ARIZONA COOPERATIVE EXTENSION Pinal County

Pinal County Cooperative Extension Garden & Landscape Newsletter May 2007

When to Remove Landscape Trees

When it comes to a sickly, diseased landscape tree, sometimes we just have to realize that it is not worth the time, money or effort to keep nursing it along.

When a tree is diseased or damaged to the point that it is unsafe, or cannot perform the function for which it was intended, there really can be no other choice but to take it out. For those who love trees, and appreciate their many benefits, the decision to remove can be one of the most difficult, even agonizing, of landscaping decisions.

It is well known that trees add value to any property. That, coupled with their overall beauty and graceful attractiveness, makes it easy to understand why we become so attached to our trees. Who has not enjoyed the shade of a friendly, well-located tree on a hot summer day?

Most of the time, damaged or even diseased trees can be nurtured along and brought back to health. Good irrigation and fertility practices usually will stimulate new, healthy growth that will allow the tree to overcome most problems.

Sometimes, however, good care is not enough. A tree may be overly damaged from a storm or ravaged by disease. It may be growing in a place where it can cause damage to a home or commercial building. It may be sitting underneath a power line or interfering with the delivery of utilities. In these situations arise, something drastic needs to be done.

It can be difficult, even in the best of situations, to know when to nurture and when to remove a tree. However, there are ways to approach these types of decisions, and one of the best is that used by trained tree professionals. In making a decision to keep or remove a tree, most arborists cooly consider two offsetting factors. These factors help them put the problem into perspective and reach a final conclusion.

The first factor is the value of the target. The second is the potential for plant failure.

The value of the target, in simple terms, is what, or who could be damaged or hurt by the failure of the tree. Professional arborists look first at the value of any structure or possession and how the loss of that value may affect a specific landscape. Having done that, they also look at the tree itself to determine if there is eminent danger of a branch breaking and falling, or if there is any reason the tree might be weak enough to completely fail in a heavy wind. Armed with this information, most decisions become quite easy.

The single most important reason for removing a tree is, quite simply, safety. Safety for the people closest to the tree, safety for the general public and safety for buildings or automobiles. If there is any chance that people might be hurt from a dangerous tree, in today's world of liability, removal is probably the best choice.

There are good examples of how safety can play a big role in landscape decisions. Large, sick or declining trees growing near buildings, parks where children play or in planters next to high traffic areas in town often create a risk that far outweighs the benefits of those trees.

In other situations, a tree may be perfectly fine; that is, not damaged or diseased in any way. Nevertheless, the same type of thinking has to apply. If there is danger that a high value loss, injury or death could occur, the tree should come out. Healthy trees under power lines, saguaros growing under the eaves of a home and trees in a position where roots could heave up a sidewalk or damage structures are good examples.

Stated a little differently, if a dangerous tree sits over a driveway or sidewalk, overhangs the roof of a house or shelters the outdoor toys of a children's play area, it is really an easy choice to make. They should come out as soon as possible.

On the other hand, if the tree is in a spot where little or no damage could occur, it is probably alright to let it remain for as long as the tree can survive. A tree in a relatively unfrequented area may have a low hazard rating and can probably be left untouched.

Once a tree is determined to be dangerous, however, there still may be other choices besides removal. The addition of bolts and guy wires may simply be all that is needed to solve the problem. This process is slow and often expensive, but in some cases, it can actually save a tree.

Sometimes simple pruning to lighten the load on a tree trunk may be all that is needed to correct a problem. This works best on younger trees where selective pruning can force growth back into vacant areas and save the life of the tree. Older trees are generally not in an active growth phase and may not be able to respond with new growth quickly enough to fill unsightly gaps in the tree canopy or prevent possible sunburn damage to the tree.

Unfortunately, in some cases, the dangers of leaving a tree or branch in position outweigh the potential benefits that the tree provides. Whether this is caused by a high potential for failure in a busy location, or a limb in a bad position, there really is no other recourse. In these cases, it is time to take it out.

