

MASTER GARDENER JOURNAL

Maricopa County Horticultural News & Research • December 2002/January 2003



THE UNIVERSITY OF
ARIZONA
COOPERATIVE EXTENSION®



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The Master Gardener Journal, published 6 times a year by Maricopa County Master Gardeners, is printed under the direction of the Maricopa County Cooperative Extension Office, 4341 E. Broadway Rd., Phoenix, AZ 85040-8807. Phone 602-470-8086 Ext. 301, fax 602-470-8092. Hours: 8 a.m.-5 p.m. weekdays. Home page: <http://ag.arizona.edu/maricopa/garden/>

Subscriptions: Available to the public for \$18 for 6 issues. Rate for active Master Gardeners \$15, or free online at <http://ag.arizona.edu/maricopa/garden/html/pubs/mgjournal.htm>. Send name, mailing address, and a check payable to University of Arizona. Mail to: Maricopa County Cooperative Extension, ATTN: MG Journal Subscriptions, 4341 E. Broadway Rd., Phoenix, AZ 85040-8807.

Northwest Valley Satellite location: Property Owners & Residents Association (PORA) Office
 13815 Camino del Sol Blvd., Sun City West, AZ 85375. Phone 623-546-1672. Hours: 9 a.m.-1 p.m. Monday-Friday.

East Valley Satellite location: East Mesa Multigenerational Center
 7550 E. Adobe Rd., Mesa, AZ 85207. Phone 480-985-0338. Hours: 9 a.m.-noon, Mondays and Thursdays.

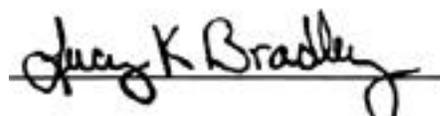
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Cover Photos: (clockwise from top left) Desert Tortoise, courtesy of the Center for Native & Urban Wildlife; Datura, Copper Bittner; Lysiloma, Candice Sherrill; Tomato basket, Donna Atwood



Lucy Bradley, Extension Agent, Urban Horticulture

Photography: Donna Atwood

Changes in the Works

by *Lucy K. Bradley*
Extension Agent, Urban Horticulture

The Arizona budget crisis is causing us to make changes in our publications and staffing of the Maricopa County Urban Horticulture program.

As you can see, there are some very exciting changes in the works for the publication formerly known as the "Horticulture Communicator."

Graphic artist Donna Atwood has lent her creative talent to creating a brand new image for the outstanding work done by the writing team.

Among Donna's suggestions was changing the name to the "Master Gardener Journal." She pointed out that the former name did nothing to promote the important work done by Master Gardeners, or their connection to the University of Arizona Cooperative Extension. In addition, Donna is working with the editorial team to incorporate images, photographs, and graphics, as well as to enhance the formatting to increase the amount and the depth of information that the publication will be able to convey.

All of this wonderful work will be available online for FREE, on the University of Arizona Cooperative Extension Maricopa County Urban Horticulture Site. From the main page, select "publications" to get to the MG Journal.

Beginning in January 2003, if you would like to have a hard copy of the Master Gardener Journal mailed to you, you will need to purchase a subscription. Subscriptions for active Maricopa County Master Gardeners will be \$15.00. All other subscriptions will be \$18.00 per year. To subscribe, send in the form located on the back cover with your check made out to "The University of Arizona."

This move to charge Master Gardeners a subscription fee is due in part to our dedication to upgrading the publication, and in part to Arizona's budget crisis.

The State's budget crisis is having a profound impact on The University of Arizona Cooperative Extension in Maricopa County. The University has been required to cut \$27 million from its budget, and all departments will be affected. For the Maricopa County Urban Horticulture Department, that means we will lose two full-time positions: one of the Master Gardener Coordinators, and the Youth and Community Gardening Coordinator. This will have a devastating impact on the Urban Horticulture program in Maricopa County. We must rethink our priorities and look for more effective cost recovery strategies such as fee-based programming and other sources of funding. We will have to dramatically reduce the scope of our program, and there are projections of additional cuts next year.

The outlook for state funding is bleak; all the more reason to focus on developing our endowment so that we can fund positions and programs on secured income. We will be looking for your input as we develop alternate funding sources, reorganize, and downsize the program. We are calling on your support and understanding during these difficult times. ■

New Gardening Show on KAET-TV

KAET-TV in Tempe has added "Southwest Yard and Garden" (produced by New Mexico State University) to its fall schedule. It airs on Saturdays at 8:30 a.m. beginning November 16, and on Mondays at 2:00 p.m. beginning November 18. ■

New Publications

by *Audry Wolff, Master Gardener*

AZ1269-Deciduous Fruits and Nuts for the Low Desert (formerly MC90): Read about varieties of apples, apricots, figs, peaches, grapes, pears, persimmons, plums, berries, quince, pecans and almonds that you can grow right here in the low desert. The 9-page PDF file may be downloaded at: <http://ag.arizona.edu/pubs/garden/az1269/> Warning: The file is very large and may take a long time to download if you don't have a high-speed connection. An alternative is to download the accompanying chart. The chart will give the following pertinent details about each variety: chilling hours, fruit color, heavy bearing, alternate bearing, cross pollination, and freestone information.

Also, **Landscape Watering by the Numbers: A Guide for the Arizona Desert** (featured in our August/September issue) received a first-place Crescordia Award from the Valley Forward Association recently. Valley Forward is a 33-year-old non-profit association that serves the Phoenix metropolitan area by bringing together business, community, and civic leaders to promote cooperative efforts on regional issues and improve the environment and quality of life in the Valley. The annual awards program recognizes Valley businesses, government agencies, and non-profit organizations for their significant contributions to the environment. Kudos to Master Gardeners Donna DiFrancesco and Robyn Baker, who co-authored the guide on behalf of their respective municipal employers, the Cities of Mesa and Scottsdale. ■

Calendar of Events



DECEMBER 2002

12/5 thru 12/7 — **25th Anniversary of Las Noches de las Luminarias** at the Desert Botanical Gardens, 1201 North Galvin Parkway, Phoenix, Arizona 85008. (480) 941-1225. For its Silver Anniversary, members of the Volunteers in the Garden once again sponsor and staff Las Noches de las Luminarias. All proceeds benefit the Garden. The paths at the Garden are softly lit by 7000 luminarias from 5:30 to 9:30 each of the three evenings. Entertainment is featured at intervals throughout the Garden, ranging from a bell choir to a Native American flute. There's even a storyteller. Parking is at the Phoenix Municipal Parking Lot, 5999 East Van Buren (southwest corner of Galvin Parkway and Van Buren Street). Free shuttle service is provided to and from the Garden. Handicapped parking with identification is permitted at the Garden. Hot cider and cookies are complimentary; additional food can be purchased at the Food Pavilion inside Dorrance Hall. Come back later for dessert on the patio. The Garden Shop and the Mercado feature unique holiday gifts, Christmas cacti, musicians CDs, a commemorative hand-painted ornament by artist Brenda Schodt, and note cards featuring artist Ed Mell's Christmas cactus by moonlight.

12/6 thru 12/8 — **Luminaria Nights at the Tucson Botanical Gardens** at 2150 N. Alvernon Way, Tucson, Arizona 85712. (520) 326-9686. Two thousand luminarias light up the Botanical Gardens for this holiday family tradition. Music, refreshments, decorations, and entertainment make this a very popular evening.

12/7 — **Holiday Plant and Gift Bazaar at the Arboretum at Flagstaff**, 4001 South Woody Mountain Road, Flagstaff Arizona 86001. Herbs, bulbs, and succulents will be highlighted at this year's event. Gift tags and foil wrap will also be available at the sale. Gardens close for the season on Sunday, December 15, 2002, and the Arboretum's Arbor Gifts & Books closes for the season on Saturday, December 21, 2002.

12/14 — **Roses in the Desert Class** from 9:30am until 12:30pm. MaryLou Coffman, Master Gardener, Consulting Rosarian, and American Rose Society Accredited Judge will be presenting. Seating is limited, so call Carefree Town Hall to make a reservation. Most seminars will be held in the Town Council chambers in Carefree Town Center. Participants will be given maps and directions. All seminars are open to the public at no charge. Speakers will have excellent visuals and provide handout materials. A number of books on desert plants and landscape will be available for sale as several promotional items. Registration required. Address: Carefree Town Center, Carefree, Arizona. Subject: Plant Care. Contact: Pamela Slate at pameladaz@aol.com. Phone: (480) 488-3686.

JANUARY 2003

1/18 - **East Valley Citrus Clinic**. Saturday from 8:30 a.m. to 12:00 p.m. Greenfield Citrus Nursery & Orange Patch, 2558 E. Lehi Rd., Mesa, Arizona. Learn to care for your citrus, deciduous fruit trees, grapes, and berries. Presentations: Citrus Pest Management, Citrus Fertilization and Irrigation, Disease Management,

Pruning Citrus and Deciduous Fruit Trees, Low Chill Deciduous Fruit Varieties, "Taste Testing" of Citrus Varieties, Planting Citrus, and much, much more! \$5.00 per person advance tickets; \$8.00 at the gate. Call (602) 470-1556 ext. 304 for additional information. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Carol Noyes, 602/470-8086 ext. 308. Requests should be made as early as possible to allow time to arrange the accommodation.

