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SELECTING THE RIGHT PATIO TREE

A nice-looking, well-placed tree can add to the usefulness, and the beauty, of a backyard patio.

If you are like many who live in the desert, the promise of cooler temperatures brings out the inner cravings that encourage us to spend more time outdoors. It might be the desire to gather friends, sip a cool drink, or throw on a barbecue. Whatever the reason, an inviting patio can add greatly to the enjoyment of our everyday outdoor living.

There is that one thing, however. It is mostly sunny here, all year long. Yes, there will be some days that are cloudy, and perhaps a few stormy days, but for the most part, the sun shines a lot here. That has its good points and bad points.

Direct sun definitely heats up our environment. Our thermometer levels during the summer are well known, and talked about, just about everywhere. Even in the dead of winter, direct sunlight can become a little uncomfortable. We have learned the hard way: In Arizona, if we spend anytime at all in the direct sun, we know we need to put on sun screen and wear a hat. Since shade can help us avoid those hassles to some degree, full shade or even filtered-shade can be attractive to those who spend a lot of time outdoors.

Shade on the patio can come in many ways, of course. Some are fortunate to have a covered back porch. Others build a gazebo or vine-covered trellis to get the desired effect. Still another way is to plant a tree in a strategic location to provide the comfortable shade and the unique beauty that plants can bring to our gathering areas.

Once we recognize the value of shade, we start looking for opportunities to create it in the areas where we tend to congregate outdoors. In many cases, this can be a formal or even informal patio area. Like I mentioned before, some choose to go with solid construction and some choose to go with trees. Either one can be effective, and only the individual can decide which one will look best in that particular spot, and possibly add value to the property.

Okay, let's assume we have chosen to go the tree route. That leads to questions that demand answers. What type of tree is best around patios? Do I want full shade, or will filtered shade be sufficient? How much litter or other hassles will I have to endure if I choose to plant a particular tree? These and other questions should be answered before turning that first shovel of soil.

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First of all, is there enough room for a tree? Most trees have a set of specific dimensions to which they want to grow. A native mesquite, for example, will often grow up to forty feet in diameter, that is, on a line from one edge of the tree through the trunk to the far edge. Some palo verde trees can be almost the same size when they are given the growing conditions they need, like water and room enough for the roots to grow. Even a citrus tree, full-sized, will need up to twenty-four feet to be happy.

Trying to force a large tree to grow in a tiny space will eventually lead to a damaged and diseased tree. Additionally, a large tree in a constricted area may become a hassle for the owner as it grows into and scrapes along the sides of a house or lops over into the neighbor's yard. Eventually, these issues generally lead to the removal of the offending tree. This can cost a lot of money and we instantly lose that all important shade. It is best to select the right size tree for the location. Smaller patio trees for consideration include Frasier's photinia, mock orange, common myrtle, and oleander.

The second concern is the status of the soil at the planting site. Caliche, an accumulation of consolidated lime, is common in the desert and spells trouble for trees trying to grow through it. Exploratory holes need to be dug just to check for this problem way before a tree is planted. If thick caliche is found consistently in the soil throughout the rooting area, building a gazebo might be the best option. Compacted soil layers, of course, must be loosened.

Another key issue is water demand. Some plants need just a little water, like the ironwood tree, while others, such as the ash tree, have a heavy and consistent demand for water. Trying to water scantily to please the ironwood tree could seriously injure an ash tree. We need to be prepared to give each plant the amount of water that it requires. Other interesting low water use trees include the Hong Kong orchid tree, *Bauhinia blakeana*; the laurel fig, *Ficus microcarpa*; and the shoestring acacia, *Acacia stenophylla*.

The degree of shade desired is also a key concern. Some people enjoy the heavy shade that comes from a full canopy tree, like the native mesquite or the ash tree. Others prefer filtered shade such as that provided by the Chilean mesquite or foothills palo verde. One of the benefits of filtered shade is the opportunity to grow other plants, perhaps in containers, underneath the canopy of the tree. It is something to think about.