If the decision is made to remove a tree, make sure that it is done correctly. Because trees needing removal are often dangerous, it is generally well worth the money to pay a certified arborist who is trained and experienced to do the job. Many people each year are injured or killed by following improper procedures while removing large, dangerous trees. Look for certified arborists in the yellow pages section of your telephone book.

Mature trees represent a large investment of time, fertilizer, water and tender loving care over many years in order for them to reach mature heights. When they do not do well, we are rightfully concerned. The decision to remove a tree is often difficult, but in the interest of safety and common sense, sometimes they just have to come out.

IN THIS ISSUE:

Water Gardens

Imagine sitting outside in a favorite section of your garden listening to the quiet tinkling of water cascading down from a fountain spring into a lily-covered pool.

The image and sounds of falling water have always captivated the human mind, as evidenced by the remains of pools, ponds and waterfalls in gardens from even the most ancient of times. Just as they have done for generations before, water gardens can bring a unique flavor to your outdoor living area.

A pool of water with water-loving plants, a few well chosen water features and a school of fish to keep down the insect population are key elements to a water garden. Many people add a small waterfall to provide sound and a natural feel to the garden. Centered on these basic elements, the size and design of a water garden can be as simple or as complex as the builder desires.

A water garden does not have to be expensive. With a relatively simple design and with restraint in shopping, a water garden can cost as little as $100 or less. Kits that can be purchased from home and garden stores can make installation simple.

Water gardens can bring unexpected benefits to a landscape. A trip to the pond can become an instant biology lesson for children and adults alike. Depending upon their design and construction, water gardens can also double as a birdbath or as a wild animal watering hole. Many people have been able to get to know their wild desert neighbors by watching the pond early in the morning or at dusk as animals come to get a drink of water.

A good way to decide if a water garden is right for you is to visit places where a garden has been installed and to experience their benefits for yourself. When you go, pay particular attention to where they have been located in the landscape. Are they a focal point of the garden that can be seen from the patio, courtyard or the balcony of a home? Perhaps they have been secluded away at the end of a path or in the midst of an oasis-type grouping of plants.

Check the shape of the water garden and see if there is a waterfall or fountain to aerate the water and to provide the effects of moving water. Also pay attention to the type of plants and fish that make up the garden. Once you have looked at several different gardens you should be able to decide if a water garden is right for you.

If you are unsure about your ability to properly construct a water garden, there are a number of excellent books and publications on how to plan, install and maintain a water garden that can be a valuable resource and provide good support and ideas from start to finish.

Water gardens come in many types. Some people, especially those who are renting, choose to use a variation of a container garden which is portable and easy to maintain. These containers can either be free standing above ground or they can be sunken into the ground and surrounded by rocks and plants to give a more natural feel to the appearance of the garden.

More elaborate ponds can either be raised above ground in attractive frames or can be sunken into the ground for a more permanent and durable construction.

All ponds can be further enhanced with the addition of a fountain, a waterfall or a running creek to provide contrast and a more natural appearance to the garden.

Probably the most common, permanent water garden is the concrete lined, sunken pond, but the emergence of quality plastic liners and paving stones have given additional options from which the builder of a water garden may choose. In either case, the principles for installation and care are much the same.

The first step in installing a pond is to locate where on the property your water garden should be placed. Most water plants like full to filtered sunlight so this should be the first consideration. Avoid deep shaded areas to ensure that the water plants will have vigorous growth.

Other considerations for placing the pond should include the proximity to a water source, the rockiness of the soil and the availability of an outdoor electrical outlet from which to run electric pumps for fountains. Sharp rocks in the soil can easily cut plastic liners and other equipment.

Once the location has be determined, it is time to dig and prepare the site. Decide on the shape of the pond by using a garden hose or rope to test various outlines on the ground. When locating the outer perimeter of the hole, do not forget to consider the thickness of the plastic or concrete liner. A concrete lining may add about four inches to the diameter of the hole.