1/25 - **West Valley Citrus Clinic**. Saturday from 8:45 a.m. to 12:00 p.m. University of Arizona Citrus Agricultural Center, Waddell, Arizona. Learn to care for your citrus, deciduous fruit trees, grapes, and berries. Presentations: Citrus Pest Management, Citrus Fertilization and Irrigation, Disease Management, Pruning Citrus and Deciduous Fruit Trees, Low Chill Deciduous Fruit Varieties, "Taste Testing" of Citrus Varieties, Planting Citrus, and much, much more! \$5.00 per person advance tickets; \$8.00 at the gate. Call 602/470-1556 ext. 304 for additional information. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting Carol Noyes, 602/470-8086 ext. 308. Requests should be made as early as possible to allow time to arrange the accommodation.

1/20 thru 1/22 — **Greenhouse Crop Production and Engineering Design**. 8:00am to 5:00pm each day. This educational program on Controlled Environment Agriculture (CEA) was

developed specifically for the Arizona and the southwestern CEA industry. A 3-day continuing professional education short course, consisting of a series of plant sciences, engineering, and marketing presentations, will offer greenhouse crop production operational and design information. The major topics of plant production, including nutrition, irrigation, pest management, marketing, and environmental control will be presented. Price: TBD, Registration required. Restricted to: introductory to advanced students. Location: U of A campus. Address: CEA Building, CAC roger/campbell. Contact: Gene Ciacomelli (Kathleen Crist) at giacomel@ag.arizona.edu. Phone: (520) 621-1412. Sponsor: Agricultural & Biosystems Engineering. Website <http://ag.arizona.edu/ceac/extension/cpes.jan03.htm>.

1/25 — **Australia Day at Boyce Thompson Arboretum**, 37615 Hwy 60, Superior, Arizona 85273. 11:00am to 3:00pm. Join them for a day in the land down under as Paul Taylor, Australian folklorist, spins stories, poems, and tales. Boyce Thompson Arboretum is home to one of the largest collections of Australian plants in the arboretum world. Horticulturists give tours of the Australian Walkabout Trail and explain the wonders of the giant gum trees. How would you like to build and play your own didgeridoo? Mr. Taylor leads a class in this growling, howling aboriginal instrument. The cost is \$35 (\$25 to members of the Friends of the Arboretum), and pre-registration is required. Call (520) 689-5248 to enroll. ■

Things to Expect & Things to Do

by Terry H. Mikel, Extension Agent, Commercial Horticulture

ALTERNARIA ROT may be found in blossom ends of navels and occasionally tangelos. No chemical control is available.

ALEPPO PINE BLIGHT is thought to be induced by day/night temperature extremes on tender, actively growing sections of these trees. Brown needles cling to plump, healthy branches. Sun-exposed sides are most affected. Normal refoliation occurs in the spring.

FREEZING NIGHTS - Cover frost-sensitive plants; always remove covering during the day. Do not use plastic. Most citrus fruit will not freeze unless temperatures drop into the mid-20's or lower for at least a couple of hours. Lemons, limes and other thin-skinned fruit on the upper and outer periphery of trees may receive some injury at about 28°F. If you use lights remember two things: 1. Place or shine the lights on the large limbs or trunk to warm the most mass, and 2. The higher the wattage of the bulb, the more heat is produced.

COLD WEATHER DISCOLORS FOLIAGE. Older leaves of evergreens turn dull green to yellow and even drop. Even some actively growing shoots may appear chlorotic. Some shrubs and trees may develop purplish-green leaves.

CONTROL WEEDS while young and tender or before their seeds sprout.

PREPARE GARDEN SOILS for spring vegetable planting. Early planting means better yields in most spring crops; early means January.

CHECK STAKED TREES. Remedy trunk injury from ties and rubbing by removing stakes or replacing rubber padding on ties.

PRUNE DECIDUOUS FRUIT AND SHADE TREES, ROSES AND GRAPES in January, but first sharpen up your know-how. Prune citrus, bougainvillea and other freeze-tender shrubs and trees after they begin to grow. Take advantage of the many fruit and pruning demonstrations. Landscape trees do well with pruning to remove dead or damaged branches only. Think long and hard before pruning any tree.

PLANT POTATOES as early as possible. Prepare the soil down a foot. Dig a hole or a trench to 8-10 inches and set seed potatoes there. Cover with a couple of inches of soil. As the plant grows keep adding soil until the original grade is met. Using certified "seed potatoes" avoids diseases.

FERTILIZE WINTER LAWNS monthly for good green color. Nitrate fertilizers give quickest response during cool seasons. Fertilizing dormant Bermuda lawns will stimulate weeds.

PREPARE GARDEN SOILS for spring vegetable planting; early planting means better yields in most spring crops.

WATER DORMANT BERMUDA-GRASS LAWNS about monthly if rains are not sufficient.

FERTILIZE fruit, nut and shade trees, shrubs, and vines. Do not fertilize overseeded rye lawns after February. Do not de-thatch common or hybrid Bermuda-grass lawns until early May or later.

SWEET POTATOES are planted later, but started now. Buy the color you like at the store and suspend it half deep in water with toothpicks, making sure the "hook" end is up. Simply buy one with a hook. Change water often to keep it fresh. After shoots appear, plunge the whole thing (shoots half covered) in the water and roots will form.

THIN WILDFLOWERS NOW. They need room to grow because in a month or so they will be in a vigorous growth phase. Thinning also reduces the competition and the ones left flourish even more. ■

BCI Celebrates 20th Anniversary

by Anne Bynon, Master Gardener Intern

At Conservation International was founded 20 years ago to protect and restore bats and their habitats worldwide. BCI sponsored a special camp this past May at the Southwestern Research Station near Portal, Arizona in the Chiricahua Mountains. Thirty participants from 15 U.S. states and two foreign countries (Mexico and Indonesia) attended the course. The site was selected based on the abundant bat population that is attracted to the many rocky crags in the area. Despite current drought conditions, a nearby creek supplies plentiful water.

More than 1,100 individual bats representing 19 species were identified. The researchers found a soft spot in their hearts for the docile Mexican free-tailed bats, *Tadarida brasiliensis*, who were “a pleasure to remove from nets, and rather easy to identify,” according to Janet Tyburec, BCI’s Director of Education. The bats were humanely trapped in a harp-trap constructed of

two planes of parallel wires attached to a V-shaped fabric sling, into which the bats fell. The bats were then identified, photographed, tagged and released. The week of research culminated in observing nectar-feeding bats at a hummingbird station using night vision goggles. If you are interested in seeing photos of the research activities or learning more about bat conservation, go to www.batcon.org.

Arizona is home to 27 bat species that include the following interesting characteristics:



Leaf-nosed Bats (family *Phyllostomidae* or American leaf-nosed bats) – large bats, found primarily in the southern part of Arizona.

Furry-tailed Bats (family *Vespertilionidae* or evening bats) – thick fur, with fur on their tail membrane, solitary roosters.

Big-eared Bats (family *Vespertilionidae* or evening bats) – very large ears, medium in size, and in general have echolocation calls lower in frequency than other bats.

Free-tailed Bats (family *Molossidae* or free-tailed bats) – have a



tail that extends beyond the tail membrane, short grayish fur, rounded ears, and narrow wings. They are colonial roosters, usually found in very large colonies such as the Mexican free-tailed colony found at Carlsbad Caverns.

Small Brown Bats (family *Vespertilionidae* or evening bats) – largest and probably most common group of bats found in Arizona, small brown bats which are primarily of the *Myotis* species, insectivorous, and probably play a major role in insect control in the various environments in which they live.

If you would like to attract bats to your back yard to control insects or to pollinate your garden, BCI provides a brochure on how to build bat houses. You can find it on their website. For more information on the bats of Arizona, refer to the Special Heritage Edition of the *Arizona Wildlife Views* (August 1993), and “*America’s Neighborhood Bats*” by Merlin Tuttle (1988).

One final note: They say if you can’t lick ‘em, you might as well join ‘em. This must be what BCI’s founder and president Merlin Tuttle was thinking when he provided the United States Post Office with stamp-sized bat photos. The USPO selected these photos as this year’s commemorative stamp with special appeal to young people. A dedication ceremony for the new stamps was held at Austin’s Congress Avenue Bridge, where each night from spring to fall 1.5 million bats fly from their roosts to eliminate 30,000 pounds of insects. The American Bat Stamps were made available September 14. ■



Holiday Recycling Tips

by Coral Gallaher, Master Gardener

Recycling at the holidays can include not only reusing items for decorations and gift packages, but also reusing your holiday decorations and gift-wrap next year.

DECORATIONS:

Evergreen boughs can be used for wreaths, door swags, and table centerpieces. Decorate them with traditional ornaments, candles, or pinecones. For an unusual gardener's touch, decorate them with dried chilies, pomegranates, and gourds.

Also, to display your gardening expertise you can make a ristra from dried chilies and turn it into a wreath. Just tie the ristra into a circle and add a showy colored bow.

Pinecones are a great decorating resource. Simply pile them in a bowl or put a loop of wire on them and hang them. They can be scattered under the tree. They can be spray-painted various colors and used as ornaments, or crafted into "trees" if you're artistic.

I saw a terrific door swag/wall decoration in a craft book. Several small clay pots were spray-painted white, turned upside down, and a traditional ornament was hung inside to form a "bell". They were attached to a green bough with a large red bow. They had even painted a few children's garden tools white and added them.

