



The Virtual Gardener—Portable Drip Systems

Drip irrigation systems are popular in the desert Southwest because they allow our plants to thrive without wasting water. There are downsides, however. Installing a full-up drip system can be expensive. In addition to distribution tubing and emitters to carry the water to the plants, you also need other components. Pressure reducers are required to lower the water pressure to a level that can be handled by the system. Filters are necessary to keep the water flowing freely through the emitters. And you may want to install electronic timers to cycle the system on and off. Not only is such a system relatively expensive, but it is also rather inflexible. Once installed, a fair amount of work is involved to extend the system or change it to meet the evolving needs of the plants it supports.

But there are simpler alternatives to creating a drip irrigation system—ones that are far less expensive and more flexible than a full-up system. Do a Google search on “portable drip

irrigation systems” and you will be rewarded with thousands of links to websites describing those alternatives. One of the simplest home-made systems is a bucket with a hole in it (remember the Hank Williams song?). This [website](#) recommends using a bucket with an eighth-inch hole and adjusting the flow with a stick or piece of string. Another site—a [video](#) from Kenya—shows the use of an elevated tank to provide water for a gravity-feed drip system. A more elaborate DIY project uses a large plastic garbage bag with small holes poked in it as the water delivery system. You can check it out [here](#), but it sounds like a lot of work for what appears to be a very fragile system. For yet more alternatives, check out the Garden Tips in the [June 2001](#) and [June 2003](#) Master Gardener Newsletters and the Garden Tip in this newsletter (see Page 4).

Until next time, happy surfing.

*Gary A. Gruenhagen, Master Gardener
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In a Desert Garden

Fortnight Lily—*Dietes* African Iris *Iridaceae*

This is a plant native to Africa and resembles our iris only the leaves are longer and narrower. In my garden I have two of these clumping plants. One is in a more shady location and does not produce as well as the one in a bright spot. I will have to move that one to a more sunny position, but our full sun will be hard on the plant—some afternoon shade is welcomed. Both plants grow in big pots, as they require good soil and good drainage. The latest addition was given to me by my good friend Lori. This one is *Dietes* 'bicolor.' The bicolor stands for the color of the flower; the leaves are deep green and evergreen. The flowers appear on long branching stems and in this case are white with reddish brown blotches. Their shape reminds me of the Japanese iris that I grow in my pond. The flowers have three inner and three outer segments. Flowering usually appears in two weekly intervals for a long season. That gives the plant the name Fortnight Lily. Due to the mild winter this year I had flowers around Christmas—so pretty!



This lily is easy to grow and it takes what it gets, but needs good draining soil with compost added. The plant is hardy to 10°F.

There are several varieties available, all native to South Africa:

***D. grandiflora*:** grows somewhat taller to three feet and the flowers are actually bearded.

***D. iridiodes*:** a plant from East Africa, grows also to three feet with white flowers that have blotches in yellow to orange. It self-seeds.

Then of course there are the usual hybrids. Sometimes these plants are available in the big box stores, but you find them also at some smaller nurseries.

One last very important remark—never, ever cut off the spent flower stalks as they reproduce new flowers and are everlasting. Only *D.* 'bicolor' stems last one year. I didn't know that when I planted my first specimen and like all good and tidy gardeners I cut off all five flower stems and wondered why it took so long for the plant to bloom. Live and learn.

Angel Rutherford, Master Gardener

Cuttings 'N' Clippings

* The next CCMGA meeting is 5:00 p.m. Thursday, **March 3** at the University of Arizona South Campus Room 503. The speaker will be the new Pima County Agriculture Extension Agent for Horticulture, Mr. Peter Warren. He will discuss recent frost and freezing damage to plants in our area. He will help plant owners recognize which plants will recover and which will need to be removed. As an Entomologist he will also discuss garden and landscape insect management.

* On **March 5**, 9:00—11:30 a.m. the free Water Wise presentation takes place at the University of Arizona South Campus Public Meeting Room. Cado Daily and Cyndi Wilkins will present *Watering Practices and Drip Irrigation*. Watering schedules and drip systems will be discussed. For more information contact the Cooperative Extension office at 520-458-8278.