The next step is to outline the shape of the pond with spray paint so that your design will not be lost during excavation. Once this is done, it is time to start digging. Remove the soil to the desired depth and slope the sides to about a 45 degree angle if you will be using concrete. Make sure that you dig a shelf for edge plants and do not forget to compact the earth on the bottom and sides of the hole.

You will want the water in the pond to be equally distant from the top of the pond liner within the garden so it is essential to make sure the top edges of the pond structure are level during construction. Check the edges of the hole regularly with a carpenter's level in several directions to ensure proper orientation . If you include a pump and fountain, decide where to place the electrical cord and water-return line at this time.

The next step is to install the liner. If a plastic liner is to be used, simply place the liner into position and gradually fill in around the edges of the liner with soil. It is a good idea to begin filling the pond liner with water at the same time to make sure that the pressure of the soil does not cave in the liner before backfilling is completed.

A concrete liner will require the placement of a wire mesh within the concrete for strength. Mix the concrete into a fairly stiff, not runny, mixture and place the concrete into position with trowels. For difficult nooks and corners, it may be necessary to use your hands so have a pair of rubber gloves handy. Once the concrete is in place and smoothed, wet the concrete often with water to slow the drying process and help prevent cracks that would later allow water to escape from the pond.

Finally, the last step is to install the features and plants that will make your pond into a garden. Waterfalls and fountains will require small pumps and tubing to remove the water from the pond and release it again at the appropriate place. Water lilies and other plants will provide greenery and colorful flowers to the garden. Fish, such as goldfish, will add diversity and turn your pond into a small ecosystem.

One final piece of advice may be helpful. To prevent your pond from becoming a mosquito haven, add a school of small mosquito fish. Their voracious appetites for mosquito larvae help break the insect's life cycle, and keep your yard free, of these annoying and potentially disease-transmitting pests.

A water garden can make an attractive addition to any landscape. They provide color, interest and a unique feel to an outdoor living area. With a little time, a few resources and some know-how, anyone can build, maintain and enjoy a soothing and refreshing pond or pool.

Correct Irrigation of Landscape and Garden

Unlike many parts of the country where home yard irrigation is simply a matter of waiting for the rain clouds to appear, irrigation in the desert Southwest is a definite must-do task in order to keep plants healthy and vigorous.

The annual hot, dry spell occurring from mid-May to the arrival of the higher humidity and less intense temperatures of the desert monsoon can cause true hardship on plants. The stresses experienced during this period often cause severe, long-term health problems, especially if the stresses are coupled with improper irrigation. Many of the dead limb and stunted growth problems that are currently being seen in area landscapes can be traced directly to improper irrigation techniques and habits. In order to avoid water stress problems in all types of plants, especially during times of drought, it is important to understand the proper principles and techniques of desert irrigation.

First, it is important to know soil conditions. The soil is a plant's moisture reservoir and the capacity of that reservoir is dependent upon the depth and the particle size of the soil. Soils underlaid with a hard pan or caliche layer, and soils of a sandy texture will hold less water than deep or fine-textured soils. The smaller the holding capacity, the more often plants must receive adequate irrigation.

It is also important to know the depth and location of the plant's root system. Root systems will differ widely depending upon the type of plant and the conditions of the soil. Turf grasses, for example, have an effective rooting depth of about twenty-four inches while tree roots, under good conditions, may descend down to sixty inches or more into the ground. The average rooting depth for other types of plants include eight inches for dichondra, fifteen inches for flowers, and thirty-six inches for shrubs and small trees.

Shallow soils or improper irrigation may prevent proper root development that could cause problems such as toppling during wind storms, salt burn, stunting and root constriction later on. Plants with shallow root systems should be watered frequently and lightly while larger plants, like trees and shrubs, with deep roots may need more water each irrigation, but less frequently.