Rose trellises and upside-down tomato cages can be decorated with boughs or garlands and ornaments to make great reusable decorations.

Holiday cards from this year or previous years can be hung as ornaments. Many craft books also show ornaments that can be made from old cards.

Lovely bowls of fresh fruit or colorful vegetables can be used as centerpiece.



GIFT-WRAP:

Standard household boxes such as those from food products can be spray-painted and used for gifts.

The top and bottom of sturdy boxes can be apped separately, making a gift box that can be

used many times with just the addition of a ribbon. The wonderful gift bags now available in stores can also be reused many times.

Plain brown bags can make unique gift-wrap with some imagination. They can be flattened, cut, and stamped with holiday images or holiday card cutouts glued to the outside of the paper. The entire bag can be folded over and decorated with colorful felt, construction paper, and ribbons—even sequins. ■

Happy Holiday Recycling!

Word Wise

Definitions for terms in this issue...

arthropods (Butterfly Garden p.16) Invertebrate animals of the phylum Arthropoda, including insects, crustaceans, arachnids, and myriapods characterized by a chitinous exoskeleton and a segmented body to which jointed appendages are articulated in pairs.

cultivar (Tomatoes p.12) An organism of a kind originating and persistent under cultivation.

echolocation (BCI p.6) A process for locating distant or invisible objects by means of sound waves reflected back to the emitter by the objects.

hybrid (Tomatoes p.12) The offspring of two similar animals or plants. Some hybrids occur naturally; some are deliberately engineered.

insectivorous (BCI p.6) Depending on insects as food.

microclimate (Desert Oasis p.8) The local climate of a small site or habitat. A microclimate might be as small as a shaded corner in a yard.

nectary (Sacred Datura p.18) A plant gland that secretes nectar.

ristra (Holiday Recycling p.7) From the Spanish word *riestra* for rope or cord. A string of food-stuffs such as chilies, onions, and garlic that have been threaded together for storage.

scarify (Sacred Datura p.18) To cut or soften the outer layer of a hard seed to hasten germination.

vivarium (CNUW p.22) A preserve or terrarium for small animals. ■

Designing Your Own Desert Oasis

Imagine... a front yard so appealing that those passing by will stop to admire it. Picture a backyard so inviting that you might consider skipping your annual vacation just to relax in your very own paradise. No matter how big or small your yard, no matter how large or limited your budget, you CAN have a beautiful landscape! All you need is a well-thought-out plan, some imagination, and patience.

There are a multitude of issues concerning your home site that you need to address before picking up a shovel or buying a single plant: What do you intend to accomplish with this project? What type of ambiance or "mood" do you wish to create? How large is your budget, and how much time are you willing to give to establish and maintain your landscape?

Keep in mind throughout the design process that here in the desert, water is our most precious resource. Using Xeriscape (low-water) principles is the responsible way to protect our desert environment.

Analyze your home site: Study your yard's microclimate, which is determined by existing structures and plants. Temperature, airflow, and patterns of sunlight and shade vary by season, and should be considered as you decide how various spaces will be utilized.

Walk your home site and examine the surrounding views. Are there eyesores such as utility poles or unsightly structures you wish to camouflage...bright lights you need to block...annoying traffic noises to mask?

Check the view from the interior of your home. Do you need to move that trash bin to another area? Are your existing plantings so overgrown they're obstructing a pleasant view?

Evaluate your type of soil and current irrigation system.

Draw a plot plan: Use graph paper to draw a plot plan (a scale of 1/4 inch to 1 foot works well). Measure your site's boundaries, house perimeter, and any other existing structures. Note window locations. Pencil in existing

plants as well as service, pool, play, and garden areas.

Examine your diagram carefully. Decide which features you would like to retain and which areas you would like to redesign.

List your objectives: Water and energy conservation should be a top priority for desert dwellers. Privacy, security, and sound-control issues should be addressed. Is a play area needed for children? If you intend to entertain, think about space for a patio and barbecue.

A major consideration in our desert climate is respite from the summer heat. Shade trees, arbors, ramadas, and patio umbrellas can provide this. If you wish to attract wildlife to your landscape, you'll want to offer food, shelter, and water.

Locate an area with appropriate amounts of sunlight if a vegetable or herb garden is on your wish list.

Choose a garden theme: The architecture of your home should influence the look of your landscape. Will your landscape be formal or informal?

Whether you choose a native desert, Mediterranean, tropical, or rustic theme, you can incorporate Xeriscape principles by utilizing low-water plants. Look to nature for inspiration.

Finalize your plans: Use tracing paper placed over your plot plan to explore different design possibilities.

Once you are satisfied with your basic plan, transfer your ideas directly to your plot plan and figure out the details. Sketch in those details...structures, plants, and garden and turf areas.



Photography: Donna Atwood

Decide how to budget your time and money:

An attractive landscape does not have to be time-consuming or costly. Your plan can be developed in stages as funds become available. Projects constructed from low-cost materials can look striking. Small plants are less costly and will rapidly catch up to more mature specimens.

Are you a do-it-yourselfer, or will you feel more confident working with a landscape professional? If you decide to do the work yourself, there are many helpful resources available to you, including Xeriscape classes, books, and computer programs.

How much time are you willing to give to maintain your landscape? A low-maintenance yard will minimize watering, pruning, mowing, and fertilizing.

If you have questions regarding local building codes, permits, or homeowner association rules, get in touch with the proper agencies. To locate underground utilities in Maricopa County, contact the Blue Stake Center (602/263-1100).

Designing your landscape should be an enjoyable process. For enthusiastic gardeners it's a never-ending project, one that evolves over time. So have fun with your endeavor, take time to relax in your own personal oasis, and above all remember that we need to be good stewards of our very special desert home. ■

Herbs for the Bath

by Duise C. Barnes, Master Gardener Intern

Herbs have long been considered a basic garden element. They come in many attractive shapes and forms. Quite often, a new gardener will purchase a plant based strictly on its appearance, and then find out the plant is, in fact, and herb that can be used in cooking or for other purposes.

Throughout the centuries, herbs have been used by various cultures for diet and medicinal purposes. One particularly interesting application involved training herbs such as rosemary and lavender into living garden benches. Food for thought: the benches also served as deodorizing agents.

With the holidays just around the corner, many of you may be in the market for homemade gift ideas. If so, consider making herbal bath bundles for the people on your gift list, using the recipes at the bottom of the page. The directions call for wrapping the herbs in plain muslin or cheesecloth, but you can dress them up using fancy fabric and ribbon.

HERBAL BATHS*

The ideal temperature for a morning bath is 96.8°F (36°C). An evening bath should be between 96.8°F (36°C) and 102°F (39°C). A muscle- or joint-soothing bath after intense exertion or a day of high stress should be between 104°F (40°C) and 107°F (42°C). If you have health issues, it is recommended that you check with your doctor first.

Here are four great-smelling herbal bath recipes to try. Fill a piece of muslin or cheesecloth with the herbs, then tie the ends and toss the bundle into the water as the tub fills.

STIMULATING BASIL, EUCALYPTUS & PEPPERMINT BATH

1/4 C. dried basil to regenerate mental powers, 1/4 C. dried eucalyptus for treating lack of concentration, 1/4 C. dried peppermint to alleviate mental fatigue and lack of concentration

TONIC LEMON ORANGE BATH

1/4 C. grated lemon peel to treat lethargy, 1/4 C. grated orange peel to fight depression and anxiety, 1 Tbsp. dried parsley for stimulation, 1 Tbsp. dried comfrey, a mild antiseptic

REVITALIZING GINGER, LEMON & PARSLEY BATH COMBO

1/4 minced ginger root for promoting circulation, 1/4 C. dried parsley, tonic for skin, 1/4 C. lemon peel for cleansing and aromatic effect, 2 Tbsp. oatmeal to soften water

INVIGORATING ROSEMARY & SAGE BATH

1/4 C. dried rosemary to relieve mental fatigue, 1/4 C. dried sage to treat loss of concentration, 2 Tbsp. oatmeal to soften water

*From *Secrets of the Spas* by Catherine Bardey



Illustration: arttoday.com

Desert-Adapted Evergreen Trees

On virtually every street in Phoenix, you can spot trees that are entirely too large for the yards they occupy. When a landscaper or nursery employee suggests *Ficus nitida* for your small front yard, or a Chilean mesquite to be planted in a narrow space, they're overlooking the amount of pruning it will take to keep the trees a manageable size for their allotted spaces.

Here are a few things to keep in mind when selecting the best tree for a small yard:

Consider the mature height and width of the tree and plant accordingly. Don't place a tree that grows to a diameter of 20 feet within 5 feet of your home's foundation.

Don't plant thorny trees near active areas or walkways

Some desert trees have a multiple trunk structure by nature. Pruning to one central trunk may make the tree unstable.

If you have to stake, do so for a maximum of two years. A tree staked longer than that may need to be staked its entire life.

Shallow watering can cause salt buildup in the root zone. To avoid this, water to a depth of 3 feet around the outer canopy of the tree.

The following is a list of six popular desert-adapted trees that work where space is limited. Each one is small (maximum 20-foot height by 20-foot width) and evergreen (meaning they lose a few leaves at a time, instead of all at once).