Most people are concerned about litter problems, or how messy a tree might be. We have to admit that every plant, especially trees, will eventually create some type of mess. Some trees drop leaves year round, while others only drop them one time a year. Some trees shed strands of old bark on a regular basis. Others do not. Some trees have a tendency to drop large limbs, which can become a hazard. With that said, there is a great variability among trees in their "messiness" and a little thought ahead of time could save a lot of aggravation later on. Palm trees would fall into the minimum litter category.

The final issue to decide is the strategic location in which the tree will be planted. Where should the planting hole be located? This is critical because placing the tree too close to a house or other structure, such as a wall around a patio or a sidewalk, could allow the brace roots, the large and heavy roots that emerge just under the soil near the trunk, to disturb, crack, or heave the structure. Sometimes this results in severe damage. Setting the plant even just a few feet back from these constructions can go a long way in preventing unforeseen consequences.

Trade names used in this publication are for identification only and do not imply endorsement of products named or criticism of similar products not mentioned.

IDENTIFYING TREES AND SHRUBS IN THE LANDSCAPE

“What tree is that?” “This came up in my yard. What is it?” “Is this plant poisonous?”

These are common questions that for many reasons do need answers. Perhaps the most important reason concerns the long term health of our trees and shrubs. Each plant has its own set of needs, and since most of the information about plant care is filed underneath the plant’s name, it makes good sense to know what we have growing in our yards. Also, it is important to know if a plant is poisonous, especially if there are children or pets present. For these reasons, and others, it is important to know the names of plants.

Learning to identify trees and shrubs, I grant you, can seem a daunting task because of the many different types of plants available to us on the plant palette. By learning a few skills, and sticking with it, plant identification can actually be a lot easier than it first seems. A good reference or two can quickly become good friends in the process.

One way to get over the hump is to see the fun side of it. Landscaping, you see, is an art as well as a science. The colors, textures, and structure of the many different plants are the strokes of the artist brush that we use to create unique and interesting landscapes. Because of the diversity of plants available to us, learning to tell them apart, especially when we are new to the desert, can appear to be a huge task, but again, persistence is the key. Stay with it, have fun, and it will become easier as you go along.

There are two ways to learn how to identify plants. The first method is to memorize the plants, all of them, by their look and name. This method is helpful when it comes to exotic garden and landscape plants, that is, those plants that come from somewhere else. These plants are usually sold by nurseries or in seed catalogues. People who use this method are frequent visitors to nurseries and display gardens where the names of plants are often located on the container or on a stake next to the plant. Because new plants are showing up in the trade almost constantly, it takes a dedicated student to keep up.

Another way to know the plants is to group them together into plant families. These families are made up of plants with similar characteristics. Members of the sunflower family, for example, all have flowers with petals coming out like spokes on a bicycle wheel from a central “button” in the middle. Members of the agave family have flowers with three petals, sepals, and male and female parts. By knowing the characteristics that place a plant in one of the plant families, we can begin to narrow down the list of possibilities.

Identification of plants, that is, putting the right name with the right plant, requires careful observation and experience in knowing what we are looking at. At times, we use both of the above methods to identify a plant. This means that we need to know about the leaves, flowers, bark, and other external characteristics of the plant. Using our ability to recognize these characteristics, we can actually come pretty close to figuring out what we have. If we cannot, we can send it to one of the plant libraries around the state, the herbariums, for a final identification.

Besides the flowers, I find that the leaves of the plant are most helpful in identifying plants. In the space we have here today, we will focus on them first. We will also limit our examples to the trees. They are the largest and easiest to recognize.

First, let’s look at the desert-adapted pine trees. They, of course, have needles for leaves. We can tell them apart and give them names by counting the number of needles in the bundle, and by measuring the length of the needles. It helps to have a ruler with you. Because there is some variability in the length of the needles, it helps to also know the general shape of the tree and the color of the bark. Here is where a good reference becomes invaluable.

The pine trees have a papery sheath at the base of the needles. Out of this will grow the needles, clumped in a bundle. Some pine trees only have one needle per bundle, others two, three, or more. The most common pine tree in our area is the Aleppo pine with a broad, rounded crown. It has two needles per bundle and the average length of the needles is between two and four inches.

