High on the Desert Cochise County Master Gardener Newsletter

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

Gardening in water

Get your hands wet with Angel

Indoor Water Gardens

This month I will write about the latest craze: indoor water gardens. Some of the centerpieces at the High Desert Gardening & Landscaping Conference in February were just that. A number of plants are suitable to be grown in vases. The only difficulty is the availability of the plants and the price. Water plants are more expensive than regular houseplants. But, if you look around and visit a few aquarium stores, you can find a nice variety of suitable plants. The same "Beta" vases that I talked about in the April newsletter, or clear glass containers used for growing houseplants in water, can be used for growing aquatics. If you want to step up to a ten-gallon aquarium, it is a great choice, inexpensive, and a niceconversation piece.

Begin with some glass pebbles or aquarium gravel; the color choice is endless and up to you. Now you definitely need a submerged, oxygenating plant like Anacharis (*Egeria densa*, Canadian Pondweed or *Elodeas Canadensis*). These plants stay completely submerged, helping the other plants with giving up oxygen and keeping algae growth down. Another good plant is *Myriophyllum* (Parrots Feather) which grows underwater although the tip is held above water. These plants are true aquatics.

Now, you need something for height. There are lots of marginal plants which may be used. Some of the choices are: Umbrella Palm (*Cyperus alternifolius*)

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also available in a miniature variety; Elephant Ears or Tarp (*Colocesia esculenta*); Bluebell Arrowhead (*Sagittari*). Any of the above are good choices.

Finally, as filler, use floating plants like Water Hyacinth (*Eichhornia crossipa)* or Water Lettuce (*Pistia stratiotes*). Also very nice to use is Watercress (*Nasturtium* officinale) and Penny Wort (*Hydrocotyle* vertcillata). These are available in summer and you can find them in aquarium stores.

You can even grow Water Irises in vases and even certain Water Lilies. They need to be a miniature variety or a variety which can adapt to small containers like James Brydon, a red hardy lily and *Nymphea deuben*, a tropical lily. Keep in mind that water lilies need at least eight hours of bright light to bloom, but not direct sun which would "cook" them.

The water garden in a vase needs to be fertilized just like the houseplants in water (see April's newsletter) with half strength liquid fertilizer. Do not forget water exchanges from time to time and always use filtered water. Now try a water garden in

a vase and have fun with it! Please never include a live fish in these arrangements.

Angel Rutherford, Master Gardener

Robert E. Call
Extension Agent, Horticulture

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Editor

June Reminders

- Check tree ties
- Remove stakes if tree can stand alone
- Mulch trees & shrubs
- Remove faded flowers & fertilize roses
- Stake tomato plants & watch for curly top—remove
- Prevent blossom end rot by even watering
- Water! Water! And water some more!

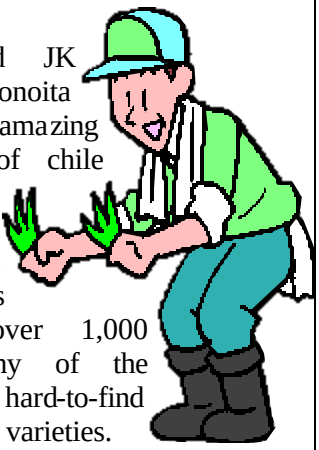
Cuttings 'N' Clippings

❄ Cochise County Master Gardeners will meet June 12 from 5:00-7:00 p.m. at the Sierra Vista Library. A pot luck dinner will be held followed by the election of officers for the next year. Master Gardeners are asked to plan to attend this important function!

❄ Congratulations to the 16 people who have just completed the 13-week Master Gardener Class. They will be awarded their Master Gardener Associates badges at the June 12th CCMGA meeting. When they have completed their 50 hours of volunteer time they will become full-fledged Master Gardeners..

❄ The July 6 free *Water Wise* Workshop will be ***Rain Water Harvesting.*** The workshop will be presented by Cado Daily, *Water Wise* Conservation Educator and takes place at the University of Arizona South, 1140 N. Colombo, Sierra Vista at 9:00 a.m.

❄ Bisbee's Farmers' Market, an "old-fashioned" farmers' market, is held in the Warren District's Vista Park, Bisbee, on Saturday mornings from 7:30—11:30 a.m.



❄ Diamond JK Nursery in Sonoita has an amazing assortment of chile peppers, sweet peppers, and tomato plants for sale—over 1,000 plants! Many of the plants are hard-to-find and heirloom varieties.

