



Pinal County Cooperative Extension Garden & Landscape Newsletter January 2008



GROWING HERBS IN CONTAINERS

Just because the month of January is too late to plant a fall garden and too early to plant a spring garden here in the desert Southwest, we still can enjoy garden fresh herbs planted and cut from containers.

Many culinary herbs are well adapted to desert gardening conditions and are commonly grown outdoors during the summer months in gardens and planters. However, many of those same herbs will do just as well indoors in containers.

Many gardeners have found good success growing potted herbs in protected indoor locations or other areas, such as an Arizona room or a passive solar greenhouse. Many of the tastiest herbs have delicate foliage and attractive growth habits which allow them to pass for decorative houseplants, with the added benefit that they are edible! Some varieties are even available in dwarf forms, which makes them ideal for indoor plants.

Most herbs will grow well in a porous, fairly rich, soil mix. Potting soil mixed with approximately one-third sand will provide an ideal environment for vigorous growth.

Herbs require regular watering and a moderately humid environment. Many growers recommend

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RAISED BED GARDENS

With the spring gardening season just around the corner, now is the time to install your raised bed gardening system.

Why would you want a raised bed system? Raised bed gardens are an excellent solution for those who continually fight, and often lose the battle against gophers, ground squirrels, caliche, birds, salts, and clay soils. They raise the gardening surface higher in the air so that you do not have to bend over so far to work the beds; and being concise, they are much easier to work than standard, flat-on-the-ground systems. Interested?

In our desert environment, caliche, salts and compacted soils are common. Each of these can significantly influence the success or failure of gardens and landscapes. Where all else fails, a raised bed garden, together with the proper equipment, can easily solve the varment and soil problems that foil real success for many.

Got a bad back? Trick knees? Sore shins? Use timber, old tires or recycled lumber to raise the gardening surface to whatever height that meets your needs. Many wheel chair patients have rediscovered the joy of gardening when the garden has, so to speak, come to them.

Raised bed gardens can take many forms. They can be simple rectangles lined with railroad ties, scrap two by six-inch lumber, concrete building blocks or even just mounded earth. For wheel chair gardeners, many often set their garden frames onto a pedestal so that the person can approach the garden at hand height. I am sure that there is a system, as long as it is properly selected and installed, that will meet your needs.

The simplest raised bed system just piles extra soil into defined beds and leaves sufficient space for a walkway between the beds. In my garden, space is critical, so I have elected not to leave room between the beds for a wheelbarrow to pass. This does cause some minor challenges during the gardening season, but I am able to work around them fairly easily.

To create this type of raised bed, use a shovel to dig a trench or walkway about six inches deep. This removes all of the soft soil and creates a small walkway about a shovel width in size, just enough to work the beds without tramping on the beds themselves. To keep the walkway straight, string a line from one end of the raised bed area to the other and follow the line closely while digging the walkway.

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PROTECTING QUEEN PALMS IN THE LANDSCAPE

A favorite tree in the low desert valleys of Central Arizona, the queen palm often struggles in our environment, and from lack of care.

The queen palm needs protection from winds, shade and salts. It is susceptible to freeze injury and it needs regular water and nitrogen. So, what do we do? We throw it in the ground, hook up a drip system that may or may not meet its needs and forget the poor thing. No wonder that some of these trees look like castaways on a deserted shore!

Okay, before you get all exercised from my negative tone, please know that I recognize that some of you do indeed have attractive, healthy queen palms in your yards. However, if you take a closer look, even at apparently healthy trees, you will see many that suffer from this problem or that problem. Before you fire off that email, let's talk about the queen palm and its troubles. Then tell me what you think.

The queen palm, *Syagrus romanzoffianum*, can be a beautiful tree. Because of its similarity to the tropical palms of coastal areas, it reminds us of beaches, surf and sand. Native to Brazil, it leads our fancy to far away places and vacation memories. A graceful, delicate tree, the queen palm fills many roles in the landscape. In theory, it should be perfect for our area.

In reality, the queen palm is often planted in places that are not conducive for growth and development. Its roots are not protected from salt accumulation. It is exposed to high winds and frost. It is rarely fertilized and sometimes improperly watered. Because of this, it often struggles against the odds.