Next, it is important to know the water requirement for the plants that are located in the garden or landscape. Most, but not all, plants will show signs of drought when they need irrigation. Frequently, small areas of a lawn will show moisture stress early and these signs can be used as a warning. Wilting, change to a darker bluish-green or gray color, and slower growth are "need-water" signs.

Timing of irrigations is best decided by watching the soil moisture levels. If you have access to a soil probe, sample the soil at varying depths of the root zone. If not, a good approximation can be developed by digging down six inches into the soil with a hand trowel or shovel. Test the soil moisture level by feeling the soil sample with your hand and determining whether it feels wet or dry. Form a ball of soil by firmly squeezing a handful of the sample. Make a ribbon by pressing the soil between the thumb and forefinger. Irrigate when the soil moisture fits the following description.

For sandy or coarse soils, irrigate when the soil tends to stick together slightly but will not form a ball when it is squeezed in the hand. For silty soils, irrigate when a ball forms but its strength is weak and its appearance is crumbly. For clay soils, irrigate when the soil is pliable, will form a ball, but is too dry to form a ribbon easily.

Leaf temperature is also a helpful tool. The process that plants use to cool themselves is the process of transpiration and it works automatically as the plant extracts water from the soil, moves it up the plant, into the leaves, and out into the atmosphere. The leaves of trees and shrubs will feel cool to the touch when there is sufficient water available for the plant but will feel warm when the plant cannot pull enough water to meet plant needs.

There are exceptions. On windy days, the holes in the lower sides of leaves which allow water vapor out and air in, the stomata, will close to prevent drying winds from pulling too much water too quickly from the leaves. Because transpiration stops, the leaves will begin to feel warm to the touch even though there may be adequate water in the soil. If there is sufficient water in the soil, it is not necessary to irrigate under these conditions.

During hot weather, depending upon soil depths and textures, grass and shrubs will probably have to be flood irrigated with the hose every five to ten days, flowers every three to six days, trees every ten to fifteen days, and dichondra every two to three days. Mature citrus trees should be watered every seven to ten days depending upon fruit load and temperature. Again, do not overstress your plants for water because permanent damage could occur if the plant gets too dry for too long. To be safe, check the soil at a depth of six inches as previously described.

Just as it is essential not to under-water, it is also essential to not over-water. In addition to the danger of leaching valuable nitrogen fertilizers out of the root zone, certain soil conditions can create severe health hazards for plants when the soil is kept moist for too long.

Shallow soils with caliche underneath can cause harm to plants when they are not correctly irrigated. Under these conditions, plants tend to be extremely susceptible to iron chlorosis, especially when roots are kept too wet for too long. Root rot, the old nemesis of just about every plant, will thrive in this wet environment.

Correct irrigation of landscape plants requires a knowledge of soils and plant characteristics. A good knowledge of these basic principles, coupled with a little experience, will allow anyone to accurately walk the tightrope between over-irrigation and under-irrigation in our warm, desert climate.

Scary Arachnids of the Desert

With the return of warm weather, we can also expect increased sightings of animals native to the deserts of Central Arizona. Let's take a look at four desert arachnids, all spider relatives, whose very names create feelings of concern and even fear in the minds of those who come in contact with them.

Two of them, the black widow spider and Arizona brown spider, are well deserving of respect. The other two are actually quite harmless; only their appearance gives them a hard reputation. Here are some answers to commonly asked questions about these interesting animals.

Black Widow Spiders. The adult black widow spider female is colored glossy-black with a bright orange to red hourglass-shaped marking on the underside of the abdomen. The body of the female is about one-half inch long and, with legs extended, may be up to 2 inches long. The males also have the red hourglass on the underside of their abdomen, but are cream and tan in color and much smaller in size. Newly hatched black widows are white with black spots on their abdomen with a cream-colored hourglass. Later, as they mature, they become cream and brown-striped. All stages of both sexes are venomous. Even the egg sacs contain poison, and should be carefully removed and crushed.