MULGA ACACIA (*Acacia aneura*)

- Full sun
- Hardy to 20°F
- Prune in October
- Puffy yellow flowers in 3 or 4 cycles per year, but mostly in spring/summer
- Narrow, compact growth structure
- Medium growth rate
- No thorns
- Mature example on display at the Desert Botanical Garden in Phoenix

GUAJILLO ACACIA (*Acacia berlandieri*)

- Full sun
- Hardy to 15°F-20°F
- Prune in June
- White puffball flowers from February to May (seedpods in summer)
- Tendency toward multiple trunk structure
- Slow-growing
- Slightly thorny

HARDY SWEET ACACIA (*Acacia smallii*)

- Full sun
- Hardy to 10°F-15°F
- Prune after spring bloom
- Plant any time of year
- Golden puffball flowers from late fall to March
- Fast-growing
- Very thorny!
- Mature example on display at the Desert Botanical Garden in Phoenix
- Beneficial to native wildlife



Photography: Candice Sherrill

CASCALOTE (above) (*Caesalpinia cacalaco*)

- Full sun
- Hardy to 20°F
- Prune after winter bloom
- Yellow flower clusters from September through February
- Fast-growing
- Very thorny
- Plant in a warm winter location (such as a south-facing wall)



TEXAS EBONY

(*Pithecellobium flexicaule*)

- Full sun, accepts some shade
- Hardy to 20°F
- Plant in spring or fall
- Prune in late winter
- Puffy cream-colored flowers in spring and summer
- Slow growth rate
- Very thorny
- Don't plant near electrical lines
- Mature example on display at the Desert Botanical Garden in Phoenix
- Beneficial to native wildlife ■

Resources:

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The Arizona Community Tree Council, Inc. and the Desert Botanical Garden.

FEATHER TREE (above)

(*Lysiloma watsonii thornberi*)

- Full sun
- Hardy to 25°F
- Prune in January
- Plant in spring
- Small white puffball flowers from May to June (flat seedpods follow bloom)
- Medium growth rate
- Not thorny
- Mature example on display at the Desert Botanical Garden in Phoenix
- Sensitive to the cold
- Too much water may lead to chlorosis
- Beneficial to native wildlife

Ask a Gardener

by Judy Curtis, Master Gardener

No matter what holidays we're going to be celebrating with family and friends during this very special time of the year, part of the fun is figuring out how make our homes say "Welcome." Here are a few decorating ideas that make good use of our unique Southwestern plant palette.

Spice up the air in your home. Use creosote branches; they keep their leaves and remain fragrant when spritzed with water. Eucalyptus varieties with smaller leaves and citrus also hold up well, and can add their unique scents to the mix.

Make use of color. Nestle bright red pyracantha berries among fresh green boughs. Another good source of red is chuparosa, often in bloom in December with tubular blossoms that smell and taste like cucumber. Bougainvillea and late roses are also in bloom this time of year, and come in a variety of colors.

We even have native mistletoe—no need to buy it. Look for clumps in Palo verde trees.

Flexible vines can be woven into round or heart-shaped wreaths to decorate doors and dining tables. Cape honeysuckle, grapes, trumpet vine and *Tecoma stans* are other good sources of material. They probably need pruning anyway.

I have seen saguaros dressed in Santa hats and beards, and other imaginative decorations made from tumbleweeds, agave stalks, and the husks of palm fronds. I've even seen ornaments made from bottle tree seedpods sprayed gold.

So be creative. Take a walk or drive around town with an alert eye. Chances are you'll come up with other ideas for inexpensive and unusual seasonal décor. ■

Tomatoes in the Desert Garden

BOTANICAL NAME

Lycopersicon lycopersicum

COMMON NAMES

It was once known as the Peruvian Apple, in France it was named the love apple, and in Italy it was known as *pomodoro*—the golden apple. Our name, tomato, comes from the ancient Nahuatl name *tomatl*.

HISTORY

Wild forms of the tomato originated in South America in areas of the Andes Mountains, and were brought to Central America and Mexico by prehistoric Indians. They were introduced to Europe in the 16th century, supposedly by Columbus, although at the time tomatoes were grown for ornamental purposes and were considered poisonous. The tomato plant was brought to North America in the early 18th century,

but was not accepted as a food plant for another 100 years. The fruit began to gain popularity in America with the growth of the Campbell Soup Company after its commercial canning factory opened in 1869. It is now the third most popular commercial vegetable and the single most popular home garden vegetable in the U.S. Interestingly, the tomato did not appear in Chinese cooking until the last quarter century.

Although botanists classify tomatoes as fruit, the U.S. Supreme Court ruled to apply vegetable tariffs on them in 1893. By the early 1900s, the USDA began breeding tomato cultivars to develop specific characteristics such as disease and pest resistance, cold and heat tolerances, salt and drought tolerances, and uniform ripening. Unfortunately, by the 1950s, the hybrids coming on

the market were being bred for shipping date and not for taste. Lucky for us though, there are so many varieties now being produced we can find tomatoes that grow in just about any climate or condition—even the arid desert!

GENERAL

Tomatoes are members of the nightshade family, Solanaceae, which means their leaves are toxic and should not be eaten. They are a warm-season

perennial plant, usually grown as annuals. We have two short growing seasons here in the desert: March through June, and again from September through November. Most plants yield an average of 10 to 15 pounds of fruit.

DESCRIPTION

Tomato plants are classified as either determinate or indeterminate types. Determinate plants are usually bush types that mature to a size of 3 to 5 feet, set fruit, and then decline. Although most have early-maturing fruit, determinate plants do not produce for extended periods. Indeterminate types are generally vining plants that grow until frost or disease kills them. They require some support to keep the fruit from sitting in damp soil, and they produce larger crops over a longer period. With the right conditions and care, these plants can produce fruit for two or three seasons before they lose vigor and production decreases.

Tomatoes range in size, color, and shape—from bite-sized cherries to the 2-pound Bigboy. Colors include pink, yellow, orange, purple, striped, and even black. Depending on the variety, they can be rounded, oblong, or pear-shaped.

CHOICES FOR THE DESERT

When considering choices of cultivars for our climate and growing seasons, consider earliness or maturity (how soon the fruit can be harvested after planting out), adaptation to our climate and soil conditions, and also disease and pest resistance. Remember, we are not looking for large tomatoes here, but quality tomatoes. Larger types of toma-



Photography: Copper Bittner



atoes require more time for ripening, so it's best to plant the small and medium-sized varieties in our desert gardens. Look for tomatoes labeled for 60- to 70-day maturity. Successful varieties include: Yellow Pear, Cherry, Sweet 100, Earlypak, Earlygirl, Small Fry, Patio, Champion, Earliana, and Sunripe. When looking for resistant varieties, the letters "VNFT" indicate a plant's resistance to Verticillium Wilt (V), Nematodes (N), Fusarium Wilt (F), and Tobacco Mosaic Virus (F).

HOW TO GROW

January is the month to start thinking about planting your tomatoes. Since transplants can be set out as early as February 15, now is the time to decide whether you will start with seed or container plants from the nursery. The time required to germinate seeds and grow seedlings large enough for transplanting ranges between 6 and 8 weeks. Nursery transplants require less work and time on your part, but seeds provide a much larger selection of tomato types.

When starting from seed, select containers with good drainage. Peat pots work great because they can be planted directly in the ground after scoring their sides. Fill the containers with a light to medium soil mix, and then add enough water to settle the soil until water drains from the bottom of your containers. Use your finger to indent the soil to a depth of 1/4 to 1/2 inch. Place 2 or 3 seeds in each hole and lightly spread soil over the seeds without tamping. Sprinkle with a little more water, just enough to ensure good seed contact with the soil. Placing clear plastic containers over the top of the pots creates a mini greenhouse, but this is

not necessary if you have a warm, sunny windowsill where you can remember to monitor soil moisture.

The containers should receive at least 6 hours of good sunlight daily. It is important to keep the soil moist, but not soggy, through the germination period. Usually a few sprays with a misting bottle 3 or 4 times a day is sufficient, but never let the top 1/2 inch of soil dry out. Germination usually occurs within 10 days. A week after the first true leaves break through the soil, thin each container to one plant by gently pulling the weaker seedlings at the soil line. Change the method of watering to a deeper, less frequent, application remembering that the soil should remain on the moist side, but should not stay soggy. Turn the plants occasionally to allow them to receive even sunlight all around. Once your plants are about 2 inches tall, you can begin to fertilize by adding a diluted fertilizer when watering. One teaspoon to a half-gallon of water is recommended. In about 6 weeks, your plants should be 4 to 6 inches tall and ready to be planted out if temperatures allow. Before planting however, it is best to harden off the plants for a few days by setting the containers outside in a well-protected area. They should be protected from too much wind or sun, and if the nights are expected to drop below 60 degrees, you should bring the plants inside again until morning.

Optimal conditions for planting tomatoes in the desert garden include the right location, proper soil preparation,

and favorable temperatures. Sunlight is essential to tomatoes, so locate your garden in an area that receives a minimum of 6 hours daily, preferably morning sun. The east side of your home or other large structure is ideal. Otherwise, consider planting your garden in an area where larger growing plants (sunflowers, corn, etc.) can be utilized to shade your tomatoes during the hottest part of the day. Building a frame on which to attach shade cloth is another excellent way to protect your fruit once the weather starts getting hot.

