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—Sun Protection—Part 3

Two months ago I began a series of three articles on the dangers of sunlight. In August we learned about ultraviolet (UV) radiation, the invisible component of sunlight that can cause cancer. In September we learned about the three types of skin cancer that can be caused by exposure to UV. This month I want to complete the series by discussing how to protect yourself from these harmful rays.

There are two ways to protect yourself from the effects of UV exposure—avoidance and blocking.

Avoidance means limiting your exposure to direct sunlight to times when the UV radiation is least intense. Since the time of greatest intensity is when the sun is highest in the sky, try to limit your exposure during mid-day—say from about 10:00 AM to 2:00 PM. An even better method is to watch the UV Index and avoid working in the direct sun when the index is above 5.

The UV Index (UVI) is an open-ended scale developed in the early 1990s that measures the intensity of UV radiation and relates it to the potential damage it can do to exposed skin. Weather Underground stations show UVI values in the range from 0 to 12. By going to http://www.wunderground.com, you can find the Weather Underground station closest to your location and see the current UVI. The table below gives some ideas as to the dangers associated with different UVI values.

(Continued on Page 2)

UVI	Description	Color Code	Recommended Protection
< 2.9	Low danger	Green	Wear sunglasses, use sunscreen if snow or sand
3.0-5.9	Moderate risk	Yellow	Cover up, stay in shade at midday
6.0-7.9	High risk	Orange	Wear sunglasses, use SPF 30+ sunscreen, cover up, wear wide brim hat, reduce exposure at noon ± 3 hr
8.0-10.9	Very high risk	Red	Use SPF 30+, cover up, wear hat, minimize exposure
>11.0	Extreme risk	Violet	Take all precautions listed above.

Table of UVI values and risks from Wikipedia

Inside this issue:

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(Continued from page 1)

The first line of defense against the sun is the clothing you wear. Long-sleeved tops, full-length bottoms, full collars, and a hat with at least a three-inch brim all the way around are the order of the day. But not all fabrics are equally effective in protecting you. A white cotton T-shirt, for example, is virtually worthless for UV protection, allowing about 75 percent of the harmful UV radiation to reach your skin.

The degree of protection depends on the type of fibers used, the tightness of the weave, and the color. In addition, some fabrics may also be treated with chemicals to improve UV absorption. Natural fibers such as cotton are only effective if they are heavy weight and tightly woven. Light-weight synthetic fibers such as polyester and nylon if tightly woven are more effective. Surprisingly, darker colors are more effective than lighter colors in blocking UV radiation because the dyes themselves act as absorbers.

You may see some clothing rated with an Ultraviolet Protection Factor (UPF) rating. These ratings are roughly the same as the SPF (Sun Protection Factor) ratings given to sunscreen lotions [see table on Page 1]. For more information about the UV protective ability of fabrics, check out the Wikipedia article on sun protective clothing.

The last line of defense is sunscreen which may come in the form of a lotion, spray, or gel applied directly to the skin to filter out or block harmful UV radiation. Although sunscreens can help prevent melanoma and squamous cell carcinoma, there is little evidence that they are effective in preventing basal cell carcinoma [Wikipedia]. The amount of protection provided is given by a Sun Protection Factor (SPF) rating which is a crude measure of the fraction of sunburn-producing UV that is not blocked. SPF 15, for example, allows one-fifteenth of the UV radiation to reach the skin.

Another way of looking at the SPF rating is by how much harmful UV is blocked. In the case of SPF 15, 1/15 (one-fifteenth) of the harmful radiation will reach your skin. This means that 14/15 (fourteen-fifteenths), or 93 percent is blocked. In the case of SPF 30, 1/30 (one-thirtieth) of the rays will pass through and 29/30 (twenty-nine thirtieths), or 97 percent, will be blocked. So you see that SPF 30 is not twice as effective in blocking UV but only 4 percent more effective.

To get the full protection indicated by the SPF number, the sunscreen must be correctly applied. The officially correct amount is 2 mg/cm^2 of skin, which, according to Consumer Reports, is roughly 2 to 3 tablespoons for lotions and gels and enough to be rubbed in twice for sprays. Sunscreens should be applied 15 to 30 minutes before you go outside and reapplied every 2 hours as well as after swimming or sweating heavily.

Originally sunscreens were only designed to filter out the higher energy UVB rays because only they were thought to cause melanoma. It is now known that UVA rays can also cause melanoma as well as all other types of skin cancers. For this reason you should buy a sunscreen labelled as broad spectrum.

Some concerns have been raised about the hazards posed by some of the organic chemicals used in sunscreen products. One widely used ingredient, oxybenzone, has been linked to mothers giving birth to underweight baby girls and both zinc and titanium oxide pigments—often used complete sunblockers—may contain nanoparticles that have been linked to reproductive and developmental effects in animals. For more information on these and other risks check out the article in *Consumer Reports.*

Until next time, stay safe in the sun and happy surfing.