The Virtual Gardener—June Watering Strategies

It seems like only a couple of weeks ago I was wondering if summer would ever arrive. Now it's here and after an abnormally dry winter, I'm fighting to keep my plants alive under the blast furnace heat of a June sun. Water too much and the plants die. Water too little and the plants die. Water imprudently and most of the water is wasted through run-off or evaporation and the plants still die. What to do?

First, since plants get their water from the soil, we need to get water into the soil where they can use it. This may not be as easy as you think. When water is applied to the soil, three things can happen to it. It can run off. It can evaporate directly back into the atmosphere. And it can infiltrate into the soil. We can maximize how much of it gets into the soil by making sure that the soil around our plants is not compacted and by applying it at a slow enough rate that it doesn't run off.

Second, since plants absorb water through their roots, we need to make sure that the water gets to where the water absorbing roots are. That means applying sufficient water to penetrate to the proper depth and applying it at the proper location. Root depths vary from plant to plant, but as a rule of thumb trees need to be watered to a depth of two or three feet, shrubs to a depth of one to two feet, and smaller plants to a depth of six inches to a foot. The depth of penetration is best measured with a soil probe.

One of the biggest mistakes many people make is applying water in the wrong location. Watering should start at the drip line (the edge of the canopy) and extend outward from one and a half to four times the width of the canopy. If you stop to think about it, this only makes sense. When it's raining, where's the driest place? Under the canopy. If you were a plant putting out roots to capture moisture, would you put your roots under the canopy where it's the driest or beyond the canopy where the rain is falling?

Third, since soil particles hold water with differing amounts of force, we need to make sure that we have the correct types of particles in our soils. Sand particles hold on to water molecules so weakly that gravity pulls them away. That's why sandy soils dry out so quickly. Clay particles, on the other hand, hold water molecules so tightly that plants cannot exert enough suction to tear them away. Even though clay soils contain huge amounts of water, plants may die of thirst because they cannot make use of it. Particles of composted organic matter hold water molecules tightly enough so that they are not pulled away by gravity but weakly enough so that plants can pull them away. Since desert soils are low in organic matter, this means we can help our plants through the drought by amending the soils around them with compost.

Remember, this does not mean we should amend the soils when planting new trees. The soil around a new tree should be loosened to a diameter of three to five times the width of the root ball but not amended. When the trees are a little older, you may mix some compost in the soil around the tree to keep it loose and absorbent.

Finally, we can minimize the amount of water lost to direct evaporation from the surface or shallow depths in the soil by the heavy use of mulches—six to eight inches is not too much. I like to use straw because it is relatively inexpensive (about $6 a bale), goes a long way, and keeps the soil beneath cool by reflecting a lot of sunlight. The mulches should extend beyond the drip line. The only problem I've had with straw mulch is that birds and bunnies like to root around in it, making a mess and uncovering the soil. This can be remedied with a little chicken wire placed on top of the mulch..

If you would like to find out more about mulches, organic amendments, and low water use gardening, check out the Arid Southwestern Gardening site at **http://ag.arizona.edu/gardening/xeriscaping.html**

Until next time. Happy surfing.

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How Much Water Does Your Pool Evaporate?

⇒ Approximately 65 gallons/ year evaporates from one square foot of exposed water in the Sierra Vista area.

⇒ Now, multiply yearly evaporation by the square footage of your pool. (For example, a 400 sq ft pool: 65 gallons X 400 = 26,000 gallons.)

⇒ If you regularly covered your pool about 95% of the evaporation would be eliminated!

Yearly water savings for a 400 sq. ft. pool with a pool cover = 24,700 gallons of water saved!

Source: Rob Call & Cado Daily, U of A Cooperative Extension, 9/01

Creating a Wildlife Habitat Garden—Basic #1– Water

H2O for the BIRDS

Water is a strong attractant for birds. Many birds come to water that are not attracted by seed feeders or plantings. Some birds do not drink from water, instead they get their water requirements from the foods and insects they eat.

Birds keep their feathers clean to stay alive. So many birds make daily visits to safe, clean, and consistent water sources for the all-important task of preening. Some birds such as quail and towhees prefer to bathe in dust instead of water so a space where they can clean their feathers in dirt or sand is a welcome addition to the garden.