— continued page 14

“
Ain't but two things in the world worth havin', and that's true love and home-grown tomatoes.
”

LEWIS GRIZZARD

A B O U N T I F U L G A R D E N

—Tomatoes continued

Prepare your site early by tilling soil to a depth of 2 to 3 feet. Incorporate composted manure, ammonium phosphate and soil sulfur into the planting area. Remember that feeder roots of tomato plants range from 2 to 4 feet, so be sure to mix the backfill and amendments thoroughly and deeply. Water the planting area, then wait two weeks and water again. Wait at least one more week before planting so the soil is not too wet.

Once the soil is ready, your new plants have hardened off, and soil temperatures have reached 60 degrees, it's finally time to plant! When planting in the cooler months of February and early March, consider planting young transplants on their sides in 2- to 3-inch trenches where the soil is warmest. Remove all but the top 2 to 4 sets of leaves from each plant, lay plants in individual trenches about 24 inches apart, and bury all but the leafy part of the plants. The stalks will produce new roots and give new plants a better start. New vegetative growth will reach upward toward the sun within a few days.

Tomatoes should be bottom-watered (water the roots, not the leaves). Soil-borne diseases can cause problems if water splashes up from the soil to the leaves. Soil should remain moist, drying slightly between waterings, but it should never be allowed to dry completely, nor should it remain too soggy. Water deeply (2 to 3 feet) once a week during the cooler weather and increase watering to 2 or 3 times a week in the summer. Mulch heavily with organic material to help maintain and moderate soil moisture. Watering is most critical when plants are producing flowers and fruit.

Fertilize plants with diluted fertilizer every 2 or 3 weeks until flower and fruit production begins. No additional fertilizer should be required until plants



have completed fruit production. Avoid late and excessive applications of nitrogen. Too much nitrogen stimulates unnecessary vegetative growth and delays the fruit from ripening. Keep the surrounding area weed-free.

To aid in flower pollination, shake plants lightly each day after flowers appear. Generally, it is said that flowers do not set fruit when temperatures are below 55°F or above 90°F. However, I have had abundant tomato production all summer long when growing smaller varieties, cherries and yellow pears, in heavily mulched soil under 50% shade cloth. Indeterminate plants that have stopped or slowed production in the hot summer temperatures will often become productive again when the weather cools in September and October, so don't give up on them when they look half-dead in August!

PESTS AND DISEASES

A common pest is the tomato hornworm. You may also see tomato fruit worms (also known as corn ear worms), cutworms, flea beetles, spider mites, and aphids. Microscopic root-knot nematodes can enter the root tissues, affecting the transport of water and nutrients. Caterpillars (worms) can be handpicked and disposed of, or the leaves of plants can be sprayed with

Bacillus thuringiensis (Bt), a product that only affects caterpillars. Many other pests can be controlled with insecticidal soap spray. Root-knot nematodes can usually be prevented by proper crop rotation, or solarizing the garden bed using a clear plastic cover in the summer months to kill pathogens located in the top 12" of the soil.

Common diseases include Fusarium Wilt, Verticillium Wilt, Curly Top, and blights. To prevent Fusarium and Verticillium wilts, select resistant varieties. Use floating row covers or shade cloth to prevent leafhoppers from spreading Curly Top and other viruses from host plants.

Other problems include sunscald, leaf roll, wilting, cracks in fruit, and blossom-end rot. These are usually related to our heat and are worsened by poor watering practices. Using a 50% shade cloth and correcting the method of watering should solve these problems. Blossom-end rot is believed to be due to a calcium deficiency that may be the result of irregular watering even though there may be an abundance of available calcium in the soil.

HARVESTING

Wait for fruit to ripen on the vine whenever you can. For red fruit types, wait until a deep red uniform color is achieved. For the best flavor, pick just before use. Cut fruits from the plant; do not pull them off. If picked while green, tomatoes can be ripened in a paper bag containing a banana or apple.

STORAGE

Tomatoes can be dried, canned, or frozen. The best tomatoes for drying are paste tomatoes, such as Romas. Juicier, less meaty, tomatoes can also be dried; they just take a little longer. Although we can dry tomatoes outside in the sun since our summers are so hot, I prefer a food dehydrator because it's quicker and I don't have to worry about insects. The fruit can also be dried in a warm oven at about 150 degrees for 10 to 15 hours. (Actual time depends on the thickness and variety of the tomato). When fully dried, no pulp should be sticky or tacky to the touch. Store dried tomatoes in airtight containers in a cool, dark, dry place or pack them with olive oil in a sterilized jar. You can add herbs or garlic cloves at your option.

Ripe tomatoes can be frozen whole. Place them in a plastic bag, pushing out excess air from bag, and seal tightly. When thawing frozen tomatoes, place them in water (at room temperature) and the peels will come off easily. You can also freeze tomato sauce, salsa, or puree in airtight plastic bags or containers.

While many people find that freezing is easiest, canned tomatoes taste better. The process uses heat to pack tomatoes or sauces in high-vacuum jars as it removes oxygen, destroys enzymes, and prevents the growth of bacteria. Flavor stays in and microorganisms stay out. Canning involves much more work, but it's worth it.

NUTRITIONAL VALUE

Tomatoes are considered one of the best health foods in the American diet. They are packed with vitamins and minerals. One cup of cherry tomatoes contains approximately 31 calories, 7 carbohydrates, and only 0.5 grams of fat. ■

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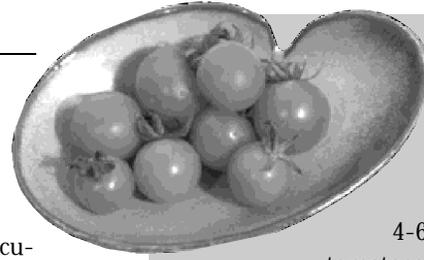
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SALSA FRESCA

4-6 medium tomatoes, chopped

1/2 red onion, diced

2 jalapeno chilies, finely diced

1/2 cup chopped fresh cilantro

2 tablespoons lime juice

1/4 teaspoon salt

Tabasco (to taste)

Combine all ingredients in bowl.

Adjust seasonings to taste. Cover and refrigerate. Serve slightly chilled.

SUMMER TOMATO SAUCE

(for 1 lb. pasta)

6-8 tomatoes, cored and diced

4 garlic cloves, minced

1/2 cup chopped fresh basil

1/2 cup extra virgin olive oil

Salt (to taste)

Grated Parmesan cheese

Combine all ingredients except Parmesan cheese in bowl. Cover and allow to sit out 4-6 hours.

Pour over hot cooked pasta. Add grated cheese as desired.

TOMATO PESTO SANDWICH

(1 serving)

2 slices focaccia bread

Pesto

Thickly sliced fresh tomatoes

Thinly sliced red onion (optional)

Salt and freshly ground pepper to taste

Spread pesto on inside of each bread slice. Put sandwich together with one layer of tomato and one layer of onion. Serve at room temperature.

PEELING FRESH TOMATOES

Lightly score an X on the bottom ends of tomatoes. Plunge into boiling water for 20-30 seconds, remove from boiling water and immerse in ice-cold water. Then peel with a paring knife.



Photography: Copper Bittner

Creating a Butterfly Garden

Everyone loves butterflies. Their movements and color add beauty to our environment. Now that I have small children, the benefits of a butterfly garden go well beyond beauty. It can also be a wonderful tool for helping youngsters learn about ecology, native plants, and insect life cycles. Beyond that, butterfly gardens can help return native plants to the area, and preserve threatened species in danger of losing their habitats.

Butterflies and moths are arthropods belonging to the insect order *Lepidoptera*. Their life cycle consists of four phases: egg, caterpillar, chrysalis, and finally butterfly.

They serve as pollinators and are a source of food for some animals. As such, their presence is an indicator of the health of the environment.

Butterflies vary widely in color and size. There are 760 species in North America, and over 250 species representing six families that are native to Arizona. The six families are: *Papilionidae* (Swallowtails), *Pieidae* (Whites and Sulfurs), *Lycaenidae* (Blues, Hairstreaks and Metalmarks), *Libytheidae* (Snouts), *Nymphalidae* (Brushfoots), and *Hesperiidae* (Skippers).