Webs made by black widow spiders are irregularly shaped with strands running in many directions. The somewhat stiff webs are said to appear "messy", meaning that they have no particular pattern. The spiders hide during the day, and hang upside down in their webs at night. When mature, the female mates and lays several hundred eggs. She then wraps the eggs in a silken cocoon called the "egg sac". Female black widows guard the sac until the eggs hatch. During this time she is most likely to bite when threatened. Egg sacs are most frequently encountered from May to October.

Black widow spiders do not aggressively hunt humans, but will bite to defend themselves. Be cautious when picking up or moving objects, particularly in outbuildings such as sheds or garages, or in shady, undisturbed areas such as under parked cars or in flower pots. Although they are not commonly found indoors, it is always a good idea to shake out and check clothing before dressing.

Black widow venom is a nerve toxin, which means that as it acts on the nervous system, it causes progressive muscle pain and can sometimes cause difficulty in breathing. The initial bite has been described as anywhere between a pin prick and a sharp stabbing pain, but some people do not even realize that they have been bitten. Although bites are generally not fatal, they should be considered dangerous. Contact the Poison Control Center, 1-800-222-1222, immediately for information about treatment and care if someone is bitten.

Sun Spiders. Sun spiders may be up the three inches long, and are usually tan or light brown in color. They are called sun spiders or wind scorpions because they look ferocious can move very quickly. Scientists call them solpugids, which is based on their scientific name.

Although they may appear grotesque to someone who has never seen one before, they are relatively harmless. Sun spiders have the ability to bite, but it is more like a pinch and they have little or no venom. They do not have a stinger so they can not sting. In fact, sun spiders can be considered to be beneficial because they eat pest insects. Because sun spiders do not pose a health risk to humans, they do not require chemical control.

Sun spiders are common residents of hot, arid regions. Over one hundred species are found here in the Southwest.
They hide under rocks and stones during the day and hunt for insects and other invertebrates at night. They often come to outdoor lights to feed on the insects the lights attract.

Occasionally sun spiders may enter homes where they might become a nuisance. Most can be captured, then removed to the outdoors and set free. Sun spiders which find their way inside and, for one reason or another must be killed, are easily dispatched with a vacuum cleaner or fly swatter. To discourage sun spiders from coming indoors, turn off outdoor lights as much as possible. Make sure screens and doors fit snugly, and fill or cover all cracks or holes in exterior walls and foundations.

Arizona Brown Spiders. Arizona brown spiders are often mistaken for the brown recluse spider, which is not a normal resident of Arizona. The only brown recluse spiders found here are the ones who have been brought into the state in luggage or belongings of persons who recently come from regions where it does occur. This hitch hiking, fortunately, does not happen frequently. However, because these spiders are so closely related and because the venom of each causes similar symptoms, they are often treated, and feared, as one in the same.

The two species of brown spiders in Arizona closely resembling the brown recluse spider have a dark brown marking on the front portion of their body which resembles a lyre or violin. They appear two-toned, with a tan front and gray rear body region. These spiders have three pairs of eyes in a crescent shape across the top, rather than the four pairs of most other spiders. Arizona brown spiders are small. Including legs, their total size is only about the area of a nickel.
The body region of adults is one-third inch long.

Arizona brown spiders normally nest in protected areas, such as under wood or dead cacti in the desert, their native habitat. They can be found in urban areas, but it usually is because they have been brought in from the desert on firewood or pieces of cactus skeleton acquired for landscape purposes. They build a loose web of white silk where they stay during the daylight hours. As with the black widow, Arizona brown spiders are active at night.

Once again, these spiders are normally quite timid and only bite when trapped. Persons bitten apparently at first feel no discomfort, but as time progresses a blister forms, which may become an open ulcer. Other symptoms include fever and nausea. Persons bitten should make every attempt to capture the spider for identification and call their local Poison Control Center immediately.

Tarantulas. Tarantulas are the largest spider found in this region, up to six inches in diameter. They are hairy and are often black with red markings.