* The newly formed Cochise Chapter of the Arizona Native Plant Society meets the second Thursday of the month, 5:00 p.m. at the Sierra Vista Library. For information contact Pat Anderson at

patanderson3@juno.com

* Tohono Chul Park's 2011 Spring Plant sale will be held Saturday and Sunday, March 19 and 20 (Tucson). For more information call (520) 742-6455, Ext. 0 or

www.tohonochulpark.org

Robert E. Call

Robert E. Call
Area Horticulture Educator

Carolyn Gruenhagen
Editor

The Big Freeze: A Tale Of Two Sprouts

Wow! We got our once-in-a-blue-moon big freeze, eh? The official low temperature for Sierra Vista on Thursday, February 3rd was 3°F! At our house, our thermometer read a balmy 7.5°F that morning, while many folks in the chillier parts of the county saw temperatures down around 0°F. Brrrr! We were below freezing for about 60 hours from Wednesday night through Saturday morning with just a few hours in the low 30s on Friday afternoon to temper the streak. Next year, I'm for sure moving to Arizona where the winters are warm!

Anyway, I'd sown beet, lettuce, chard, bok choy, and other winter crop seeds in raised beds about ten days prior to the cold snap. Some of the seeds had sprouted before the freeze came, but some were not yet visible. Wednesday afternoon, the day before the big freeze, I covered my seed beds with fabric row cover (aka frost cloth, sometimes known as old sheets), but I was not optimistic that anything would survive the coming Thursday and Friday lows. Finally, on Saturday afternoon, I uncovered the beds to take a peek and was shocked to see the sprouts had survived quite nicely. Making things even better, over the next week or so, the rest of the seeds sprouted, too.

At the same time as the outdoor seeds were sown, I also planted some cabbage and broccoli. These, I sprouted indoors in little plastic six-packs. After they sprouted, I took them outdoors each day to get sun, then brought them in each evening. Unfortunately, I forgot and left them outside one night. The low the next



morning was only 29°F, but that was enough to kill the tender sprouts.

Why did some things survive a frigid 7°F, yet others died at 'only' 29°F? The answer lies with soil mass and the row cover. The survivors were in a large amount of soil that was heated by the sun each day, even through the cold snap, and they were covered with fabric which helped to retain the heat absorbed during the day. Being freshly sprouted, they were close to the relatively warm soil, too. The seedlings that didn't make it were in a very tiny amount of soil which couldn't absorb very much heat. Further, I hadn't covered them as I meant to bring them in at night. As a consequence, the microclimate—in this case you might even call it a nanoclimate—allowed the seedlings to be exposed to subfreezing temperatures even though the air wasn't nearly as cold as it was on the nights that the other seedlings survived easily.

I also worried about my outdoor hose bibs and protected each of them with an old blanket and a 60 watt trouble light I placed under the blanket for heat. Late Thursday morning, with the outside temperature still a chilly 16°F, the temperature under the blanket was a cozy 67°F. This technique works well, obviously, but be sure the light doesn't get too close to plants, plas-

tic, or the blanket. You don't want to toast the plants, melt plastics, or catch fabrics on fire.

The bottom line: With some effort and proper techniques, you can protect plants and exposed water pipes despite pretty bad freezes. There is a University of Arizona Cooperative Extension bulletin on frost protection at:

<http://ag.arizona.edu/pubs/garden/az1002.pdf>. It explains some of the science behind the protective techniques and it's definitely worth a read. Oh, and just because these bad freezes tend to come rarely doesn't mean we couldn't get another one next year or next week. Plant plants that are rated for our real, if rare, climate extremes.

An off-topic note: In the seed source article in the February issue of this newsletter, I (snarkily) commented on the fact that the small town of Calamus, Iowa (population approximately 400) appeared to have a 230th street. Well, a gentleman attending our recent Gardening & Landscaping Conference explained to me just why a small town in Iowa appears to have so many streets. It turns out that Iowa requires numerical, that is to say, logical, street numbering systems so as to help 911 responders quickly find an address! So, even though 230th street may be miles away from the community and buildings that make up tiny Calamus, the street naming system ensures that emergency responders can easily find it. Thanks much for the explanation, sir!