Gary Gruenhagen, Master Gardener
virtualgardener@cox.net

Fall Garden Sales

- September 30 to October 4, 8:00 a.m.—5:00 p.m. **Desert Survivors**, 1020 W. Starr Pass, Tucson, AZ. For information: 520-884-8806

- October 11, 9:00 a.m.—5:00 p.m. and October 12, 10:00 a.m.—4:00 p.m. **Tohono Chul Park**, 7211 N. Northern Ave., Tucson, AZ For information: 520-742-6455 x 0.

Fall is the time to Plant!

This Month In the High Desert Garden—

Changing Season Means Changes in the Garden

(Editor's note: This article written by Bill Schulze was adapted from an October 2011 article published in the *Sierra Vista Herald.)*

For many, October is a time to start backing off in the garden; for others, it's time to get a winter garden going. It's possible we'll get our first freeze in October. When freezing weather comes, protect your tender plants with old sheets or blankets. Garden supply outlets also sell floating row cover products made of various kinds of materials. Check the following web address for an excellent U of A Extension bulletin on exactly how and why covers work: **http://ag.arizona.edu/pubs/garden/az1002.pdf**.

For an annual cool season flower, it's hard to beat the pansy. Our pansies sailed right through the Big Freeze in February 2011 and continued looking good right up until warm weather came. Petunias are a good choice, too, although they aren't nearly as tolerant of freezes. Stop fertilizing your roses this month so they can go dormant. Quit deadheading roses and other perennials, too. Pruning, which is really what deadheading is, stimulates plants to produce tender new growth that won't stand up to the cold very well. Pruning of almost any plant, shrub or tree is best done in winter when the plant is dormant; some desert adapted plants are exceptions and can be pruned in summer.

Keep harvesting your summer veggies—tomatoes, peppers, melons, squash right up until a freeze hits. Save the last of your green tomatoes by picking them right before the first freeze. Ripen them on the counter indoors or dig out a recipe for fried green tomatoes. Here's a tip about peppers, both sweet (bell) and chile. Peppers that are green aren't ripe. The green bells you buy in the store would most likely have turned red when ripe, although other colors such as orange and yellow are possible, depending on the variety. Same with those jalapenos and serranos,

they too are red when ripe. And note, the proper spelling for the fruit of a hot pepper is "chile." Chili is a heavily spiced beef stew, sometimes made with beans, although the addition of beans is heresy to some chili lovers.

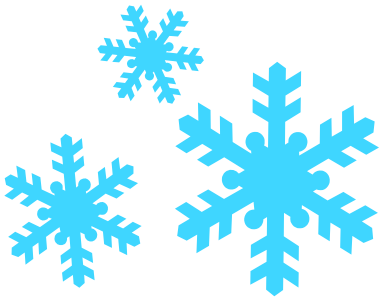
For vegetable growers, this is really the time to plant cool season crops like cabbage, lettuces, beets, kale, and chard. Interestingly, chard is exactly the same plant as beets—both are *Beta vulgaris*. Chard is just a beet variety that has been selected for large leaves instead of its root. Consider planting garlic or onions. Both will survive the winter (they survived the Big Freeze in our garden), growing slowly or not at all depending on the temperature. They'll be ready to really take off once spring arrives. If you do plant onions, be sure and plant a short day variety such as Granex. Granex is the famed Vidalia onion when grown in Georgia. Onions can be planted from seed, sets (tiny onions), or small sprouted plants. Garlic is planted strictly from its cloves. Both onions and garlic will be ready to harvest in May or June.

As for herbs, parsley, rosemary, thyme (we've almost got a song here!), dill, cilantro, and chives are fine cool weather choices.

For those of you with grass lawns, it's time to overseed your summer lawn with a cool season grass such as rye, tall fescue, or Kentucky bluegrass. Tall fescue is not recommended for overseeding on a Bermuda grass lawn. For more information on cool season grasses, check out the following link: **http://ag.arizona.edu/pubs/garden/mg/lawns/cold.html**

Happy gardening!

Bill Schulze, Master Gardener



October Reminders

- Be ready for the first frost
- Thin seedlings
- Over seed lawns
- Plant spring bulbs
- Divide perennials
- Don't let weeds go to seed

Cochise County Master Gardener Newsletter Editor
Carolyn Gruenhagen

Cuttings 'N' Clippings

❄ CCMGA will hold its next meeting on **Thursday, October 2** at the UASV Groth Hall Public Meeting Room at 5:00 p.m. The subject will be fall planting and winter proactive product application such as when to apply dormant oil.