A shallow 1-2 inch dish will be enough to attract birds. Place a water source on ground level near shrubs or trees to accommodate ground dwellers and for preening and evading predators. Birdbaths do not have to be fancy—in fact the favorite bathing/drinking source in my garden is an old discarded dog food crock dish! Whatever vessel you choose to use be sure that the birds have a sure footing underneath. I put a couple of clean rocks in in the bottom of my vessels.

Nothing catches a birds attention like the sound of moving water so consider installing at least one water feature such as a fountain or a birdbath equipped with a mister or dripper. To conserve water run these features only when you are home and can enjoy the birds they attract to the garden. At my house the two best times to watch birds is from sunrise to 10 a.m. and from 4 p.m. to sunset. In my fountain I have placed three large clean rocks for easy access to the water since the fountain is far too deep for birds to wade in. You may be surprised who visits these magical moving water displays—one year we had a Sandhill Crane stop in for a drink!

If you decide to use birdbaths, dishes, or fountains frequent cleaning is essential to prevent the risk of disease transmission. Many diseases can be spread in a birdbath or feeding area. Trichomonaisis, a bacteria that causes "choking disease," is common in the Southwest and is easily spread. To prevent diseases, water sources (with the exception of ponds which contain plants that promote an ecological process that makes water safe to drink) must be scrubbed out daily with a 10% bleach solution. When nighttime temperatures fall below 55° F, the bleach is not necessary, but daily cleaning is still a must.

HUMMINGBIRDS

Misconception is that feeders provide them with all the water they need, but hummers also enjoy water features for bathing and drinking. Unfortunately traditional birdbaths are not well suited for this purpose. Hummingbirds prefer running, shallow water and small fountains that mist or splash gently. Have you ever noticed that hummingbirds seem to enjoy flying though our summer rains? It's the ideal birdbath for them!

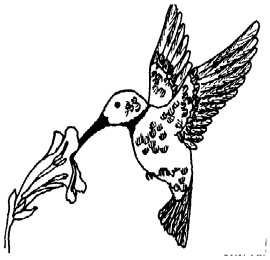
BUTTERFLIES

Wet soil or areas around ponds are frequent sites males visit—a behavior called "puddling"—to extract sodium and other nutrients needed for mating. Butterflies seem especially attracted to a soaker hose laid on top of the vegetable garden. The wet soil combined with the humus enriched soil provides them an idea place to "pull up a spot at the bar." A dish filled with damp sand/native soil and manure will also attract butterflies.

CORRECTION: In last month's article there is a minor correction. The sentence "Garden May chores include:" should have read "Garden chores may include:" Sorry for the mistake!

Next time: Basic # 2—Food.

Cheri Melton, Master Gardener



Cheri's "What To-Do" List

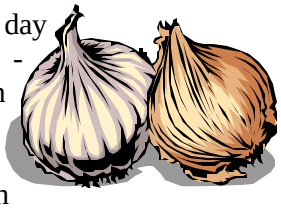
June in the High Desert is usually windy, hot, and dry.

- Water sources are scarce—be sure to keep drinking sources clean and full
- This is a good month to monitor what plants need water before the others—make notes and move plants next month into suitable hydro zones
- This is the last chance to plant heat loving cacti into the ground so they can root before the rains come
- Consider replacing some of the gravel mulches in your yard with wildlife friendly organic mulches such as bark or shredded cedar.

The Agent's Observations

Q I planted onions. Why are they not forming a bulb? When will I know they are ready to harvest?

A The answer depends on several factors. It becomes a little involved so please bear with me. There are several classes of plant types in the onion family. Green onions, shallots, leeks, multiplying and walking onions, chives, and garlic to name several. I assume you planted what are referred to as dry onions that form a bulb. Dry onions are normally planted from bulblets or sets. However, onions can be grown from seeds that during the first growing season will produce small bulbs. Onion sets are produced this way. These can be consumed as "pearl" onions or dug, dried, and planted next year to produce larger dry onions. The larger the set the larger the onion potentially. Dry onions grow in two stages. The first is leaf production. More leaves mean more food/energy produced to grow a large bulb. The second stage or "bulbing" begins when day-lengths change. Within the dry onion group there are two day-length categories. These are known as short-day, 12-14 hours of sunlight, and long-day, 14-16 hours of sunlight. These designations refer to the time when bulb formation is initiated. (As it turns out it is really the night-length not the day-length that matters, but that's another story!) For example: with short-day types leaf growth slows or stops and bulb formation begins when the day length is 12 - 14 hours. In the southern tier of states, with mild winters, short-day onions are planted in the fall and overwinter in the ground. In the northern tier of states, with cold winters, long-day onions are planted in the spring and harvested in the fall. If you have planted long-day onions this spring shortly the bulb will begin to form. If you planted short-day onions this spring then the bulb will not begin to form until late this fall. In our high desert area best success is had by planting short-day onions in September and letting then overwinter in the garden. Harvest in June when a few flower stalks have formed. Break off the first few flowers you see. After a couple of weeks step on the onion plant "neck" bending them to the ground. This will begin to dry the plant down. Several weeks later dig the bulbs and place them in gunny-sack to dry. Store them in a dry shady location.