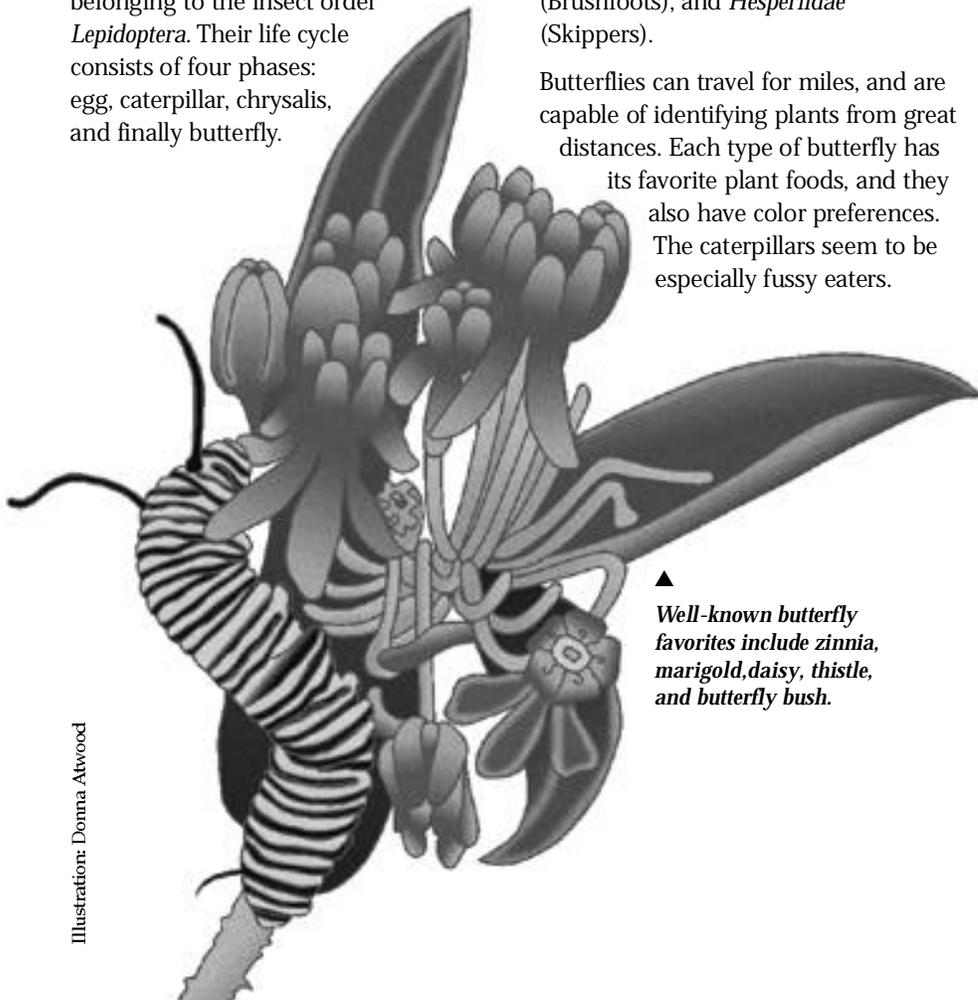
Butterflies can travel for miles, and are capable of identifying plants from great distances. Each type of butterfly has its favorite plant foods, and they also have color preferences. The caterpillars seem to be especially fussy eaters.

A butterfly garden can be any size, but plant selection is an important factor. Many of the native and desert-adapted plants available at local nurseries attract butterflies; but besides the plant's attractiveness to butterflies, you should also consider factors such as water requirements and adaptation to sun and temperature extremes.

Butterflies are most often attracted to a plant's flowers. Mass plantings of flowers usually do a better job of attracting butterflies than a single plant. Look for plants with wide, shallow flowers, or those with clusters of flowers that, together, provide good perching platforms. Color is an important factor, with white considered the most inferior. Well-known butterfly favorites include zinnia, marigold, daisy, thistle, and butterfly bush.

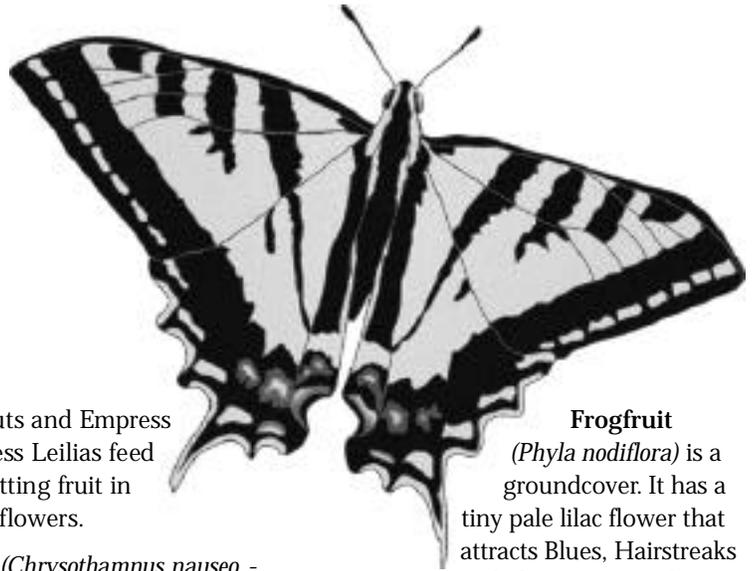
Flowers attract butterflies by providing nectar, but they may also be attracted to plant saps, rotting fruit, and animal waste. To have a true butterfly garden, you must also feed the larva. Plants that produce food for larvae attract and keep adult butterflies in the garden, as well.

"Desert Butterfly Gardening," by the Arizona Native Plant Society and the Sonoran Arthropod Studies Institute, provides an excellent list of plants that attract butterflies. It includes colored pictures. The Desert Botanical Garden publishes a list of butterfly visitors that includes information on larval foods.



▲ Well-known butterfly favorites include zinnia, marigold, daisy, thistle, and butterfly bush.

Illustration: Donna Atwood



PLANTS TO CONSIDER:

Fern Acacia (*Acacia angustissima*) not only attracts butterflies, but also is larval plant food for the Yellow Mexican Sulfur.

Butterfly Mist or Butterfly Blue™ (*Ageratum corymbis*) has a blue flower and tasty nectar. It attracts male Queens. (An alkaloid in the flower is ingested and used as an aphrodisiac to attract females).

Bee Brush (*Aloysius gratissima*) is scrappy in appearance, but has a remarkable fragrance. Gray Hairstreaks and Queens are attracted to this plant.

Pineleaf Milkweed (*Asclepias linaria*) is a major food source for caterpillars of Queen and Monarch butterflies. They eat the leaves and flowers of *A. linaria*, as well as those of Desert Milkweed (*A. subulata*) and Butterfly Weed (*A. tuberosa*).

Sweet Bush (*Bebbia juncea*) is an extremely drought-tolerant native plant that attracts all sizes of butterflies, including Checkered Skippers.

Mallow (*Malva*) is also a larval food plant for the Checkered Skipper, as is Sideoats Grama (*Bouteloua curtipendula*), a native grass. Orange Skippers eat other grasses, such as Bamboo Muhly (*Muhlenbergia dumosa*).

Red Bird of Paradise (*Caesalpinia pulcherrima*) attracts Swallowtails, Sulfurs and some Skippers.

Pipevine (*Aristolochia microphylla*) is a larval plant food for Swallowtails, one of the largest butterflies.

Desert Hackberry (*Celtis pallida*) is a native larval food plant that can attract

both the Snouts and Empress Leilias. Empress Leilias feed on sap and rotting fruit in preference to flowers.

Rabbitbrush (*Chrysothamnus nauseosus*) is an excellent nectar bush. Reakirt's Blues will often be observed swarming this bush in the fall.

Black Dalea (*Dalea frutescens*) attracts Southern Dogface caterpillars.

Golden Dyssodia (*Dyssodia pentachaeta*), a native, provides food and nectar for the Dainty Sulfur butterfly and caterpillar.

Spreading Fleabane (*Erigeron diversgens*), a member of the sunflower family, may bring Buckeyes to your yard. You can also try other sunflower family members, such as Cosmos and Mountain Marigold.

Kidneywood (*Eysenhardtia orthocarpa*) has a white, fragrant flower that attracts butterflies, bees, wasps, and flies. Butterflies most likely to be seen will be Hairstreaks and Blues. Kidneywood provides larval food for the Marine Blue, which is tended by ants.

Lantana (*Lantana camara*) draws the Giant Swallowtail and Fiery Skipper. Swallowtail caterpillars eat cultivated citrus, and Fiery Skippers eat Bermuda grass. It is not necessary to plant citrus to attract the Swallowtail. Trailing Lantana (*Lantana montevidensis*) attracts all types of butterflies, and is a favorite of the Painted Lady.

Wolfberry (*Lycium berlandieri*) has a long blooming period, and its nectar attracts both bees and butterflies, including the Funereal Duskywing, a Skipper.

Frogfruit

(*Phyla nodiflora*) is a groundcover. It has a tiny pale lilac flower that attracts Blues, Hairstreaks and Skippers. It is also

food for the Refh Crescent. Cultivation of this plant may help re-establish the Phaon Crescent.

Velvet Mesquite (*Prosopis velutina*) leaves are eaten by Leda Hairstreaks, and provide attractive shade for your garden.

Desert Senna (*Senna covesii*) serves as larval plant food for the Sleepy Orange and the Cloudless. It is also a native plant.

Verbena (*Verbena gooddingii*) is a native with colorful blooms. It draws many types of butterflies, American Lady among them. ■

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Sacred Datura: Moonlight Magic

BOTANICAL NAME:

Datura innoxia or *Datura wrightii*

COMMON NAMES:

Sacred datura, Jimson weed, thorn apple, Indian apple, angel's trumpet, *toloache*, and *tolguacha*.

Sacred datura is a native perennial that can be incorporated into a drought-tolerant landscape with great effect. It is found in all four deserts of the Southwest, growing in sandy flats, arroyos, and plains from sea level to approximately 2,500 feet. It is often seen along roadsides and in disturbed areas.

This stout-branched rambling perennial has ovate leaves that are medium-green on top and gray-green on the underside. Leaves have smooth margins, are alternately arranged, and can be up to 6 inches long. They are covered by tiny hairs, and upon close inspection appear almost velvety. Individual plants often grow 3-5 feet high and can sprawl 6-8 feet. Sacred

datura produces dozens of fragrant white trumpet-shaped flowers that are sometimes tinged with purple or lavender around the margins. They are large, sometimes 6-8 inches in diameter, and have five slender spurs at their margins. Flowers appear in the early evening from March through November, and they close by noon of the following day. Seedpods are globe-shaped and spiny. When ripe, they split open to release semi-circular, flattened, yellow-brown seeds.