❄ The next Water Wise lecture will be **Saturday, October 25**, a Well Owner's Workshop, 8:30 a.m.—11:30 a.m. If you are a well owner and want to learn about water quality and well care, or if you just want to learn about the quality of local water supplies, this will be a very informative presentation for you.

Presenters: Dr. Janick Artiola, UA Water Quality Specialist and Associate Research Scientist, and Gary Hix, former President of the Arizona Water Well Association.

NEW Location: Cochise College, Community Room (in the Student Union), 901 N. Colombo Ave, Sierra Vista, AZ, Free.

Information: *Arizona Well Owners Guide , Arizona Know Your Water*

For more information: (520) 458-8278, Ext 2141, or contact Valerie at:
valeriedavidson@email.arizona.edu
You can visit Water Wise at:
waterwise.arizona.edu

❄ Water Wise presents on **Wednesday, October 1,** *Graywater and Rainwater Harvesting* at 64 Brewery Ave. Old Bisbee 5:30—6:30 p.m. Come learn how to use recycled water and rainwater for landscape plants.

Presenter: UA Water Wise Program.

❄ A big THANK YOU to Amy, Charlene, Susan C., Christine, Jan, Suzanne, Doe, Steve, Karen and Jim, George, Terrie, Donna, and Cliff for making the 17th Annual Water Wise/Master Gardener Xeriscape Tour a great success! We had five lovely locations with 85 attendees visiting who learned about plants, landscape design and good watering practices. Stay tuned for info on the 2015 tour – we may already have a very special location (hint – BIG succulent garden) on the tour! If anyone would like to suggest landscapes for consideration by our committee or if you would like to be on our fun committee (we have a great party after the tour!), please let me know.
Thanks! Cado
cdaily@email.arizona.edu

In a Desert Garden

Velvetpod Mimosa - *Mimosa dysocarpa*

Many years ago, when I was an active member of the local Garden Club, one of the ladies gave me a little plant that she had raised from seed. At that time I was taking the pond plants I propagated to the Bisbee Farmers Market. On the way to Warren I had to drive through an area that had beautiful, colorful shrubs growing along that stretch of the road. These bushes had dark-green leaves resembling the Mimosa tree and flowers like the Bottlebrush shrub, only these flowers were pink. It was the plant I was given. Never before had I seen this shrub as it is not available in the nurseries, and even the book *Plants of Arizona* doesn't list it.


Mimosa dysocarpa

A few weeks ago our local newspaper published a photo of one in Bisbee's Warren District, which made me want to write about it. Thanks to the Internet, I found reference of it. I planted my plant on the island bed in the front of my house. I have to admit, my plant never looked as stunning as those in Warren, but it has survived all these years—more than ten. This year with all the rain it is thriving, making me aware that it probably never got enough water. The island bed dries out quickly and never really gets watered much. For many years, the only place I ever saw these plants was in Warren, but just the other day one of these plants caught my eye while driving along Hwy 92 towards Hereford.

This shrub is a deciduous perennial native to Arizona's desert upper elevations. The flowers are light to dark pink and clustered on brush-like flower spikes that are followed by velvety bean pods. Under very good conditions the plant can grow to 6 feet tall. The flowers attract butterflies, but the pollen is a mild allergen.

Angel Rutherford, Master Gardener Photographer

At a Glance Box

It's a Bloomin' Cochise County Native Plant of the Month

Plant: Wild Cotton, Thurber's Cotton
Description: Large deciduous shrub, small tree to 10'
Blooms: 1 1/2" white flowers tinged with pink, late summer and early fall
Water Need: No supplemental
Use: Excellent RainScape (landscapes supported by rainwater alone) plant
Culture: Well-draining soil, full sun, part shade. Common on rocky slopes, canyon sides, 2,500-5,000' elevation.
Learn more: Cochise County Herbarium, www.cochisecountyherbarium.org
For an in-depth article, see below.

Cado Daily
Water Resources Coordinator, Water Wise Program
University of Arizona Cochise County Cooperative Extension

Wild Cotton

Botanical names make my eyes blur and sometimes just don't make sense. However, one of my favorite native plants, wild cotton, thankfully has a botanical name that is easy to remember because it clearly describes part of the plant. Inside the pea-sized boll of a *Gossypium* (goss -SIP-ee-um) *thurberi* plant, you will find delicate cotton threads as fine as gossamer. Enunciating the botanical name with a dramatic emphasis, you can almost imagine Ginger Rogers floating across a dance floor draped in the fine threads of a white gossamer gown.

