



High on the Desert Cochise County Master Gardener Newsletter

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

The Virtual Gardener—Summer Monsoon

At this time of year, Cochise County gardeners look forward to the monsoon season when they don't have to spend all their time administering "artificial hydration" to their gardens. Since the cooling rains of the summer monsoon are just around the corner, I thought it might be interesting to see what information is available on the World Wide Web about the Arizona monsoon. Here is just a taste of what I found.

The word "monsoon" is derived from an Arabic word *mausim* meaning "season" or "wind shift." When most people think of a monsoon, they think of the rainy season in India or Southeast Asia that comes when the wind shifts from blowing out of the dry interior of Asia to blowing in from the ocean. A similar wind shift causes the summer rainy season in Arizona.

During the winter, the primary wind flow across Arizona brings dry

air from the west or northwest. In the summer, the winds shift to a southerly or southeasterly direction bringing moisture from the south. Believe it or not, meteorologists are still not sure whether the moisture for the summer rains originates in the Gulf of Mexico or the Gulf of California, or both. A major research effort, the Southwest Area Monsoon Project (SWAMP), is attempting to answer this and other questions about the monsoon.

The "pump" that drives the monsoon engine is created by the combined effects of a subtropical high pressure system called the Bermuda High that moves to a position to the east of Arizona in the summer and a large area of low pressure that develops over the Mohave Desert as the air there is superheated by the summer sun. Clockwise rotation of air around the high pressure area to the east and counter clockwise

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rotation of air around the low pressure area to the west draw moist air up from the south and southeast. As this moist air passes over the hot desert floor it is heated, rises, and cools, causing the moisture to precipitate out as rain. This same convective process creates the violent thunder storms that characterize the summer rainy season. The arrival of monsoon conditions is officially signaled by three or more consecutive days with dew points averaging 55° F or higher.

To learn more about the Arizona monsoon, point your web browser at the following: <http://geography.asu.edu/aztc/monsoon.html>

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Cuttings 'N' Clippings

* The next meeting of Cochise County Master Gardeners Association (CCMGA) is 5:00 p.m. June 11, 2003. This will be the annual business meeting followed by the graduation of the just completed Master Gardener Class. A potluck will be held. Please R.S.V.P. to Joyce at the Sierra Vista Cooperative Extension office.

* Saturday, July 5 from 9:00—10:30 a.m. a free *Water Wise* Workshop will be held at the University of Arizona South called ***Get Wet with Water Harvesting*** with Cado Daily, *Water Wise* Conservation Educator.

* If you missed the May 3 low water landscape ***Xeriscape Tour*** mark your calendar now for the fall tour scheduled for September 6 from 9:00 a.m. to 1:00 p.m. Details will be available in August from the Cooperative Extension office in Sierra Vista.

* Carr House is holding Sunday programs at the Carr House Visitor Information Center located approximately 2 3/4 miles up Carr Canyon Road (from Hwy 92 South of Sierra Vista turn right on Carr Canyon Road at the Mesquite Tree Restaurant). The June 15 program is *Building and Living in a Cave House* with Cathy Wertz, former Arizona Dept. of Agriculture supervisor, who has built and lives in a cave house. On June 22 Cado Daily, will present *Rainwater Harvesting*. For information on the programs contact the USDA Forest Service at (520)378-0311.

* The second season opened May 3, 2003 for the old-fashioned Farmer's Market held in the Warren District's Vista Park, Bisbee, on Saturday mornings from 8:00 a.m.—noon. The July 5 special event will be the "Monsoon Seed & Plant Exchange/Sale.. Items available at the market include farm products, plants, home crafts, nature crafts, food products, yard and garden art. For more information or if you would like to be a vendor call the Market Manager, Valerie McCaffrey at 432-7066 or e-mail:

vallimac@ivwnet.com



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! Water!

Water in Your Life

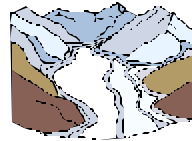
Proportional distribution of the world's water if the entire supply were considered as in a 55-gallon drum.



Total Water
55 gallons



World Ocean
53 gal, 1 qt,
1 pt, 3 oz



Icecaps & Glaciers
1 gal, 12 oz



Ground Water
1 qt, 11.4 oz



Atmosphere
1 pt, 4.5 oz



Freshwater Lakes
.05 oz



Saline Lakes &
Inland Seas
0.34 oz



Soil Moisture &
Vadose Water
0.25 oz



Rivers
0.01 oz

Garden Tip 8704.1

A couple of years ago I wrote an article describing how to reuse the bladders that hold wine in certain brands of boxed wines to water your plants, specifically bladders of the twist and pour type. I called this device a Bladderfed Portable Dripper (BLADPOD). Since that time I have made extensive use of BLADPODS in my own yard and have made a small improvement in their use that I will share with you. First, here are the instructions for making a BLADPOD.

Once the bladder has been emptied of wine, remove it from the box and extract the twist and pour valve by inserting a broad-bladed screwdriver under the edge of the black plastic valve mechanism and gently twisting the screwdriver (see Fig. 1). The valves are securely seated in the bladder opening with a friction fitting and it may be necessary to move the screwdriver around the edge of the valve mechanism and twist at several locations to finally remove it.

