Things to Expect:

Citrus fruit drop is a natural thinning process, worsened by hot dry winds.

Fertilize citrus in late August or early September to ensure good fruit sizing that will occur soon after. Tangelos are especially sensitive and respond best.

Cicadas emerge and the males fill the air with a buzzing cacophony. Little damage is caused and no practical control is available.

Ants and termites become more active and swarm during Arizona’s summer storm season. Look for swarms on hot sultry mornings.

Root rots are often the result of overly wet soils brought about by summer rains coupled with over-watering. Let the soil breathe.

Lawn fungus diseases increase in warm, wet grass. Thick thatches and night watering increase fungus disease potential. Lawns stressed by too little water are prime candidates.

Iron chlorosis can be induced with wet soils keeping the oxygen levels low. Iron absorption by roots requires an active oxygen transfer and the less oxygen there is, the less iron can be absorbed. Also, the wet conditions place the iron in a reduced (ionically) form that is less available for plants. If the symptoms occur and controlling water to dry the soil is difficult (e.g. lawns), use a chelated iron on plants with symptoms.

Toadstools and slime fungi increase around the landscape with the warm wetness of the season. Though some may be edible, don’t chance it. My criteria for eating a wild mushroom is letting someone with over 30 years of experience choose it. One wrong choice can ruin your day.

Palo Verde beetles will continue to emerge from the ground under infested trees. Extra TLC remains the best treatment.

Things to do:

Water thoughtfully for better plant growth and to save water. Watering needs of plants increase with hot, dry weather. Be attentive to wilt symptoms. Water deeply, but only as often as necessary to maintain good growth.

Mulch soil surfaces of tree, shrub and flower beds to keep root zones cooler and minimize evaporation loss of water.

Water, mow and fertilize lawns attentively. Stress can quickly become a severe problem now. Late season blooming is common but greater with stress.

Replenish depleted soil fertility with a fertilizer application in August. Watering and rains leach away much of the soil’s nutrients, and they will be needed for the second flush of growth in late September.

Protect tender bark of both young and heavily pruned trees. Tree white paint can work acceptably as can other products designed for that purpose.

Transplant palms in the heat of summer for best results.

Get the garden soil ready for our glorious fall growing season.

Terry H. Mikel
Extension Agent, Commercial Horticulture
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1999 Reader's Survey Results

A resounding "Thank You!" goes out to all 89 respondents to the first reader's survey! We greatly appreciate the constructive criticism and helpful suggestions you have all shared with us. We also want to remind you that it's not too late to put your 2¢ in. Just fill out the reader's survey form in your May/June 1999 issue of the Communicator.

First, we'd like to announce the winner of the drawing for an autographed copy of Desert Gardening for Beginners. Congratulations to Linda Riley! Anyone can order this fabulous book by sending a check for $9.95 (made payable to University of Arizona) to Master Gardener Press, 4341 E. Broadway Rd., Phoenix, AZ 85040-8807. Or, you can pick up a copy and save the shipping cost: just visit any of our 4 Phoenix Metro area offices (see p.2 for locations and times).

Here are some interesting statistics we’ve gathered from the surveys:
- 54% of respondents were Master Gardener Volunteers, 43% were paid subscribers
- 69% of respondents would like the number of pages to stay the same
- 100% of respondents said they learned something about 1 or more of the concepts we listed
- An average of 76% of you learned something about each of the concepts we listed

- Of those that said yes to learning something, 69.5% said they have changed or will change their landscape or practices as a result.

Many of you told us it was difficult to choose just 3 articles as your favorites. The top 5 recurring articles are as follows: 1. Things to Expect/Things to Do; 2. Quick Takes (previously Did You Know); 3. Meet the Natives; 4. Calendar of Events; 5. Rarin' to Grow (previously Seeds to Plant Now).
(Continued on page 4)
Quick Takes

Not keen to do garden chores in the broiling heat? Actually, there are at least two jobs you can, and should postpone: one is fertilizing your landscape plants; and the other, pruning them.