Bill Schulze, Master Gardener

Garden Tip 8704.2 (BLADPOD Revisited)

In the June 2003 Master Gardener Newsletter, I wrote Garden Tip 8704.1 describing how to recycle the plastic bladders used in certain brands of boxed wines having “twist-and-pour” valves to construct a portable drip system I called a BLADPOD (Bladder-fed Portable Dripper). To construct a BLADPOD remove the bladder from the wine box, pry the valve loose from its collar with a screw driver, fill the bladder with water, and snap the valve back into the collar. Use the BLADPOD to water a plant by placing the water-filled bladder next to the plant and adjusting the valve to provide the desired flow of water.

Because the bladders can be easily punctured by thorns or sharp rocks, I recommended they be placed inside a 5-gallon nursery pot for protection and the valve pushed through a hole in the bottom of the pot. I have used BLADPODs extensively and find them very useful for supplying water to newly installed plants that are just getting established or established plants that are having a hard time coping with prolonged drought conditions.

Besides their susceptibility to punctures, the wine bladders are also vulnerable to UV degradation. Because the polyethylene plastic disintegrates so rapidly in the sun, I began thinking about a more robust solution. This article describes the solution I came up with using plastic 5-gallon buckets.

Plastic pails are available everywhere. You can buy them at every hardware store, get them when you buy paint, or find them for free in many places. Although they are not invulnerable to UV degradation, they are much more

resistant than the wine bladders, and painting them makes them virtually sun-proof.

The trick to using them for watering plants is attaching the twist-and-pour valve to the bucket. Here’s how to do it:

1. Cut the valve out of the wine bladder and trim off all the polyethylene membrane that remains attached to the valve.



2. Measure the outside diameter of the valve collar and select a rotary keyhole saw blade of the same size or slightly larger than the valve collar. The rotary blade I used was from an inexpensive set of nesting blades designed to be attached to an electric drill.

3. Using the electric drill, cut a hole in the side of the bucket near the bottom. When cutting the hole in the bucket with one of these blades, do not press down too hard on the drill or it will grab into the plastic and stop the drill. Press gently and let the blade do the work.

4. Once you have cut the hole, use some fine-grained sandpaper to smooth the edges of the hole and remove any fuzzy bits of plastic that remain.

5. Using a wide-bladed screwdriver pry the twist valve from its collar. The valve is held tightly so you may have to work your way around the valve and pry in several different places to remove it.

6. Once you have the valve and collar separated, coat the flanges on the collar and valve with caulking. I have had good luck using a siliconized acrylic caulk made for use in the kitchen and bathroom.

7. Place the valve on the outside of the bucket and the collar on the inside, and snap the collar and valve back together. It will require a fair amount of pressure and perhaps a rocking motion to get the valve and collar to slide together and tightly attach to the bucket.

8. Once you have pushed the valve and collar together as far as they will go, generously coat the margins of the assembly inside and out with more caulk. Let the caulk harden overnight before putting water in the bucket.