The queen palm is listed as moderately cold hardy, but it can be damaged by temperatures plunging into the mid-20's F, temperatures that are quite characteristic of our area. Fortunately, the tree rarely dies from our winter temperatures, but the leaves turn often brown and look scraggy until they are slowly replaced by newer, uninjured leaves. As the new fronds appear, it is okay to trim out the older damaged leaves, giving the plant a fresher look. Cold injury, and its slow recovery, is one of the main reasons that people become disenchanted with the tree.

Another common problem stems from shading. The queen palm likes full sun, and it will even tolerate reflected heat, such as what it might receive on a south-facing wall. It will grow in moderately shaded areas when it is young, but it rarely looks its best there. Stunting and other slow growth symptoms are common in trees growing in shade. Southern exposures usually work best.

Unfortunately, southern exposures generally expose the tree to the high winds and sand blasting of monsoon storms. In the queen palm, the leaves or fronds can be easily damaged by high winds. It is best to plant them in places where the prevailing monsoon winds out of the southwest cannot whip them around and damage the leaves. That means that the tree should be planted on the lee side, the down wind side, of a building or next to thick trees that can serve as a wind break. That choice, of course, puts a tree on the north side of a building or under trees. Remember the shading issue? With the queen palm, we just have to pick our poison and deal with the aftermath.

Queen palms are also susceptible to salt injury to the leaves. Tip burn is a common symptom and results from the accumulation of salt in leaf tissues left behind when water evaporates and drifts out of the leaves through the process of transpiration. The higher the salt content of the soil, the quicker the symptoms occur. To prevent salt damage, queen palm trees must be watered correctly.

Deep watering on a regular basis across the entire root zone is vital to the good growth and good health of all species of palms. In general, trees growing in sandy soils need irrigation more frequently than those planted in fine-textured silt or clay soils.

The queen palm should be irrigated every week or two when it is young. It is important to thoroughly wet the entire soil profile. Established palms do well with six to eight inches of water every two to three weeks during the warm growing season months and the same amount every four to six weeks in winter. Apply the water slowly over three to five hours to insure deep penetration.

Queen palms need regular feeding with a nitrogen fertilizer or they will begin to show signs of yellowing in the leaves. Fertilizing established palms is a critical task in the correct management of these trees. Organic fertilizers such as bloodmeal and composted manure give good results. The size, age and general health of a palm will determine the amount of material to be used. Composted manure can be maintained as a two or three-inch mulch inside the irrigation basin. Apply bloodmeal to a large established palm at the rate of fifteen to twenty-five pounds per tree.

Inorganic fertilizers such as ammonium sulfate (21-0-0) or ammonium phosphate (16-20-0) are equally effective for feeding palms. Use three or four pounds of ammonium sulfate each year for each large established palm with an irrigation basin approximately ten feet in diameter. Split the total amount into two or three applications during the growing season. Deep water the tree to move the nutrients into the root area.

keeping the plants on trays full of pebbles and water. This keeps the humidity up without risk of water logging the roots. Herbs should be watered from above when the top inch of soil is dry. They should be leached periodically, to keep salts from building up in the containers.

Herbs are easy to fertilize. Fish emulsion, or any houseplant food used at one half the recommended strength will provide sufficient nutrition for almost all species.

The light requirements of herbs vary. Many prefer full sun for much of the day. Others will do well in partial shade or indirect lighting. All herbs grown indoors should be placed far enough away from cold window panes to not be affected by drafts.

It will be important to nip back the herbs on a regular basis to keep them compact and producing new, succulent growth. Plants grown indoors often do not receive sufficient light to meet their needs and they respond by growing tall as they search for more light. Diligent pinching, removing a bit here and there for cooking, will encourage new growth and bushier growth habits.

Herbs may be grown effectively in many different types of containers. The longer rooted varieties should be grown in large, deep pots. Others will thrive in dish pots, strawberry pots or hanging baskets. Regardless of the type of container used, indoor herbs add a pleasant touch to any kitchen or window garden.

The following list includes some of the more common and easy to grow herbs for inside container planting:

Basil requires rich, porous soil with plenty of sun. It is available in a compact form which grows to about six to ten inches tall. Frequent pinching of this annual will encourage a longer life, and a bushier growth form.

Bay, a full-size tree in nature, reaches heights of three to six feet indoors. It is difficult to start from seeds or cuttings, but may be purchased from a nursery. The bay requires good drainage, and indirect light or shade. It will do well in a cool room in the winter.