Although not enough to thread a needle with, the fibers inside the chambered seed capsule are enough to recognize the plant as a member of the cotton genus *Gossypium.* As I write this, I hear my good friend in New York, Dr. Cecil Lumer, founder of the Cochise County Herbarium, whisper, "but what plant Family does it belong to?" so I must say


Wild Cotton

that *Gossypium*s belong in the Mallow (*Malvaceae*) family along with over 200 other genera including the well-known okra and hibiscus plants.

The lovely wild cotton's flower is about an inch and a half in diameter with five porcelain-white petals sometimes tinged with pink. The late-summer into early fall flowers only last a day or two, yet the plant blooms so consistently that the flowers fading to a soft pink are soon replaced with a fresh set of blossoms.

Unlike many other dry climate plants, the leaves of the wild cotton are large, soft, green and delicate. Ranging in width and length up to five inches long, the leaves are palmate ("palmate" means shaped like a hand with spread fingers). Indeed, the leaves are lobed with three to five "fingers."

It continues to amaze me that a plant that looks tropical (actually the *Malvaceae* family does have tropical and sub-tropical origins) thrives in our dry climate. I even had a wild cotton seed itself on a dry, rocky, exposed south-facing slope at my Bisbee home. Always one to experiment, I left the shrub alone to test its toughness. I wasn't disappointed. Not only did it survive the dry winter and hot spring, it grew in its first year from a seedling to four feet in height and now has fall flowers.

Could this plant be any better than having lovely showy white flowers, green delicate leaves, a trunk tall enough to be trained into a small tree and one that thrives with no extra help? Yes. There is one more striking feature. The leaves turn a brilliant crimson in the fall. OK, true confession time. There is one caveat—unlike what seems like all others growing wild on the hills bordering State High-

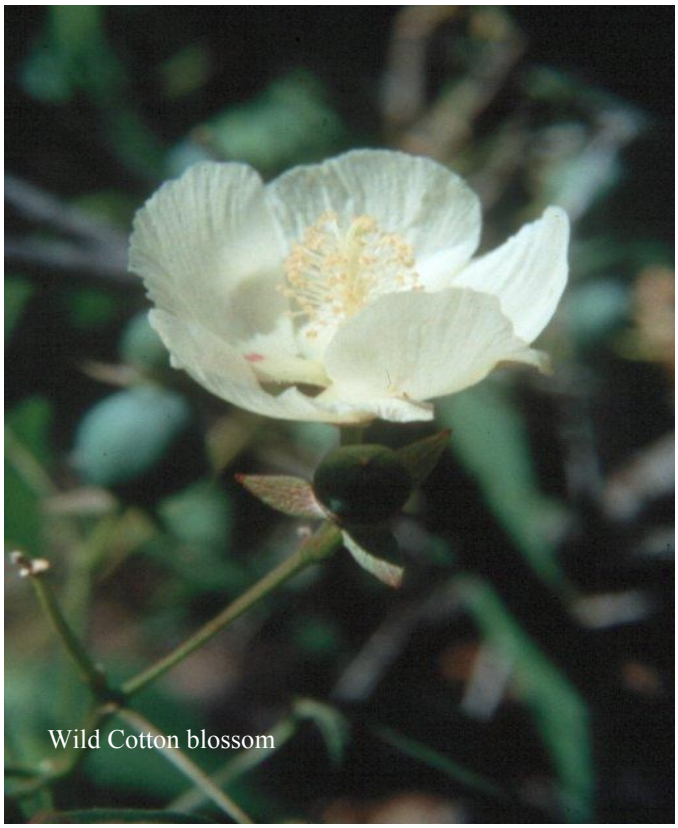
(Continued on page 6)

(Continued from page 5)

way 80 west of Bisbee's tunnel, the wild cotton plants in my protected lower yard have never turned red. I thought maybe it was from lack of a cold snap, but we had one and the leaves still didn't turn. What is the magic ingredient? Maybe I will find out with my new volunteer perched on the exposed hill.

I will, however, have plenty of opportunity to find out because wild cotton easily reseeds. This is one of my criteria for putting a plant on my favorite native plant list. If it is a showy plant and likes to grow on its own, it is more than welcome in my yard. Fortunately, because it likes to grow, it rebounded from efforts in the 1930's to eradicate it. It was thought to be a host plant for the Cotton Weevil that ate cultivated cotton plants. Further studies identified the beetle as a non-threatening Thurber Weevil and the lovely *Gossypium thurberi* was allowed to thrive and become a welcome native plant addition to RainScape landscapes.

Cado Daily, M.A.
Water Resources Coordinator



Wild Cotton blossom

Lirimiris truncata **caterpillar on** ***Gossypium thurberi***

Ask a Master Gardener

Cochise County Master Gardeners are available to answer your gardening questions either by telephone call to the Cooperative Extension Office or on-line on our web site at: **http://ag.arizona.edu/cochise/mg/question.htm**