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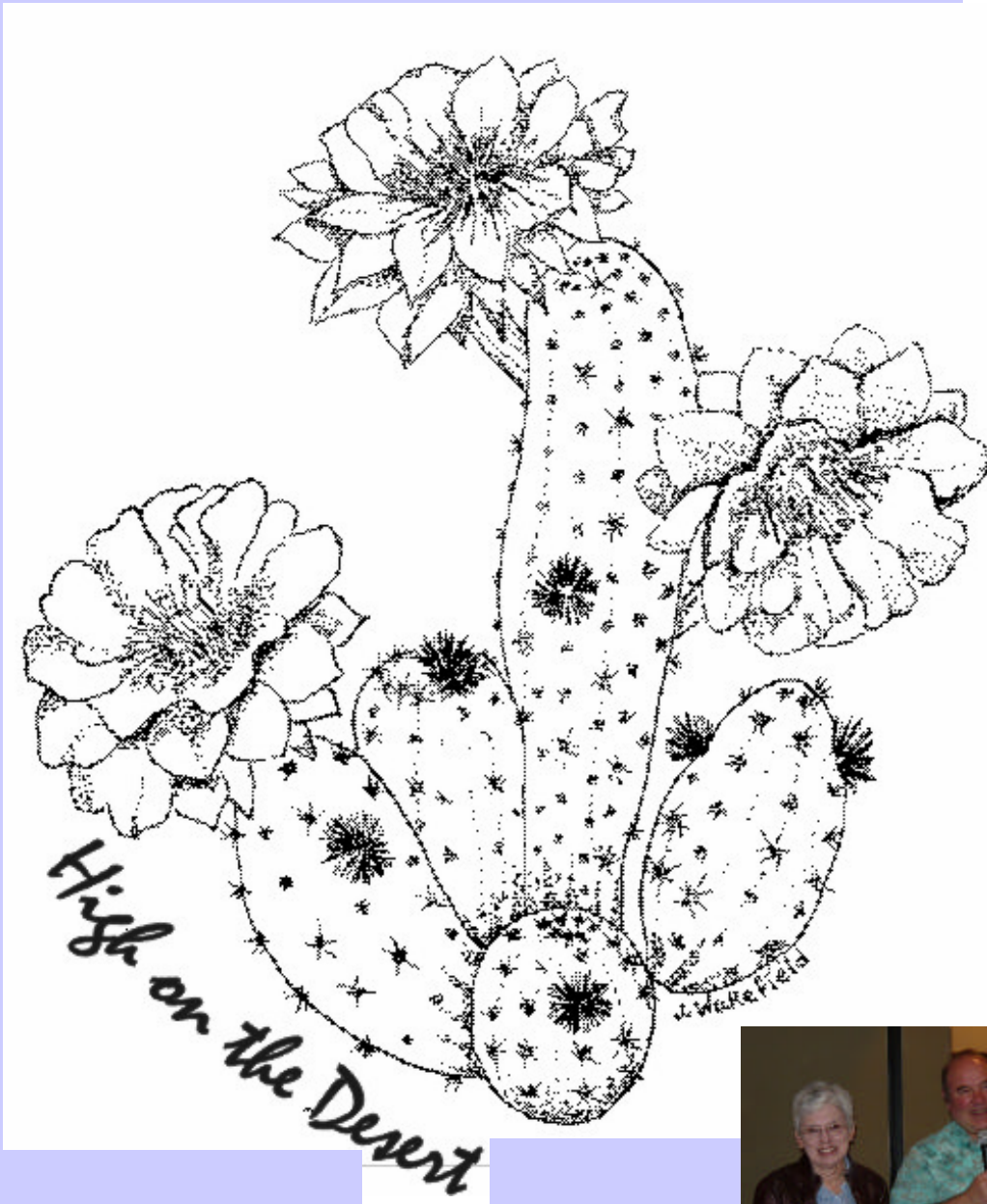
Master Gardener

2011 Master Gardener Class

The 13-week course begins
March 2—there is a fee.
For information contact the
Extension Office at
(520) 458-8278, Ext. 2141

18th Annual

High Desert Gardening & Landscaping Conference



Joyce Williams is named a Cochise County Honorary Master Gardener by Area Horticulture Educator, Rob Call, at the High Desert Gardening & Landscaping Conference February 18, 2011.



High on the Desert

Thanks to all the committee chairpersons and CCMGA members who gave so much of their time, energy, and talents to make our 18th Annual High Desert Gardening & Landscaping Conference successful: **Cliff Blackburn, Co-Chair Facilities Donna Blackburn, Finance and Co-Chair Facilities, Rosemarie Burke, Publicity Chair, Rob Call, Area Horticulture Educator and Program Chair, Michelle Goodman, Carolyn Gruenhagen, Conference Coordinator, Gary Gruenhagen, Registration Chair, Rebecca Hillebrand, Merrienne Lange, Gift Bag Chair, Bill Schulze and Vicky Schulze, Sponsor Co-Chairs, Olivia Sinks and Denise Sloan, Sales Co-Chairs, Doug Templeman, Eleanor Templeman, Cyndi Wilkins, the Co-operative Extension Staff in Willcox, and especially Joyce Williams in the Sierra Vista office. Special thanks to Rebecca Hillebrand and Jim Koweek, Emcees, Centerpieces by Rob Call, and Art by Joan Wakefield and Janyce Knight.**

Speakers:

Scott Calhoun, John White, Doreen Pollock, Dr. David Byrne, Dr. Ursula Schuch, Beverly Wilson, Dr. Howard Topoff, Robert Dubrul, Cheryl Garing, Ken Futrell, Sheri Williamson, Dr. Charles Gerba, Dr. Bill McCloskey, Dr. Gene Giacomelli, De Lewis, Dr. Rick Romea, Russ Buhrow, and Rob Call.