Here’s why. For many species, the intense heat slows down plant activity. Once nighttime temperatures regularly stay above a certain threshold level, photosynthesis in many plants slows considerably. A plant in standstill mode can’t make much use of fertilizer. Wait until the nights begin to cool off and then fertilize. You’ll see a better response.

Hold off, too, on the pruning. Plants pruned now are vulnerable to sunburn: branches previously sheltered by foliage won’t be able to put out new protective foliage or to easily adjust to exposure to the long days of full sun.

If, despite the heat, you want to be doing something constructive in the garden, you can always plant pumpkins. Seed sown around the Fourth of July will be producing jack-o-lanterns just in time for Halloween.

Mosquitoes don’t win many popularity contests, except perhaps with other mosquitoes. All the same, they make a fascinating case study.

Believe it or not, a mosquito is a fly. “Fly,” as entomologists use the term, includes all insects in the Order Diptera. Dipterans are the group of insects that, as adults, have only one pair of wings. Thus, the housefly, the midge, and the daddy-long-legs qualify as “true” flies. Conversely, the dragonfly, the mayfly, and the firefly do not.

Only the female mosquito bites. The males feed on plant juices and nectar, and in some areas of the country are important pollinators of wildflowers. The females, who also feed on nectar, extract blood both for food and for proper maturation of their eggs.

Male mosquitoes, whose antennae act as sound-wave receivers, are drawn to females by the distinctive pitch of the wings of the female when she is in flight. So alluring are the particular sound-wave frequencies created by those wing-beats that researchers were able to induce the same response in male mosquitoes by using a tuning fork to produce those specific frequencies.

In tropical regions, mosquito larvae use rain-filled leaves to complete what is of necessity a very rapid development. In North America, at least one species also lives life on the edge, with the larvae using, as their aquatic home, the digestive liquid at the bottom of the carnivorous pitcher plant. (Scientists theorize that the larvae produce a neutralizing agent that protects them from the pitcher plant’s digestive enzymes.)

Even mosquitos have their troubles. In a kind of Dipteran poetic justice, there is an midge that preys on mosquitos. When the midge, on its rounds, encounters an engorged female mosquito, it frequently helps itself to a blood meal at the mosquito’s expense.

Sources include:
1) “Life on a Little-known Planet”, by Howard Evans
2) “Insects of the World”, by Anthony Wooton

In the offing is a new use for a plant cultivated as a staple crop in much of the tropics. At least two companies have begun the process of making snack chips from a tuber that is second only to Irish potatoes as the leading vegetable crop of the world.

Touted as having 40% less fat than traditional potato chips, chips made from yuca (pronounced “you-ka”) will be appearing under such brand names as “Erik Estrada’s Gourmet Yuca Chips” and “Tropic’s Yuca Chips”™, with nationwide distribution as a goal. Florida-based Ritz Foods International, marketers of “Tropic’s™, presently has a 5,000 acre plantation in Venezuela where it grows and processes yuca for distribution to U.S. markets.

Yuca is just one of the many common names given to the tuberous plants that make up the genus “Manihot”; this root vegetable is also known as Cassava, Manioc, and

Continued on page 4.
Quick Takes (Continued from page 3)
Sweet-Potato Tree. Here in the States, we already use one product that is derived from this tuber. That substance is tapioca, the starchy granules used in the preparation of pie fillings and puddings.

The tropical shrubs that produce these tubers belong to that large and very diverse family of plants called Euphorbiaceae. Although Irish potatoes belong to an entirely different plant family (Solanaceae), the two root vegetables do have in common a certain toxicity. Careful cooks in this country avoid potatoes that have “greened up”; and they always break off, and never eat, any sprouts that have emerged from the potato. Careful cooks in the tropics select only freshly-harvested tubers, and do not delay in getting the roots heated to a temperature sufficient to deactivate the enzyme that triggers toxicity.

You won’t find this landscape plant at the nearest “pick-and-pay”, but if you’re looking for large colorful flowers and a long season of bloom, Wild Hibiscus (Gossypium harknessii) is worth the search.