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Another common pine is the eldarica or Afgan pine with a top that is more pointed than the Aleppo pine. It also has two needles per bundle but the needles are a little longer, four to six inches in length. The large Canary Island pine has three needles per bundle with extra long needles that measure in at nine to twelve inches. Occasionally we find an Italian stone pine with two needles that are between three and seven inches long. So far it sounds pretty easy, doesn't it? It gets a little more complicated with the plants that produce flowers.

When it comes to the flowering plants, there are two different leaf characteristics that we need to define. The first characteristic is the structure of the leaves. Are they simple or compound? A simple leaf will have one large leaf blade that is attached to the branch by a petiole, a slender stem-like structure. One or more buds can be found at the base of the petiole where it connects with the branch.

A compound leaf in most cases has a stem that extends up through the entire length of the leaf and has smaller leaflets growing off of this central feature. The bud will still be where the leaf attaches to the branch, but there will be no buds at the base of each leaflet. The lack of buds at the base of these leaflets is a sure way to identify a compound leaf. A good hand lens or a magnifying glass can be quite helpful.

The other characteristic is leaf arrangement, or where the leaves are located as they emerge from the branch. Different plants have different leaf arrangements which can help in plant identification. The three major types of leaf arrangement are 1) opposite, 2) alternate, or 3) whorled.

Plants with opposite leaves have two leaves emerging from the same point on the stem. One leaf emerges from one side of the stem and the other leaf emerges directly opposite on the other side of the stem. A plant with an alternate leaf pattern have leaves that emerge from the branch in an alternating pattern, first on one side, then on the other. A whorled arrangement has three or more leaves emerge from the same point on the branch, each extending out in its own direction from the twig. Let's use these characteristics to identify some of our more common trees.

The desert legume trees include the familiar mesquite, palo verde, and ironwood trees. All have compound leaves that alternate on the branch. The ironwood has greyish leaves and bark, purple flowers in the spring, and a dark-colored, two-inch seed pod. The mesquites have a rough, dark-colored bark with a longer bean than the other species and the pods are a light tan instead of brown. The palo verde trees are distinguished by their striking green bark, medium green leaflets, and shorter seed pods that measure between one and one-half to three inches long.

Let's look at some other examples. The several types of ash trees all have compound leaves, but the leaves are opposite on the branch. Compare that structure with the olive tree that has leaves arranged opposite from each other, but instead of being compound, the leaves are actually simple.

The eucalyptus trees are a little more complicated. Most of the eucalypts are tall, stately trees and we begin to identify them by their size and bark color. Where final identification can become difficult is in the variation in leaf arrangement. Some species are clearly alternate on the branch while others in the group are close, but not exactly opposite. It is in these cases, experience and the flowers really help in final identification.

If you are interested in learning how to identify garden and landscape plants, I invite you to begin by studying the leaves of your plants and making a list separated by their leaf characteristics. Which plants have simple leaves, and which ones have compound leaves? Do they have opposite, alternate, or whorled leaves? As you do this, it becomes second nature to start breaking down the plants into families and then into species by their characteristics.

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SUCKING AND CHEWING MOUTHPART INSECT PESTS

Knowing the key differences between one insect and another can tip the balance between success and failure when the time comes to control those pesky critters.

One of the big differences is the way that they feed. Anyone that has been attacked by a mosquito or bed bug will know about insects with a sucking mouthpart. Similarly, someone that has been bitten by an ant will know about insects with a chewing mouthpart. Just as these insects can and do attack humans, there are other insects with sucking and chewing mouthparts that attack our garden and landscape plants. Some control methods work better on insects with sucking mouthparts and others work better on those with a chewing mouthpart so learning to tell them apart can help us effectively control these insect pests.

Bad things can happen when insect pests get out of control. Their direct feeding can reduce the energy, water, and food levels within a plant and upset the balance of energy that, left unchecked, could seriously damage the health of the plant. Insects also spread plant diseases from one plant to another. This can lead to a catastrophic illness within the affected plant.