Despite their large size, tarantulas are not aggressive, and they rarely bite. If they are harassed into biting, the bite is not considered dangerous. There is little lasting pain or subsequent serious health problems. However, as with many other biting and stinging creatures, if an individual is allergic to the venom, they may have a more serious reaction and should seek medical attention immediately.

Believe it or not, the tarantulas' hairs can be more harmful than their bite. When threatened, tarantulas stroke the back of their abdomen with their hind legs and "kick" off fine, barbed hairs. These hairs introduce a toxin into the skin that can cause burning and itching, and may result in a serious skin rash.

While it is true that some Arizona spiders are truly venomous, there are many more that either have no venom or are not a serious threat to humans. By being aware of which are and which are not a credible threat, we can learn to enjoy the desert creatures and protect ourselves as well.

The author's email address is gibsonrd@ag.arizona.edu. If you have questions or would like to have a publication sent to you, you can reach one of the Master Gardeners at the Cooperative Extension office, 820 E. Cottonwood Lane, Building C in Casa Grande or please telephone us at (866) 836-5221ext 204. If you wish to receive this newsletter electronically, please email tellswor@ag.arizona.edu and use the keyword: *G&L* in the subject line. Thank you.

Richard D. Gibson
Extension Agent, Agriculture

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You Are Invited to Attend:
Central Arizona Illegal Dumping Forum

Littering and illegal dumping of refuse has become a major problem in Arizona. People everywhere are beginning to say, "Enough is enough!" Voices on all sides are beginning to speak out against the ugly, illegal and expensive habits of littering and dumping.

On May 22, 2007 there will be a public forum at the Signal Peak Campus of Central Arizona College in Coolidge, jointly sponsored by the Winkleman Natural Resources Conservation District and The University of Arizona Cooperative Extension, that will address this critical issue. Examples of what local groups have accomplished and new ideas from around the country, will be presented. Legislators, local community leaders, organizations and private citizens are invited to attend and learn more about this critical rural issue.

Illegal dumping, especially in rural areas, is a blight on our communities and natural resources. It is dangerous to our wildlife and livestock who can die from eating discarded poisonous plant clippings or plastic bags. Old tires, paint, insecticides, antifreeze and appliances can pollute our soil, water and air. Old furniture, construction wastes and other discarded materials are not only expensive for the property owner to remove, they are just plain ugly!

This is your opportunity to learn more about illegal dumping in rural areas, what some have chosen to do about the problem and to add your voice to public opinion! Please RSVP by May 15, 2007 to reserve your seat in this important forum. Address your reply to Theresa Ellsworth by email to tellswor@ag.arizona.edu, by telephone at (520) 836-5221, extension 202, or by mailing to: The University of Arizona Cooperative Extension, 820 E. Cottonwood Lane, Building C, Casa Grande, Arizona 85222. We look forward to seeing you there!

ILLEGAL DUMPING SEMINAR	
8:00 am - 8:30 am	**Registration**
8:30 am - 9:00 am	**Illegal Dumping: A Huge Problem for Rural Arizona** *Rick Gibson, University of Arizona Cooperative Extension*
9:00 am - 9:30 am	**Why is Illegal Dumping a Concern to Me?** *Seymour Gruber, Pinal County Attorney's Office*
9:30 am -10:00 am	**What Has Been Done in Pinal County to Curb the Problem?** *Mariam Reed, Winkleman Natural Resource Conservation District*
10:00 am -10:15 am	BREAK
10:15 am -10:45 am	**Successful Mitigation Projects From Around the Country** *Rebecca de la Torre, NRCS*
10:45 am -11:15 am	**ADEQ's Anti-Illegal Dumping Program** *Terry Hubbard, ADEQ*
11:15 am -11:45 am	**The Importance of Stopping Illegal Dumping in Pinal County** *Lionel Ruiz, Pinal County Board of Supervisors*
If you have a disability, for which you seek an accommodation, please notify us prior the event.	

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