Also known as San Marcos Hibiscus, this low-growing shrub blooms from May to October. A close relative of field cotton, G. harknessii is evergreen and long-lived. (Specific example: a plant purchased more than ten years ago, at a Boyce Thompson Arboretum plant sale, is still a vigorous and attractive feature of an Ahwatukee yard.)

Wild Hibiscus may freeze to the ground when Phoenix has a particularly cold winter; but, it is not as frost-tender as bougainvillea, and like bougainvillea, it comes back from the roots.

The heart-shaped leaves are an attractive foil for the yellow hibiscus-like flowers, whose crinkly, tissue-papery petals echo the kind of fragile beauty seen in the blooms of many of our native cacti. Adding to the appeal are the bright red spots that accent the base of each petal.

G. harknessii even works as a cut flower. Prune off some branches that have already-opened flowers, use a hammer to flatten the cut end of the woody stem (this facilitates water uptake), and you’re ready to add water and create your design.

True, the flower that is open today won’t last much more than 24 hours, but it will be beautiful long enough to make your dinner-party centerpiece special.

One final note: the dry seed capsules work well in craft projects, and add a nice touch to wreaths of all kinds.

Dolly Clark
Master Gardener

1999 Readers’ Survey Results
(Continued from page 2)
The chart shows the average score our readers gave us in the categories listed. A 5 signified a high rating, a 3 was satisfactory, and 1 was the lowest rating. Our highest score was in usefulness of newsletter content (4.6 out of 5). Our readers reported they observed some improvement in the plants in their landscape (3.3) and reported an increase in their satisfaction with gardening decisions made (3.7) as a result of the information in the Communicator.

1999 Reader's Survey
Gardening for People with All Abilities
Accessible Garden Design

Designing a garden for people with special needs is not all that different from designing any garden. You only have to be a little more creative, a little more adaptive, a little more ingenious, and follow a few additional rules. It is just a little more important to know our climate, soil and the plants that will thrive here without too much effort and then nothing is impossible.

As with any design, the planning process is probably the most important step. I am not the person to suggest the instant and perfect garden. My garden is, after ten years, still changing as I get better ideas, or I find out that my plant choice wasn’t the best for a particular location. But a good plan helps reduce disappointment and may prevent a lot of unnecessary work. Usually the planning process starts with a wish list followed by a site assessment. To this general approach we need to add an honest assessment of the abilities and limitations of the gardener. This includes also planning for future changes in abilities. Important questions are:

- What is the endurance? That is, how far between rest stops?
- Are there problems with balance and vision?
- Are there spells of dizziness or disorientation?
- What is needed for getting around: a cane, walker, wheelchair or guide dog?

By merging the wish list with the site and abilities assessment, it becomes clear whether the garden will be a few containers on the porch, a small kitchen garden, a flower garden, a rose garden, a herb garden, a Japanese rock garden... The options are almost endless.

The next step is to determine which part of gardening the person with special needs does, and how the other part of the garden is being taken care of. A professional landscaper may have to be employed, or perhaps family and friends are willing to help; but no matter who is doing the work, this part of the garden should be designed in a way that it will not need a great deal of care. This is where the considerations of climate, soil and plant species come in. You don’t want to plant anything that will turn into a huge amount of work.

Before planting consider what is the mature size of the plant? Will it need continuous pruning in that spot, e.g. under windows, eves, or power lines?

Will this plant drop an excessive amount of leaves, flowers or fruits into the pool or onto the porch, walkways or lawns? I am opposed to ruling out any “messy” tree, because I do like lots of leaves as mulch for my garden. I also enjoy the yellow carpet that is currently under my palo verde tree. It depends on what is underneath the tree and the opinion of the person looking at it.

Will the plant spread more than you would like either by seed dispersal or by rhizome growth? This will greatly depend on the watering regime in the garden. Spotty drip irrigation is bound to result in seedlings coming up within other plants (e.g. African sumac), since it’s well protected from my efforts in the middle of a very spiny ironwood tree, while my Mexican primrose is very well behaved in the spot where it gets water. It may spread heavily in a flood-irrigated situation, though.