Because of these and other issues, it is in the best interest of those who care for plants to make sure that insect pests are controlled before they cause serious problems. This means that we need to check our plants regularly to spot infestations before they become large problems. To do this, we need know about the various types of insects and how best to keep them under control. Knowing how they feed can help us do just that.

Insects with chewing mouthpart may be the easiest to trace and identify. They tend to remove large chunks of plant tissue, whether it be leaf, stem, trunk, or roots, and the damage is relatively easy to spot. When entire sections of a leaf are missing and the edges of the feeding site are rough and ragged, the damage can generally be attributed to an insect with a chewing mouthpart. Plant pests with chewing mouthparts include the caterpillars of the moths and butterflies and the larvae or adults of grasshoppers, crickets, beetles, and weevils.

We see this type of damage all the time in the garden. For example, the ragged edges of missing leaf tissue on citrus leaves usually means the feeding of an orange dog caterpillar larva. While the insect is quite common, it is not easy to spot unless 1) you know what you are looking for and 2) you are looking in the right place at the right time. They are a mottled black and white in a camouflaged pattern and show up during the warmer months of the year. My predecessor, Jim Little, described them as “animated bird droppings”, which is an accurate description. The larva turns into a beautiful swallowtail butterfly after the insect in the caterpillar stage stores up enough energy to go successfully through the final change.



Orange dog caterpillar larva
extension.arizona.edu



Flea beetle
cals.arizona.edu

Flea beetles that hop away when approached by a threatening hand are common in leafy vegetables, especially when the host plant is young and tender. Unlike the orange dog caterpillar which likes to begin its work on the edge of the leaf, the flea beetle typically chews out round holes in the middle of the leaf. They have large hind legs which give them the power to hop like a frog.

Grain weevils and dried fruit beetles are serious pests of stored foods and sometimes show up in breakfast cereals, pasta, and flour. My wife and I once had to deal with a magnificent invasion of grain weevils in some wheat that we had delayed in getting properly stored. I am here to tell you that our entire apartment seemed alive with these tiny flying pests moving through the air. It definitely was a good thing that I had been trained in insect pest management! I immediately acted to resolve the problem but it took some time to get our living space back into a livable condition, at least by her standards.

There are many other insects with chewing mouthparts. The agave snout weevil, the palo verde root borer, the bag worm, and the cabbage looper are common examples.

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With that said, please don't confuse the damage caused by the leaf cutter bee with the feeding of an insect with a chewing mouthpart. Remember, chewing damage leaves a ragged edge. Leaf cutter bees on the other hand leave a smooth edge. The bee uses a special appendage on its posterior end to cut out the leaf sections. Because it is cutting leaf tissue to make a nest and not to eat, the usual control methods will not work on this animal. Leaf cutter bee populations are best controlled by finding the hidden nests and destroying them.

Insects with sucking mouthparts have a soda straw-like tube that they carry tucked up underneath their bodies when it is not in use. Then, when they are ready for lunch, they just whip that straw front and center and jam it down into the plant tissue where they suck up the liquid and dissolved nutrients in the same way you and I devour a milk shake or a soft drink.

Before they begin to suck up their dinner, but after they have inserted their mouthpart into the plant tissue, they release fluids from their mouth, saliva, into the plant to soften things up a little before they begin to feed. If you have ever enjoyed a strawberry or cherry milkshake laced with fresh fruit and had the fruit clog up the straw, you will know the frustration of the insect when little chunks of tissue clog up its feeding tube. The saliva from the insect tends to break down these potential hazards so that their dinner moves smoothly into their tummies.

The real danger to plants from insects that feed through a sucking mouthpart is not necessarily the loss of fluids. That is bad enough, but it is compounded by the threat of disease. Because these insects often visit different plants, they can pick up disease particles from an infected plant and inject it into a healthy plant. It doesn't take long for a disease to spread this way and in our area the virus diseases can be damaging, particularly in our soft-bodied vegetable plants. It is obviously in our best interests to control these insects before they can bring disease to our healthy plants.