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Angel Rutherford Photography and Fine Arts SV

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Oaks of the Wild West, Hereford
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University of Arizona South Bookstore. SV
Wild Birds Unlimited

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Sierra Vista Area Garden Club
U.S. Dept. of Agriculture/Plant Protection & Quarantine
Water Wise



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Water Wise
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Plants of the Southwest
Seed Saver's Exchange
The Thyme Herb Company

Thanks to all of you! YOU made it happen!

The Agent's Observations

Q The cold weather last month affected many plants and they suffered. What should be done with these plants now that they look dead?

A Cold temperatures cause plant tissue damage. Plants that have high water content, like some cactus, can suffer the most damage. Other plants do not withstand temperatures in the low 20's and others in the teens. Living in the high desert we need to understand that single digit temperatures occur every couple of years. In the coldest areas sub-zero temperatures can be reached. Plants from low desert areas will most certainly fail. It was only a matter of time and that time arrived! Some examples are: Ficus Prickly Pear (*Opuntia ficus-indica*), Chir pine (*Pinus roxburghii*), and Bougainvillea. Do not give up on the damaged plants on your property quite yet. Plants have an amazing ability to deal with less than ideal growing conditions. Wait for a month or two before plant removal or pruning begins. It is hard to know if the root systems or trunks of plants have been damaged



or if so how severely. Many palm tree leaves or fronds are brown, but it is not known if the growing point or crown has suffered damage. To learn if tall palm trees were damaged the crown must be inspected. This will probably involve a 'High Boy' lift, a tall ladder, or climbing the tree to look at the growing point. If the tree is alive the crown should be creamy white or light green in color. If the crown is brown and mushy it is dead and the palm tree should be removed. If getting to the crown is a problem then patience is required. For other plants, patience is needed as well. If the damaged plants have not shown any signs of life by May or June they should be removed. If some life is showing, remove the remaining dead plant tissue because it will not recover. If a mature plant is to recover fully it will take several years.

Q What is the last date I can prune my fruit trees?

A Pruning can continue through the early spring, until flower petals fall from the pollinated fruit.

There will be honeybees visiting the flowers to pollinate, but they should not be much of a bother. They are concerned with gathering nectar and pollen. These worker bees are not defending their hive where the young live and other resources are stored. Therefore, they are not as apt to sting, but they can still be defensive if disturbed too much.

Rob Call demonstrating pruning techniques at recent demonstration.



(Continued on back page)

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Got frost damaged plants?

Please join the new Pima County Cooperative Extension Agent for Horticulture, Mr. Peter Warren, at the Cochise County Master Gardeners Association meeting on Thursday, March 3, 5:00 p.m. in Room 503 at the University of Arizona South. He will discuss recent frost and freezing damage to plants in our area.

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Q When is the best time to plant bare root roses?

A Late winter or early spring is the best time to plant bare root roses and other bare root plant material. The best time to plant containerized plant material is early fall, or the first part of October. Bare root stock could be planted in the fall as well, but the availability of bare root plants in nurseries is limited because of the production system in this country.

Robert E. Call
Area Horticulture Educator



Did You Know . . .

- ◆ The Arizona State Museum on the UA campus has the first and best proof that woolly mammoths and early man inhabited the earth at the same time—fossilized remains that have multiple spear points embedded in the skull.
- ◆ Student enrollment at the UA topped 30,000 for the first time in 1980.
- ◆ The UA has the largest Madagascar tree in the Western Hemisphere.
- ◆ The oddest trees on campus are the two boojum trees that resemble gigantic gray upside-down carrots planted in the late 1920s as part of the UA cactus garden.



March Reminders

- ◆ Prune roses
- ◆ Start seeds indoors
- ◆ Check cactus for fungus
- ◆ Plant cool-season veggies
- ◆ Reconsider your water usage (Call Water Wise for a free audit—458-8278, Ext 2139)
- ◆ Remove and replace winter mulches