Is the plant very spiny and therefore hard to handle? Will the plant freeze down every winter and then need pruning back of dead material? Will this spot provide the right amount of light? Here the angle of the sun in winter vs. summer is an important consideration. Generally, if you try to avoid plants that will need extensive pampering your best choices will be native plants, which will bring as a bonus the joy of attracting native wildlife into the garden.

Getting around in the garden is another aspect that needs a little more attention. Paths need to be wide enough and have a firm, non-skid surface. To accommodate a wheelchair, walker or cane, paths should be at least 4 ft. wide. Gentle curves are easier to negotiate than sharp angles. For turning around, a wheelchair needs a space of about 5 ft. X 5 ft. Of course, the optimal garden is flat and level with the house. If this is not the case, then stairs and ramps have to be considered. If stairs are negotiable, then the following measurements can be used as guidelines. Treads should be at least 13 in. deep and 25 in. wide and should not have noses sticking out. Risers should not be higher than 4-7 in. and always be closed to prevent tripping. Sturdy handrails should be provided at about 32 in. above the front of the treads. If stairs are out of the question, ramps need to be planned. The general rule is that a rise of about 5% grade is negotiable for most wheelchairs; that is, a rise of 1 ft. for every 20 ft. of length, but that depends on the strength of the person in the wheelchair. The best firm, non-skid

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Landscaping Book Reviews

What is the homeowner to do after the decision is made to landscape his yard? After looking at other yards for inspiration, what books will be helpful?

“Plants for Dry Climates” by Mary Rose Duffield and Warren Jones is excellent. Commonly used, landscape plants are pictured in full-colored photographs in actual situations. Common and botanical names identify each plant as well as suggestions for planting site, care, advantages and disadvantages, soil preferences, special features, watering, maintenance, etc. Plant problems, planting and plant care, lawns, annual color, vegetable gardening, selecting plants, modifying your climate, landscape themes, adaptations of desert plants, microclimates, your climate ingredients and arid environment are each discussed. This is a serious book that is an excellent guide on “how to select, grow and enjoy” plants. There is an abundance of information there. Take advantage of it if you are serious about your yard.

“Desert Landscaping” by George Brookbank follows in the footsteps of Mr. Brookbank’s first book “Desert Gardening.” Very basic plant care for the desert southwest is the basis of his books. Nothing too technical about design or color or form — no color photos, just the basics!

“Southwestern Landscaping with Native Plants” by Judith Phillips is an excellent choice for your landscape library. Judith Phillips does more than a good job of explaining what needs to be done before a shovel of soil is touched. Taking into account our sparse and precious water, she suggests using native plants. They have a better chance of survival, will look better and require less care because this is their home.

It was easy enough to understand each site is unique, but there are certain design principles. After giving your surroundings some thought, prompted by Judith’s suggestions for the different “use areas,” ecosystems that plants can create in your yard and seasonal changes, a plot can be developed. Every detail in the plot plan is covered and examples are given.

You will not find a chapter in her book on irrigation systems or how to install them. She explains the basics of deep watering and the pitfalls of excessive water in arid landscapes. Much of the rest of the book is devoted to plant choice, propagation and planting. Hers is the most helpful landscaping book that I’ve seen. She answered the questions that I had and I think she can answer yours!

“Low-Water-Use Plants for California and the Southwest” by Carol Shuler, Landscape Architect is a superbly photographed guide to landscape plants that will work well in our area. Ms. Shuler covers some plants not found in other landscape books and possibly not found in every nursery. But the search is worth it. She has showcased plants beautifully and they can be so in your outdoor space if properly placed and cared for. She discusses “planting zones” that should make it easier for the non-professional to do a fair job of landscaping at least part of their yard. What makes her book so outstanding are the color photos that are so intense and lifelike that it is easy to visualize those plants in your space. This book should be in your library!