When the valve has been removed from its opening, you should rinse any remaining wine from the bladder. You may then fill the bag with water and reinsert the valve mechanism into the opening. I have found that it is not necessary to insert the mechanism all the way into the opening. Just push it in until it first snaps. This facilitates removing it when the bladder needs to be refilled.



Fig. 1 Bladder with valve removed

After filling the bladder and replacing the valve, you now have a portable watering system that can deliver up to 5 liters of water to a plant at a precisely controllable rate. The valve can be opened slightly to allow the water to drip out over several hours or it can be opened all the way to dump all of the water in a matter of seconds. Since the bladder is pliable it collapses on itself as the water drains out and never becomes blocked by air pressure.

As frivolous as it may sound, the BLADPOD works very well and can be used to drip

irrigate plants that are not accessible from an existing drip system. It is perfect for irrigating newly installed plants that will only require water until they are established. Also, BLADPOD can be used for fertigation by placing a few drips soluble fertilizer in the water.

Although the bladders are made out of heavy gauge polyethylene plastic or Mylar, they are not bulletproof. Using them around cacti, mesquite, or other thorny plants can result in a puncture. A way to avoid the danger of a puncture is to place the bags inside a 5-gallon nursery pot. This not only protects the bladder but also allows it to drain more completely. I prepare the pot for this use by enlarging one of the drainage holes at the bottom of the pot to about 2 inches in diameter to provide a place for the valve to extend outside the pot. (see Fig. 2).

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Fig 2. BLADPOD in Action

The Agent's Observations

Q Why are my summer squash not producing? There were some fruits early on in the season but now there are just vines and flowers growing. Also, my tomatoes and peppers are not producing. The flowers are just falling off. Some of the early fruit has been cracked. What can I do?

A During hot weather pollen of some plants becomes less viable or sterile and does not pollinate. Therefore fruit do not form. In essence the hot weather stops fruit set. This is true for tomatoes, bell peppers, chili peppers and some members of the melon and squash family. Tomatoes will crack from hot weather and irregular watering. The biggest factor causing tomatoes to crack is the variety genetics. If a variety description list the tomato as crack resistant it will probably not crack. Crack resistant tomato varieties include "Mountain Pride" and Mountain Delight. To even out the soil moisture and help minimize cracking place mulch over the root area.

Q I have a pine tree that has masses of sap that look like large bubbles or balloons. These

occur on small branches near the tips. Some of the needles are dead or dying. What is causing this and what can I do to prevent it?

A The mass of sap you see is the result of an insect larvae that is living inside of the blister-like bubble. If you "burst the bubble" you will find a pitch twig moth larvae. There are several species of pitch moths, however the one you have is most likely *Petrova comstockiana* (Fernald). Eggs are laid singly on the bark of limbs, the hatching larvae tunnel into the bark and cambium region and establish feeding sites. The pine tree exudes pitch and the larvae then uses the pitch to construct a "home" which includes frass or insect droppings. A mature larva is about 25 millimeters long and has a brownish head and light yellow body. Pupation takes place within the pitch mass and adult moths emerge during the summer months. In some species about half the population requires one year to complete their life cycle; the other half requires 2 years. In the case of this larvae it will feed on one site for one year then move to a new site, usually a branch crotch, and feeds for another year. Thus two years are required for full development from the feeding stage to a pupal stage. Adult moths emerge only in the summer.

Control: Normally there is no need to control these insects. Populations in our area rarely if ever reach economically damaging proportions. If they are really a problem then killing the larvae by pruning out and burning the "bubbles" or opening the bubbles and impaling the larvae on a wire will decrease the population.

Source: *Insects That Feed on Trees and Shrubs, 2nd Edition.* Warren T. Johnson and Howard H. Lyon. 1991. Page 72



A Brief Note- Many questions have been received over the past month concerning pine trees drying up. Affected trees include Ponderosa, Elderica and Aleppo pines. Upon further investigation the cause in nearly every case has been lack of water. We are currently in a prolonged drought. Most trees can survive in the high desert if watered. They are not drought resistant, however! Water deeply—at least two feet deep in the soil and at the drip edge of the trees. Many natural pines growing at higher
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elevations are dying because of the drought. The bark beetle outbreak is a secondary cause of tree death. The primary cause is insufficient moisture to maintain tree health and vigor. Healthy pines can produce enough pitch to “pitch-out” or flood bark beetles. Stressed trees cannot. So, water your plants properly or they might “give it up!” Then all the time water and money invested in them will be for not.

*Robert E. Call
Extension Agent, Horticulture*

“To witness change and growth and evolution and the cycle of nature in our gardens . . . Is truly miraculous, and one of the greatest joys in life.”

—Howard Yana Shapiro

Water Facts

- ? Water has often been worshiped and revered as a source of life. The Egyptians worshiped the Nile. The Hindus worship the Ganges. The natural springs of Greece were chosen as sites for temples; and baptisms are performed in water.
- ? 80% of the earth’s surface is water. More than 97% of this water is in the oceans; 2% is locked in polar icecaps; and less than 1% is in freshwater lakes, streams, and groundwater.
- ? Groundwater can take a human lifetime just to traverse a mile.
- ? Groundwater accounts for 50% of our drinking water, 40% of irrigation water, 80% of all rural water use (household and livestock) and 25% of self-supplied industrial water use.

—Sponsored by ECO Water