This plant dies back to the ground during winter freezes, and then re-sprouts again when the weather warms. Although I have never propagated it, I encourage interested gardeners to try growing it from seed. Scarify the seeds and plant several in a one-gallon pot in the spring. Choose the healthiest seedling if more than one sprouts. Allow it to grow until the roots have spread throughout the pot, and then transplant into the garden. Water intermittently until established during the first year. The following year, it should be able to make it on native rainfall. You may encourage growth with supplemental irrigation, but from my experience too much water can give you a plant that literally takes over. The one in my yard is about 6 feet deep, 12 feet wide, and 5 feet high. I've had to prune it several times to keep it in this proportion.



Photography: Copper Bittner

Sacred datura is a night-bloomer, and is pollinated by sphinx or hawk moths. These evening visitors, seen feeding on the nectar of newly opened flowers, are sometimes mistaken for hummingbirds because of the soft “whirring” or “buzzing” sound they produce as they feed. They have a long proboscis that unfurls to reach into the nectary at the base of the bloom, and as they feed they inadvertently pollinate the flowers they visit. Consider planting datura near a patio, where the fragrance and moth activity can be enjoyed on summer evenings.

The larva of the sphinx moth is also known as the tomato hornworm—the large green caterpillar you may have seen devouring your tomatoes. The tomato hornworm is easily controlled by hand picking. You needn't to worry about attracting them if you plant datura, as they feed on tomatoes, datura, and other plants with equal enthusiasm. Native moth species prefer datura.

WARNING: Sacred datura, a member of the potato (*Solanaceae*) family (also called the deadly nightshade family) is poisonous. Do not ingest any portion of this plant. In practicality, poisoning is a rare occurrence. Plant parts are extremely bitter, making deliberate ingestion unlikely even by small children. The plant contains hallucinogenic alkaloids, and consumption is most often linked to those looking for a mind-altering experience.

A bit of folklore: the name Jimson weed is said to have originated from the presence of a similar species in Jamestown, Virginia. The name "Jamestown" was corrupted to "Jimson" over time. Early colonists were said to exhibit strange behavior after consuming it when other foods were unavailable. Native peoples of the Southwest use datura in puberty and other ceremonies.

I remember this unbelievably beautiful plant from earliest childhood. I've always been fascinated with its huge white flowers and its spicy-sweet scent. At some point a friend gave me one, and it's been in my garden ever since.

If you are trying to encourage a natural look in your managed landscape, I encourage you to put sacred datura at the top of your plant list. ■

Computer Corner

by Terry Tanner, Master Gardener

MOUNTAIN STATES NURSERY

Mountain States Wholesale Nursery (a generous donor to the Master Gardener program) has completed work on their web page. It looks great, and has links to plant photos and cultural information.

<http://www.mswm.com>

DROUGHT ISSUES

Extreme to severe drought conditions have been developing over the past three to four years, and the effects are increasingly being felt over much of the Southwestern United States. El Nino conditions have developed in the equatorial Pacific, but what impact the 2002-2003 El Nino event will have on the Southwest still remains uncertain. Deborah J. Young, Ph.D., Associate Director, Programs, Cooperative Extension, University of Arizona, says the Arizona Cooperative Extension has brought together faculty from campus and counties to address drought issues. Topics include households, climate, finances, animal, fire, and range management.

<http://ag.arizona.edu/extension/drought/>

FAT CONTENT

You can go to this site and find the fat content of any food.

http://www.nal.usda.gov/fnic/cgi-bin/nut_search.pl

AVOID MEDICAL ERRORS

The government has been tracking the increase in medical errors and has come up with a list of tips. The federal Agency for Health Care Research and Quality developed the list to help people make informed decisions and improve communication with providers.

www.ahrq.gov

AREA ROADWAYS

An innovative program offered by the Arizona Department of Transportation (ADOT) offers road conditions, plus links to live video of Phoenix freeways, statewide weather, the online Bus Book, carpool/vanpool matching, and more.

www.az511.com

PLANT ID

This site features resources on plant identification, nomenclature, and new cultivars.

www.cultivar.org

STOCKING YOUR PANTRY

In the aftermath of Sept 11, the following three sites give information on stocking a pantry to have an emergency supply of food and water in case of disruptions in transportation, electricity, or water supplies, including those caused by tornadoes or other extreme weather conditions.

www.fema.gov/library/emfdwtr.htm

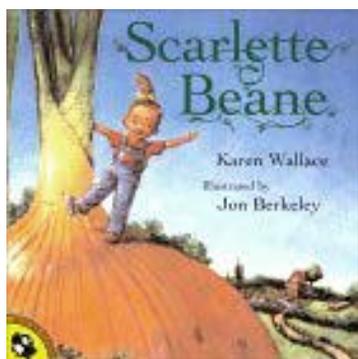
www.fema.gov/library/diskit.htm

www.redcross.org/services/disaster/beprepared/food.html



Stories to Delight Young Gardeners

The holiday season is just around the corner, and it's time to start thinking about what to get the little gardeners in our lives. Stories touch our lives like nothing else. Children, especially, identify with their favorite characters and emulate the qualities they like. Two of the best gardening stories I enjoy sharing with children are *Scarlette Beane* and *Weslandia*.



Scarlette Beane, written by Karen Wallace, is a delightful story for younger (five and under) gardeners. Scarlette is a magical child who is born with a face as red as a beet and green-tipped fingers. As soon as she is born, her parents know that she will grow to be tall and strong and do something wonderful.

The Beanes live in a tiny house, so they spend all of their time in their beloved garden. On her fifth birthday, Scarlette's family provides her with her very own garden space and the tools to work it. She works in her new garden all day. When she goes to bed that night, her fingers glow with green light, and in the morning her garden is filled with gigantic vegetables that have to be pulled up with forklifts! The entire community comes to help harvest the

garden, and Scarlette's mother uses the vegetables to make soup for everyone using a cement mixer.

Jon Berkeley's illustrations really shine at this point. He shows us an

incredibly diverse community filled with priests, tattooed bikers, people in the traditional clothing of India, older people, younger people, hippies, and homeless. All are welcome to the table. After her parents tuck her into bed that night, Scarlette dreams of doing something wonderful. She tiptoes out of her room, takes her trowel and her extra seeds to a meadow, and plants them with the magic in her fingers. In the morning, the meadow is graced with a castle made of vegetables. It is the house of their dreams. Scarlette's mother kisses her and whispers, "I knew you'd do something wonderful."

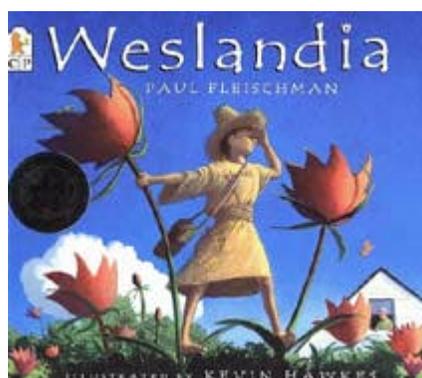
This book is really inspirational for little ones. We all want to do something wonderful, and Scarlette Beane shows that a garden is one way to accomplish this. Children can spend time poring over the detailed illustrations naming vegetables and garden tools. It is also nice to see such a small gardener being so hugely successful. Surely if five-year-old Scarlette can grow veggies, your five-year-old can too. Scarlette Beane will warm your heart and connect you to the magic of gardening. Share it with your child, grandchild, or the kinder-

gartener down the street and make some magic of your own.

Weslandia, by Paul Fleischman, is a garden story for older readers who

have started school.

Wesley is a boy who moves to the beat of a different drummer. He doesn't enjoy the food, fashion, or football of his peers. In fact, "He had no friends, but plenty of tormentors. Fleeing them was the only sport he was good at." At the end of the



school year, Wesley is looking for a summer project to work on during his vacation. He has learned in class that each great civilization had a staple food product. As he is telling his mother what he learned in school, an idea strikes him. Wesley can grow his own staple food crop and found a civilization of his own! The next morning, Wesley turns over a patch of earth in his yard, and then waits for the wind to bring some seed. In no time at all, he has some seedlings and he bends his scientific mind towards learning everything about them. As they grow, he eats their fruit, makes cups from their rinds, cooks their roots, weaves fabric from their soft inner fibers, and creates almost everything a person could want for the basic necessities of life. By the end of the summer, all of the kids from school have ventured into "Weslandia" and enjoyed the fruits of Wesley's inventive mind. The illustrations of Kevin Hawkes add richness and depth to this incredible story. You can see Wesley's vision shining through each

page, as he discovers the myriad qualities of his unique plant.

This book provides so much food for thought and discussion. What is a staple crop and what is our staple crop? Of course, the answer to that question could be different in different households throughout the United States. Is it corn? Wheat? Potatoes? Twinkies? (Hopefully not!) In our industrialized society, so far removed from agricultural reality, it is important to remember how many people's lives revolve around the food that they can grow and harvest. I really like the way this book illustrates how many other products can come from a staple food. It could be a fun exercise just to try to list all of the products currently in your house that come from corn. A reviewer from Amazon.com wrote, "I read this book to my 2 children and we loved it! It inspired us to make our own Weslandia in our backyard. We had a great time there, all thanks to this book!" Use this book to get children excited about growing things. Allow them to be creative and to think of uses for that thick pumpkin vine or a watermelon rind. Maybe they could make ink like Wesley does using juice and a little soot. The craft possibilities are endless.