Aphids
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Insect control really comes down to one question. What is the best way to attack the pest? While most insect pest populations can be reduced using mechanical methods, such as spraying with a strong stream of water, or culturally by watering and feeding the plants regularly to keep them healthy, sometimes chemistry must be used. Insects with a sucking mouthpart, like aphids, whiteflies, and mealy bugs can generally best be controlled with a systemic insecticide, that is, one that is absorbed into the plant and dissolved into the plant juices where it can be sucked up by the insect. Roses can be protected fairly well from aphids and thrips by using one of the rose systemic insecticides.

While systemics work well for the non-edible plants, no one wants to consume a salad or eat a piece of fruit that has insecticide in it. In home gardens, a strong stream of water or using a gentle soap solution may be the best plan.

Some insects with a chewing mouthpart do not seem to be much affected by systemic insecticides. If the insect is a caterpillar of a moth or butterfly, many people turn to a natural, organic-approved insecticide called *Bacillus thuringiensis*, or B.t. for short. This is a bacterial disease of moth and butterfly larvae. It makes them sick, but doesn't bother you, I, or anything else. They pick up the disease particles as they eat. Also, dusts of the insecticide carbaryl are also good for use on chewing insects but have less effect on those with a sucking mouthpart.

The insecticide label will be your best friend because it will tell if the product works best on sucking or chewing mouthpart insects. If it makes no distinction, it can be assumed that the product works equally well on both types of insects.

There are many different insects and each has its own twist so finding the right control method generally boils down to how the insect feeds. Knowing this, we can learn to apply the proper control.

ROSEMARY AS A LANDSCAPE PLANT

One tough, hardy, and useful plant that does well in our gardens and landscapes is the common rosemary.

Those who garden in the desert are all too familiar with the difficult growing conditions that can spell frustration in many ways. While we readily accept the challenges of growing plants less adapted to our heat, salinity, and dry conditions, sometimes it is fun, rewarding, and a nice change to grow plants that don't need a lot of tender, loving care on a regular basis. One of those plants is the rosemary.

Not only is rosemary a handsome plant with its dark green leaves, its colorful flowers, and its drooping, weeping structure, it also provides a lovely scent and a unique taste when used in the kitchen. Yes, the rosemary is one of those delightful plants that we can use to flavor our foods and still add interest and color to our gardens.

As a culinary herb, rosemary is sometimes used to flavor stuffing and meat dishes. It can be used as a garnish or placed in a container of olive oil for a different touch. Because the leaves are a little stiff, you may want to slide them discreetly to the edge of your plate when you find them, but the taste they add is fantastic! Since I am going to spend most of the space here talking about how to grow it in your garden, I invite you to do a web search for rosemary plant recipes, or consult your favorite cookbook for specific ideas.



Rosmarinus officinalis 'Prostratus'
Dwarf Rosemary
cals.arizona.edu

You may be wondering why the rosemary plant packs such a powerful punch? As a member of the mint family, it has inherited the capacity to create an aromatic oil which gives the plant and its parts a unique and pleasant scent. Within its niche in the family, it only has a few close relatives, two to four species, depending upon who is making the decisions, and each of the species have their own characteristics. The species, however, that is most frequently used in the kitchen, and also the most available in local nurseries, is the common rosemary, *Rosmarinus officinalis*. There is a long list of varieties within this species, each offering their own set of characteristics. Adding variety to your garden should not be difficult with this particular plant.

All varieties within the species are edible, but some are more prized than others by knowing chefs. 'Tuscan Blue' is one of those and, since it is commonly found in local nurseries, most people with dinner on their minds usually gravitate towards that variety. Others looking for a groundcover select the smaller and low growing 'prostratus' which can also be used in the kitchen but may not have the robust flavor of 'Tuscan Blue.' There are other varieties, so before you buy, you may want to do some research. As a connoisseur, you will want to make the decision that is right for you.