Lenora Boner
Master Gardener

Gardening for People with all Abilities (Con’t from p. 4) surface materials are textured concrete, interlocking concrete pavers, bricks, epoxy-bonded resin aggregates and wood decking. Wood planks can get slippery when wet, which may be overcome by covering them with chicken wire (probably necessary on ramps only). Something cheaper, but still a viable option in our climate is packed gravel. To be able to pack gravel firmly it needs to be ¼-in to dust. Anything larger will not pack down enough and wheels will sink in. Artificial turf or carpet over gravel works too. Not so good options are grass, wood chips, tiles, smooth concrete and asphalt. Grass and wood chips are too soft, tiles and smooth concrete become very slippery when wet and asphalt stinks and becomes very hot, sometimes even soft during our summers. Therefore, if the wheelchair driver is not intending to garden immediately after our rare rainstorms we have a lot of options for paving materials in our climate.

Corinna Gries
Master Gardener
"Oh, For The Green, Green Grass of Home..."

Are you new to the Desert Southwest and pining for your large lawn “back home?” Do you think you would rather have a nice lawn area, instead of the gravel-base nice xeriscape or bad “zeroscape” that came with your new home? Maybe you are a native desert dweller, but you’ve decided you would like a lawn in your yard, after all? On the flip side, you may have bought an older, flood irrigated home with an already existing large lawn area and want to reduce your work load, or you have one of those little kidney bean shaped lawns in your front yard that needs constant maintenance but cannot be used by the kids for a play area because it’s too small; these can easily be redesigned and renovated.

You could spend months trying to decipher all the conflicting information and opinions on lawn and turf areas for this area. Comments you may have heard include,

- “Lawns and turf are the biggest water waster, and certainly are not native to the desert.”
- “A properly maintained lawn can cool a house, reducing overall water and electric use.”
- “Water’s cheap in the desert, so why worry.”
- “After all, you still see those older flood irrigated yards with acres of turf and the golf courses seem to water their grass every day.”
- “Lawns are the major source of allergy causing pollen in this area.”

Are you now more confused than ever? What to do?

Large, highly maintained lawns seem to be a very American habit (or “addiction” if you prefer), when we compare ourselves to other nations (see the excellent article in the April 1999 issue of Smithsonian Magazine for more history and details). As people moved west and southwest to the deserts to enjoy the sun and warmth, this turf habit came along. Having a lawn or not is a very personal decision based on your own values, leisure time, esthetics, budget, etc. so I won’t say here whether you should grow grass in the desert or not. I will however give you some basic background and suggestions that may help reduce the mystery and misinformation, ultimately helping you to formulate your own decision and plans to grow the right lawn in the right manner.

Even the “anti-turf enthusiasts” will admit that a properly designed, properly placed, properly maintained turf area does have a place in many desert dwellers’ homes. Turf areas make excellent play areas for children and pets or even for entertaining adults; they do actually cool a house and yard which does reduce total water and electric use for the household; and they can be esthetically pleasing. Mowed and maintained at the proper height, they will not bloom or spread pollen. In fact, turf areas are excellent for filtering the air of many other airborne pollutants and irritants.

Planned properly, planted properly and maintained properly, a turf area is actually a smart item for most property owners. If these steps are not thought out and carried through correctly though, an improperly planned, incorrectly planted and poorly maintained turf will be a definite mistake and will certainly live up to all the anti-turf comments you have heard. Read through the following information as you plan your yard or lawn renovation or planting. Before you plant, plan properly.

Size Discuss with your spouse and kids how much lawn they need or want for play use, and how large an area are you willing to maintain.

Kind Do a little simple research to learn about the correct type of lawn grass for your situation (full sun or shaded, high or low level of play use, more use planned for summer or winter seasons, what level of lawn care and budget do you want, etc.?). We have only a very limited selection of grasses to choose from in the low desert due to our winter to summer temperature extremes, so choose correctly. Keep in mind that just because it’s offered for sale at your local garden center, it is not necessarily appropriate for your climate and the grass variety or kind you grew in your yard “back home” is most likely not adapted to our climate.

Location Do you really want a turf area in your tiny front yard where the children are not allowed to play due to traffic? Or should it be in your backyard where it can be used and enjoyed by the entire family? Grass is a sun loving plant so put it in your yard where it will get the best sun exposure.

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