I hope you pick up *Scarlette Beane* and *Weslandia*. Books make wonderful gifts, and these stories are a great way to share your love of gardening. They are both available at local bookstores and can also be ordered online. Give them to the young people in your life, or read them for your own pleasure. ■

A Cactus Odyssey: Journeys in the Wilds of Bolivia, Peru, and Argentina

by Candice Sherrill, Master Gardener

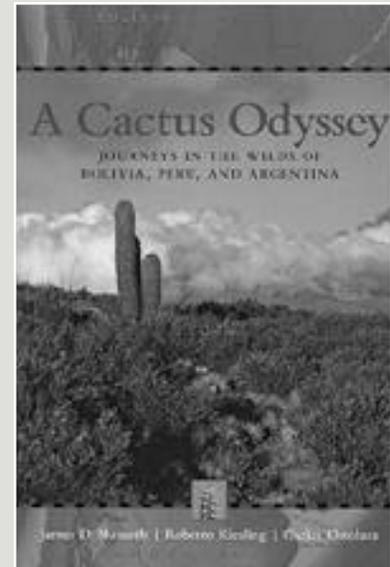
James D. Mauseth,
Roberto Kiesling,
and Carlos Ostolaza
Timber Press, 2002.
306 pages, \$39.95

Cacti... you see them every day here in the Southwest, but how much do you really know about them? Do you know what makes a cactus a cactus as opposed to, say, a euphorbia? Are you aware that some exotic species have developed air roots, or that there are cacti that are easily mistaken for jade plants, delicate vines, Spanish moss—even snakes? We all know cacti grow in the desert, but did you know they're also found in rainforests, at alpine elevations, in grasslands, and along the seashore?

A Cactus Odyssey is the work of three field biologists who were introduced to one another at a 1986 meeting of the International Society for Succulent Plant Study. They went on to become friends, and over a period of fifteen years they traveled much of the Americas together seeking out, photographing, and cataloguing rare specimens. The book chronicles one 5,000-mile journey the trio made through Bolivia, Peru, and Argentina, where they dealt with flash floods, altitude sickness, and the threat of prowling jaguars to reach remote areas where seldom-studied species were rumored to be growing.

The authors have done a wonderful job of staying in the background and allowing the land, the weather, the local inhabitants, and the native plant life to take center stage. What's more, they've included more than 190 high-quality color photographs to let readers know what they were seeing as they traveled from country to country.

Whether you're a lifelong desert dweller or a recent transplant, if you've been wanting to learn more about these interesting plants, you'll find *A Cactus Odyssey* a good mix: a delightfully painless education in cactus biology, as well as an adventuresome travelogue. Who knows? You might even be persuaded to venture down a new path in your own garden by the time you finish it! ■



Center for Native and Urban Wildlife

Sitting on a boulder at the edge of a small pond, I watch desert pupfish glide and dart in the shade of sheltering cattails, their neon blue a sharp contrast to the ebony tadpoles and tobacco-colored snails investigating submerged moss-covered rocks. Trickling waters feed grass-like Huachuca water umbel and flowering water lilies, attracting a mourning dove who deftly negotiates the rocky shore to dip her beak at midday.

I recently got to enjoy such rare sights, along with face-to-face meetings with a desert tortoise and a shy Gila monster, during a visit to the Center for Native and Urban Wildlife. The center is located at Scottsdale Community College. Take the 101 to Chaparral and go east to the SCC campus. No student ID is required—just a respect for nature. Professor Roy Barnes of CNUW was kind enough to give me a tour of the wildlife sanctuary the day I was there.

“When the Ecology Club suggested incorporating some native plants on campus, I had the idea we’d plant a few mesquite trees and that would probably be the end of the project,” Roy said with a soft laugh. By time he and I were finished with our tour, I could understand the irony of what those “few mesquite trees” had blossomed into in two short years.

It’s been a busy time for Roy and his hardworking crew—growing, planting, building, fundraising, recruiting, and teaching—most of all teaching. The following quote graces one of the center’s brochures:

“In the end we will conserve only what we love. We love only what we understand. We will understand only what we are taught.”

BABA DIOUM
Senegalese ecologist

Teaching, then, is main tool CNUW is using to achieve its ultimate goal of conservation. So far, over 2,000 fourth graders have taken the 3-hour field trip that CNUW offers to local schools. At one of the first stops at the center, Toad Hall, students view a mural with 25 native animals shown in their desert habitats, and are asked to find and identify each of the 25. “How can you care about something if you don’t know what it is—or perhaps don’t even know that it exists?” asks the center’s Stacy Pratt.

While at Toad Hall children also get to view a Gila monster, a whiptail lizard, and many other live creatures. Docents talk about animal support systems—food, water, and nesting sites. Kids learn that these fascinating creatures cannot survive if their habitat is destroyed.

Throughout the day, contemporary science issues are mentioned: how a greenhouse works, global amphibian decline, and the significance of plant pollinators. Children learn about biodiversity. They take important steps toward understanding our desert habitat.

Marine biologist, teacher, and student Mark Harding heads up the center’s education efforts. A new project Mark is working on entails putting together “Learning Boxes.” Each box contains desert-related materials—animal puppets, books, magazines, bird skulls, and feathers. Since Arizona’s fourth grade curriculum includes learning about the desert as one of its objectives, these boxes will be loaned out to local educators to supplement classroom activities. CNUW is also investigating partnerships with other groups to broaden their education program. For example, this year Liberty Wildlife will bring birds of prey like owls and hawks to share with the children.

Another stop on the children’s tour is SCC’S new Peace Garden. Standing tall amidst the ironwoods and cacti, a pole bears the words “may peace prevail on earth” in 12 different languages, including Pima and Maricopa. The Peace Garden embraces a shady wooden gazebo that looks out on three raised planters filled with goodies for hummingbirds, butterflies, and bats. Planted with native plants, including yucca, chuparosa and penstemon, the planters are a pollinator’s delight. A lucky visitor might even glimpse an owl exiting his burrow. CNUW provides these Sonoran natives with homes constructed of

flexible plastic tubing and upside-down buckets.

Desert tortoises, frogs, and plants have homes in the walled area that includes the greenhouse and vivarium. Roy tossed some mulberry leaves into the tortoise pen and hosed it down. Before long three female tortoises lumbered from their burrows and came to feast under their very own lysiloma tree.

The temperature-controlled greenhouse features plant tables on one side, and frog habitats on the other. To the right of the door is a natural tangle of yerba mansa, verbena, and horsetail surrounding a pond. Beyond this are bright blue tanks. One tank, with a chiller, houses tadpoles that will become endangered Ramsey Canyon leopard frogs.

While working on her Masters in Restoration Ecology at ASU, Stacy Pratt is focusing on three desert restoration sites for CNUW. Brown's Ranch and Two Snakes Wash are part of the McDowell Sonoran Preserve. The 16.2-acre Brown's Ranch site includes the area where a house and corrals were part of a cattle ranch. The 9.5-acre Two Snakes site is an extension of that area. CNUW is replacing foliage lost when this area supported cattle. New plantings include velvet mesquite, blue palo verde, and foothill palo verde trees, as well as desert hackberry, canyon bur-sage, four-wing saltbush, desert honey-suckle, greythorn and some native grasses. Enhancing the wildlife habitat should attract greater numbers and types of native creatures.

Ancala, the third site, covers about 2 acres. Previously used as a construction

dumping ground, CNUW now will plant blue palo verde trees and transplant some nearby cacti. This project is being pursued in partnership with the City of Scottsdale and the McDowell Sonoran Land Trust with the active participation of community volunteers.

When it comes to strong backs and enthusiasm, CNUW recruits volunteers from everywhere—from retirees to SCC's student body. With some of the grant monies they acquired, the center established a couple of paying positions for students who wish to dedicate more time to preserving the desert. CNUW's local supporters include Bank One, CAP, the Scottsdale Charros, SRP, CLC, the McDowell Sonoran Land Trust, the City of Scottsdale, and Wells Fargo. Grant monies, donations, and volunteers have been essential in supporting this program. But with their rapid growth, Diana Schmidt of the center is placing new energy into an endowment campaign to ensure financial support well into the future.

Looking into the near future: Mark projects that another 1,500 children will go through CNUW's field day program. That's another 1,500 chances to inform young minds. To help them actually see the puzzle of a prickly monster saguaro cradling a nest of baby cactus wrens.

To help them love that riddle of nature. To help them want to preserve it for generations to come. ■



▲ *A desert tortoise feasts on mulberry leaves.*

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Stacy Pratt, Restoration Director
480/423-6730

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480/423-6731

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Scottsdale, AZ 85256-2626
cnuw.sc.maricopa.edu

JANUARY CITRUS CLINIC

Learn to care for your Citrus, Deciduous Fruit Trees, Grapes, and Berries



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Saturday, January 18, 2003 • 8:30 a.m. to 12:00 p.m.

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NORTHWEST VALLEY CITRUS CLINIC:

Saturday, January 25, 2003 • 8:45 a.m. to 12:00 p.m.

University of Arizona • Citrus Agricultural Center • Waddell, Arizona

\$5.00 per person advance tickets—\$8.00 at the gate

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Call (602) 470-1556 ext. 304 for additional information.

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