Q When should I de-thatch my lawn?

A That depends on the type of lawn you have. De-thatching is done with either a machine from a rental shop or with specialized rakes that give the users a very good workout! De-thatching is done to remove excessive, meaning more than ½ inch, build-up of plant materials just beneath or just on top of the soil. Stolens are stems that "creep" on top of the soil and rhizomes are underground stems. Both can produce new grass plants. De-thatching is not for the removal of built up grass leaf blades in the sod. These normally decompose naturally. With a knife cut out several plugs of lawn and examine the thickness of the thatch. If it is over ½ inch then consider de-thatching. Bermuda grass can spreads by means of seeds, rhizomes, and stolens. It is a warm-season grass, growing best in warm weather. De-thatching is a damaging procedure and should be done only when plants are vigorously growing and have plenty of time to recover from the damage caused by the machine or rake. Therefore, de-thatch Bermuda grass lawns about a month after it is growing well, normally the end of May or June. Bluegrass produces only rhizomes, no stolens. It is a cool-season plant and grows best during cool temperatures. Bluegrass is rarely de-thatched, but if needed should be done in mid-September into October. Fescue is another cool-season grass but never needs de-thatching because it is a bunch grass and does not produce stolens or rhizomes.

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A Tour of Bisbee's Gardens

I don't go on many garden tours in Arizona because I am not interested in looking and feeling hot at gravelscapes with a plant here and there. But I jumped at the chance to visit the gardens on the recent Bisbee Garden Tour sponsored by the Bisbee Bloomers.

Before the scheduled tour, there was a talk for those interested in learning about plants that attract birds and butterflies. The presentation by Sandy Upson, noted Lepidopterist and nature photographer, was excellent and as a butterfly gardener I learned new things about butterflies I didn't know before. The garden where the talk took place was specifically planted to attract birds and butterflies. Sure enough as the sun began to warm our backs the jeweled creatures began to flutter from flower to flower giving us a visual show.

After the talk Chris (my husband) and I decided we needed some fuel for the tour so we went to visit the Bisbee Farmers Market in Warren's Vista Park. There we bought authentic German pastries and fresh bread and browsed the many tables that displayed homemade pottery, garden crafts, herbs, vegetables, and much more. The Farmers Market is looking for vendors—contact 432-0377 for a vendor application form or better yet visit the market on Saturday mornings from 7:30—11:30 a.m.

The press release for the tour promised to feature the allure and beauty of high desert gardens and the six gardens we visited that morning did not disappoint. Twelve of Bisbee's finest gardens were on display during the self-guided tour. The tour took visitors from the historic Old Bisbee district to the 'Cities Beautiful' planned community of Warren and into the modern San Jose area with its panoramic views of Mexico and rambling ranch-style homes. Eclectic in style, the gardens reflected the homeowner's preferences and experiments rather than landscape architects' planned perfection.

Each location was easy to find and you were greeted warmly by a Bisbee Bloomer docent. What I enjoyed the most was that the gardeners themselves displayed practical gardening knowledge based on their trial and errors and freely gave advice to visitors. Chris enjoyed the use of recycled materials reused in useful and sometime quirky ways that gave these gardens their own flair and I loved the fact that out of the six gardens we visited only one had gravel; the others used organic materials such as sand, straw, and bark mulches that gave the gardens such life and touched one of the sensory organs that gravel can't touch—they smelled alive!

The tour was hosted by the Bisbee Bloomers, a civic organization dedicated to the enhancement of the natural beauty of Bisbee. I look forward to attending their next Garden Tour and hope that the gardens we couldn't visit the first time around will be available to see next time.

Cheri Melton
Master Gardener