Burnet is one of the prettiest perennial herbs. This delicate plant prefers dry, somewhat sandy soil. It also requires four or more hours of sun per day. As a low growing herb it looks especially well in a hanging basket.

Chervil, a delicate annual, prefers a moderately rich soil, with plenty of water. It does well in indirect sun or shade for much of the day.

Chives may grow to twelve inches tall indoors. They form an attractive dense clump that may need to be separated after a couple of years. Fertile soil and full sun all day will encourage vigorous growth.

Coriander seeds and cilantro foliage are produced by the same plant. Unfortunately, seed production is often unsuccessful indoors: however, the cilantro foliage thrives in moderately fertile well drained soil. It grows well in full sun and will tolerate a fairly arid environment.

Marjoram reaches a height of eight to twelve inches when grown inside. Potting soil, sand, and plenty of sunshine and humidity will satisfy cultural requirements. Indoors, this herb assumes a trailing form that looks nice in a hanging basket. When flowering is complete, cut marjoram halfway back to the soil to encourage new growth.

Oregano is a hardy perennial that prefers moderately rich, well drained soil. It will do well in full sun, and can be grown and harvested all year round.

Parsley is easily propagated from seeds soaked overnight before planting. It likes full sun and fertile, well drained soil. Aged compost may be added periodically. Parsley will do well in a cool room.

Sage is one of the more attractive herbs for inside container growth. It grows vigorously in a sandy, somewhat infertile soil, and will not tolerate over watering. It is hardy and sun loving, and could be grown in an entranceway or patio through the winter. Continual pinching will keep the plant from setting seed, and improve its general appearance.

Tarragon likes a fertile, well drained soil. This herb will not tolerate heavy soils. Place it in moderate sun and give it plenty of humidity. It can be watered every other day.

Thyme is a compact plant with tiny stems and leaves. It needs three to four hours of direct sunlight daily for vigorous growth. It responds well to high humidity, but needs watering only when the soil is dry. French thyme and other varieties look well in hanging baskets.

Houseplant herbs add more than just greenery to the interior of a home. The subtle fragrances and often delicate attractive foliage are a distinct design feature. In a kitchen window, or throughout the home, houseplant herbs can add as much to the living space as they do to the entrees in which they are used!

RAISED BED GARDENS, Continued From Page 1

The excavated soil should be piled onto the surface of the bed. This raises the surface of the soil above its original level and creates a bed that will provide a deeper zone for root penetration. The next walkway should be dug about forty-eight inches from your first walkway. Two feet on a side, or four feet total width, will be just as much as you can possibly reach comfortably without walking on the bed.

The next step is to rake the beds flat on top. Be careful to break all of the soil clods down into loose and workable soil. The natural slope at the edge of the beds will leave a planting surface of about three feet, or thirty-six inches. If you have longer arms and prefer a wider bed, or shorter arms and prefer a more narrow bed, those accommodations can be easily made. Walking, kneeling, or sitting on the beds are a no-no. Traffic on the beds compacts the soil and leads to stunted plant growth. Always work from the walkway areas.

This raised bed system will result in a rooting zone of about eight inches and will be sufficient for most vegetables grown in the garden. Some deep rooted crops, like tomatoes, giant carrots and squash vines may need a deeper seed bed. You do not need to pile more soil. Rather, simply dig to loosen the soil underneath the bed with a digging fork or shovel and mix in decomposed organic matter to the soil profile before piling the new soil onto the bed.

The last step in finishing off your raised bed system is to protect the walkways. This can be done by laying paving tiles, or better yet, leaves or grass clippings on the bottom of the walkways to provide a walking surface. The organic matter in the walkways will slowly compost over time and can be raked onto the beds later on. You could also lay scrap lumber or gravel mulch down to provide an all weather surface for the walkways.

Raised bed gardens can also be constructed of two-inch by at least six-inch lumber. I prefer two by ten's or even two by twelve's if you can find them and/or afford them. If budget is not an issue, redwood will last longer than pine or fir planks. I would stay with a four foot width for the sake of reaching in an arm's length. Any wider and the beds become difficult to work, especially if there are children involved. The planks can be nailed together or bolted with corner braces either on the outside or inside of the corners.

No matter whether you are using native desert soil, or creating your own soil mix, it will be important to add a healthy dose of composted plant material on a regular basis. Garden soil must be kept loose for good root and water penetration, and organic matter mixed with the soil will help maintain the soil's productivity. Compost, leaf litter and grass clippings serve nicely and should be added throughout the growing season.