Even if you are not into cooking with herbs, you will be fascinated with the rosemary as a garden plant. More years ago than I really want to contemplate, I was an agriculture student at the University of Arizona in Tucson. I had a favorite parking spot and would pass going to and from campus a yard with a rosemary plant prominent along the front fence. I loved to gently let one of the branches run through my hand as I walked by and then I could enjoy the scent on my hand as I continued my journey. I was walking towards campus the other day to do a little business in the head shack and noticed that the plant is still there, almost unchanged by the years. The rosemary is definitely a long-lived and hardy plant!

Alright, let's get down to the basics of growing this plant. It needs a well drained soil, meaning that it does not like wet feet. If the soil, for whatever reason, remains waterlogged for any length of time, your venture into rosemary production may be somewhat short. Pick a spot in the yard where the water will drain well. This does not mean that it needs a sandy soil, per se. A medium soil, such as one that has a mixture of sand, silt, and clay, will be fine. The more clay you have, however, the more you will need to watch your irrigation schedule to avoid over watering.



Rosemary
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The rosemary plant also likes full sun. I am not sure I would want to plant it next to a hot, south-facing wall. The extra heat could cook it, especially during our hot summer days, but it does need about six to eight hours of sunlight each day. I envision planting it out away from the house in its own place where it can get plenty of sun and avoid the hot microclimates in the yard.

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ROSEMARY AS A LANDSCAPE PLANT. . . CONTINUED FROM PAGE 7

Rosemary plants are easy to grow. If you choose to go with a container plant from the nursery, just make sure that the soil is loosened out from the center of the hole to about three- to five times the diameter of the container it comes in, and down as deep as the container is long. I like to fill the hole full of water and time how long it takes for the water to sink into the ground. If the water level in the hole drops at least two inches per hour, the drainage should be okay. Any slower, and you may need to fix a problem or choose another site.

As you shovel the same soil back into the hole, run water from a hose to help settle the particles, remove air pockets from around the roots, and provide ample water for the plant to begin adjustment to its new home. Then, until you notice new growth appearing, water it every day, or every other day depending upon the temperature, to make sure that the roots do not dry out. Once growth begins, and the outside temperature cools, you can gradually begin to back off on the irrigation frequency. Rosemary is classified as having a low to moderate water demand.

Some people prefer to grow their rosemary in containers. This mobility has its benefits in that it is easier to have the plant a little closer to the kitchen. A container can also be moved to help decorate a spot in the landscape that needs a new emphasis. I like to keep my plants in a standard, easy-to-drain clay pot and then stick it inside a more decorative glazed container. The utilitarian clay container is more healthy for the plant and I can still get the interest that comes from using a snazzy and colorfully decorated container.

Rosemary is easy to start from cuttings. Experienced gardeners cut off four to six inches from the tips of branches, strip the leaves away from the bottom three inches of the stem, dip the cut end of the branch in rooting hormone, and stick the cut end into moist potting soil. The medium should be kept moist but not sloppy wet, and I would place a nursery shade cloth over the propagated plants until new growth indicates that roots have begun to grow. Once that happens, the young plants can be moved from place to place, each time more sunny, until they are ready for full sun.

Rosemary will need a little nitrogen fertilizer from time to time, but it is not finicky. There are few insects or other pests that seem to bother it. I do not know about javelina. They might decide to wallow in it just for fun but unless you live out of town in a place where they tend to roam, you probably will not get a chance to find out. In fact, some sources say that rosemary tends to repel some of the harmful garden insects. I have not tried it but it sounds interesting. If you see any successes along those lines, let me know.

For a hardy, desert-adapted plant, rosemary offers many excellent landscape and culinary benefits. If properly cared for, it can give many years of yeoman service as a garden and landscape plant.

If you have questions about this newsletter, have any plant related problems, or wish to have a publication sent to you, please call (520) 836-5221 x204 or (520) 374-6263 and leave a message. If you have a plant problem and are able to email a picture, please send a picture with any information you can provide about the plant and your contact information to our diagnostic team at macmastergardener@gmail.com and a Master Gardener will contact you.

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Richard D. Gibson
Emeritus

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