depths. Many people seem to believe that trees, shrubs, and other plants have long tap roots that penetrate to the water table. In fact, most of the water absorbing roots of trees and shrubs are found within one to three feet of the surface.

For more information on watering your plants, the Michigan State University Web site at: <http://msue.msu.edu/msue/imp/mod03/01800544.html>.

Gary A. Gruenhagen, Master Gardener
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November Reminders

- ✓ This is a good time to install a drip system
 - ✓ Replace summer mulch with fresh mulch
 - ✓ Start a winter herb garden
 - ✓ Protect plants from frost
- (The bulletin *Frost and Frost Protection* is available from the Cooperative Extension offices.)

Would the person who borrowed the *Weeds* book from the Sierra Vista Cooperative Extension office please return it as soon as possible. Thank you!

The Agent's Observations

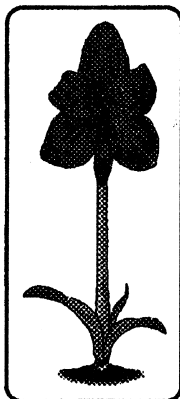
Q

What is the proper care of an amaryllis houseplant?

A

The amaryllis houseplant is in the genus *Hippeastrum*, not be confused with the outdoor *Amaryllis belladonna*. Both are native to South Africa. Amaryllis should have several hours of sunlight or bright light all day. Keep the soil evenly moist and feed every other week, except during fall. When the strap like leaves turn yellow, dry out the plant for at least two months after removing the dried leaves. Keep the plant in a cool, dry, dark place. After this rest period repot the amaryllis, during late fall or early winter, in a sandy soil mix with bonemeal or superphosphate. Set the upper half of the bulb above the soil surface. Firm the soil and lightly water until growth restarts. Too much water can cause rotting. When leaves begin yellowing start the procedure over again. The large flower stock topped with two to six huge trumpet-shaped flowers make this long lived houseplant worth keeping!

Source: *House Plants*. 1980. The American Horticultural Society. Franklin Center, PA. Page 86.



Q

Should I fertilize and water my trees during the winter? How about my house plants?

A

Fertilizing of trees and shrubs during the winter in the high desert should not be done.

Fertilizer could stimulate plants to come out of dormancy, new growth to begin and then winter damage could occur. These plants are "resting" above the ground but do have activity in the roots if soil temperatures are warm. Normally trees and shrubs that go into winter with adequate soil moisture do not need watering during the winter. Usually winter rains or snow provide enough water. With cold air and soil temperatures evergreens will use little water. Deciduous plants will not use any water because leaves have fallen and are not transpiring. However, if winter moisture is not sufficient to keep the roots moist they will die. Over the past two dry winters supplemental irrigation has been needed in Cochise County. If no winter moisture occurs for a month or six weeks then water. Many evergreen trees have died from winter moisture stress. The plant actually dies in the late spring as temperatures and water demands increase but the roots died during the winter. Without an adequate root system plants will not live.

Houseplants are generally tropical in origin and survive best in warm humid environments. Houseplants need to be watered because of the limited soil volume they are confined to. House temperatures are warm and allow plants to continue to grow. The best way to determine soil moisture is to stick a finger in

the soil one to two inches. If the soil feels dry, water; if soil feels moist, don't water.

Fertilizing houseplants during the winter months is not encouraged because of reduced light from the sun. However, if you are "spoon feeding" your plants, that is giving a little fertilizer at each watering, cut back on the fertilizer by giving $\frac{1}{4}$ to $\frac{1}{2}$ the normal amount.

Many house plants need high humidity to be "happy." This is especially true with ferns. With forced air heating in many homes, house humidity can be lower during the winter than during the hot summer because of swamp cooler use. Humidity can be created by placing the potted plant on top of a pebble filled shallow dish. Fill the dish with water as needed, maintaining the water level near the top. The dish should have a diameter nearly as large as the plant diameter. The pebbles are important so that the potted plant is not sitting in water which will cause soil saturation, and thus root rot. As the water evaporates a humid environment is created in which a tropical plant will grow and thrive. This is much better than using a squirt bottle three times a day to try and humidify the plant!

Robert E. Call
Extension Agent, Horticulture

REMINDER!!!

Master Gardeners and MG Trainees are reminded that an advanced Landscape Design training class begins Nov. 5. If you want to attend and haven't registered yet - call Joyce in the Sierra Vista Cooperative Extension office right away!

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Sago Palms

I have always thought that sago palms were very beautiful. Since I have lived most of my life in areas where the temperatures stay well below freezing for most of the winter season, I only saw these palms used as decorative, indoor plants. After moving to Arizona, I have seen many sagos planted outdoors.

My research on sago palms has revealed that there are actually two plants which bear the same name. Both *Metroxylon* palms and *Cycas* *revoluta* (also referred to as a Japanese sago palm) are called sago palms. The former belongs to the palm genera, whereas the latter is a member of the *Cycas* genus. The five species of *Metroxylon* palm, which is a massive tree that accumulates starch in the pith of the trunk,

are found in five separate areas of Micronesia and Melanesia. Species include *M. salomonense* (heavy nut palm or ivory nut palm), *M. warburgii*, and *M. sagu*. The last palm is the one which is called a sago palm. Found in Malaysia, Indonesia, Mindanao, and New Guinea, it grows to 26-65 feet tall and 6 inches to two feet in diameter!

The Japanese sago palm belongs to the *Cycas* genus, which includes approximately 40 to 50 species such as *C. circinalis* (Queen sago), *C. taiwaniana*, and *C. rumphii* of palm-like plants. *C. revoluta* (Japanese sago palm), found mainly in the Japanese Nansei Islands and South China, is much smaller than *M. sagu*. Although the trunk can grow to 10 feet high and 16 inches in diameter, many are only half this size. *Cycas revoluta* is a choice container or

bonsai plant, useful for a tropical look, and the most widely grown cycad. It is tough and hardy to 15°F.

Sources: *A Guide to Palms and Cycads of the World* (Lynette Stewart) and *Sunset Western Garden Book*

Karen C. Brown
MG Trainee

Happy
Thanksgiving!
~~~~~  
Water Wise

info-line  
458-8278, Ext. 141  
with your questions or to make  
an appointment.  
Ask for Cado Daily.