Organic mulch, laid on the surface of the bed, helps shade out young weed seedlings and adds a measure of nitrogen and other nutrients to the soil. I wouldn't worry about digging the compost into the beds, except at the end of the gardening season. As the bottom-most layers decompose, the remaining materials will gradually be incorporated into the soil.

Once the beds have been prepared, seeds can be planted or transplants set into the beds. Plant vine crops such as squash, melons and cucumbers in a single row down the middle of the beds so they have room to spread over the edges. Very large plants such as Hubbard Squash may need wider beds to allow extra space for growth.

Smaller plants like carrots, beans, and lettuce can be planted either in rows or scattered randomly across the bed. Just spread the seed evenly across the top of the bed and cover to the appropriate depth as indicated by the seed packet instructions. As the seeds grow, they will shade out emerging weed seeds and thereby reduce the need for weeding.

Raised beds with organic matter will tend to dry out faster than regular soil on a flat bed. The loose nature of the soil also means it will also absorb water faster, so it is important to pay attention to details when determining when it is time to irrigate and when the water is running.

To properly tell when to irrigate, obtain a soil sample from about six inches down in the bed and feel it with your hands. If it feels moist and makes a good ball in your hand when you squeeze it, wait a little longer to irrigate. If it feels damp and makes a crumbly ball, turn on the water. Soaker hoses, drip systems, or sprinklers provide excellent watering methods in these gardens. It is a good idea to keep the walkways as dry as possible to prevent the germination and growth of unwanted weeds.

Plastic mulches are exceptionally well adapted to raised bed gardens. If you are going to use plastic mulch to get a jump on the planting season, be sure to place two soaker hoses down the beds, with one hose on each side. You can then cover the beds with plastic and cut holes to plant transplants or seeds. Hoops and covers can also help you get an early start on the garden and screen out bird, rabbit and ground squirrel pests.

Raising your garden above the ground can solve some of the most frustrating problems desert gardeners face. For a few dollars and a little know how, you can enjoy a wonderful garden and wave goodbye to many of the most frustrating garden problems.

PRUNING BRANCHES ON LANDSCAPE TREES

If you have any major pruning of trees and shrubs to do, January and early February is the best time to get it done.

Please note that I said pruning, not stubbing, hacking or shredding. There is a difference. Too many times well intentioned pruning turns into a veritable massacre.

Pruning is the removal of selected limbs and branches to benefit, not harm plants. Damage to trees from improper pruning can take many forms, but destruction of form, spindly and weak branches and infection by heart rot fungi through large, open wounds are some of the more common effects.

Correct pruning can be fun, as well as an artistic outlet since pruning is a form of art. A good understanding of the rules that govern the pruning of landscape trees and shrubs can help you, or someone you trust, make good pruning decisions. Let's take a few minutes and review a few of the basics.

First, prune for a reason. Do not just hack away without a firm purpose. There is too much danger of permanent damage that could occur if wood is removed without having a specific plan in mind.

There are essentially four reasons to prune a tree: removal of any hazards that could jeopardize the tree, protection of plant health, maintenance of appearance and esthetic beauty, and pruning for specialized needs. If your need to prune does not fit into one of these four categories, put the pruning saws and shears away! Your plants will be better off without the surgery.

Sometimes trees develop poor growth habits that affect the structure and form of the tree. These could include tangled and over-thick tops, two branches that compete for dominance and oversized lateral branches. These and other poor growth habits can lead to such problems as wind damage later on.

The next reason to prune is plant health. Plant health can be seriously affected when limbs cross, rub against each other or die back. It is best to remove these types of weakness early on before they cause larger health problems.

The third reason to prune is appearance. Appearance is important because the value of a tree is often reflected by its form and structure. A damaged tree or a tree that stands out like a sore thumb is not pleasing to the eye. A tree that is improperly pruned or has had its form altered may lower, instead of enhance, the value of property.

The last reason for pruning is to cover special needs. Sometimes branches grow into overhead wires, rub the sides or roofs of buildings, or block views. This type of pruning can be the most challenging because the wood that needs to come out often is the wood that for appearance or health should stay in. Unless the person doing the pruning is well skilled, trees can and often do suffer considerable damage.

With a firm reason in mind, the next rule to consider is pruning date. December, January and the first part of February are considered to be the best months to do heavy pruning, that is, the removal of large, heavy branches. Light pruning or the removal of dead wood can usually be done at any time.

Heavy pruning needs to be done when the plant is in its dormant or resting stage, the cooler months of the year, because it places less stress on the tree. For deciduous trees, those that lose their leaves during winter, prune after the leaves have fallen but before the buds begin to swell and crack open in the spring. For most evergreen plants, plants that remain green year round, prune before new growth occurs in the spring.

Technique, or how branches are removed is also an important rule. For landscape trees that have reached maturity, it is important to not stub back major branches leaving gaping wounds through **which** disease pathogens can enter. Rather, prune all branches back at their point of attachment. It is also a good idea to remove the weaker of branches that cross over and touch each other. Diseased and broken branches should also be removed. Special consideration should be given to branches that are scraping roof surfaces and/or growing into power lines. If they must be removed, again, remove them at their points of attachment.

Always remember to use the correct tool for the job. Do not try to cut branches with hand shears or loppers that are too big for the tool. It will often result in damage to the tool, the plant and to the person performing the operation.

Make all pruning cuts at a 45 degree angle and make the cut clean and smooth without a ragged surface. The branch, no matter what its size, should be removed at the point of attachment, that is, where it emerges from its supporting branch or limb. Do not leave stubs upon which a hat could be hung as these stubbed ends will often die. Dead wood attracts wood boring insects and provides an entrance for diseases.

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QUEEN PALMS, Continued from Page 2

The queen palm needs good drainage in its root zone. Pooling or standing water leads to yellowing leaf tissues and can stunt or even kill the tree. A soil that is not compacted and is free of caliche is ideal for the queen palm. If you have a soil with high concentrations of caliche, calcium carbonate, or does not drain well, you can expect problems.

In some areas, spider mites can cause problems in queen palms. Spider mites are tiny, almost invisible creatures. I usually test for spider mites by dusting a leaf or leaf part into my hand and watch for the dust particles to start to move. Webbing in protected areas of the leaves is also a dead giveaway that spider mites are present. If you see spider mites, wash the plant off regularly with a strong stream of water to dislodge the animals and remove their protective webbing.

Finally, some trees, especially young trees, can turn yellow and/or become stunted for unknown reasons. We scratch our heads and draw only empty conclusions. However, giving the tree our best care will hopefully ease the challenge of growing healthy, attractive plants.

The queen palm is indeed a popular landscape tree in the warm areas of Pinal County. Unfortunately, it is susceptible to environmental problems and poor care. Of all the landscape palms grown in our area, it often causes more worries than any of the other palms commonly grown in the desert. I am not saying that it is impossible to have a nice-looking queen palm, or that we should not plant them. I am just saying beware.



PRUNING BRANCHES, Continued from Page 5

Large, heavy branches, because of their weight, often will strip away bark beneath as they crash to the ground. Avoid unnecessary damage to the bark of the tree by removing large branches with a three step cut. First, make a cut underneath the branch about six inches away from the point of attachment and about one-third of the way through the branch. Next, move outward from the trunk another three to six inches and cut the branch off. If the bark strips, it will only strip away until it reaches the previous cut. Make the final cut at a 45 degree angle away from the branch bark ridge, a line of extra rough bark that separates the wood of the trunk from the wood of the branch. At a 45 degree angle, the cut should parallel the branch collar. In any event, do not remove or damage the collar.

The collar is a swollen area at the base of branches which contains large amounts of cells that can actively divide and grow quickly. This rapid growth can cover the wound in one or two seasons. Protect the collar by making cuts that are flush with, but do not injure, the collar.

Recent research has shown that pruning cuts left unsealed with paint or pruning sealer heal faster in our dry, desert climate than when the cuts are sealed. Leaving fresh cuts open to the air is the best policy.

Proper pruning is absolutely essential to the good health of plants. Before cutting, make sure there is a good reason behind the removal of any wood and brush up a little on the correct techniques. In the long run, it will make for a better tree and a happier owner.

If you have questions, you can reach one of the Master Gardeners at the Cooperative Extension office, 820 E. Cottonwood Lane, #C in Casa Grande. The telephone is (520) 836-5221, ext. 204. The author's email address is gibsonrd@ag.arizona.edu.

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