When to Remove Landscape Trees

There seem to be many trees locally that are in decline, some of which may even be reaching the dangerous stage. Sometimes, when a tree is diseased or damaged, there really is no other choice but to take it out.

Yes, I know. Ever square inch of shade in the summer is important and trees provide much needed protection from the sun. Those of us who live in the desert recognize and appreciate the many benefits of trees and deciding to remove a tree can be one of the most difficult, even agonizing, landscaping decisions that we may ever have to make.

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 often enough 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 coolly 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

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**In This Issue:**

<table>
<thead>
<tr>
<th>When to Remove Landscape Trees</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storing and Disposing of Fertilizers and Pesticides Safely</td>
<td>3</td>
</tr>
<tr>
<td>Resetting Uprooted Trees</td>
<td>5</td>
</tr>
<tr>
<td>Preventing Salt Damage in Plants</td>
<td>7</td>
</tr>
</tbody>
</table>
When to Remove Landscape Trees … Continued from page 1

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 professional 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.

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.

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How long has it been since you checked to see if all of your gardening products were safely and properly stored away?

Sometimes when we get busy in the garden, we have a tendency to grab this or that, finish the job, and move on to the next project as we strive to keep up with the many tasks required to keep gardens and landscapes looking their best. If we are not careful, especially when we are dealing with garden chemicals, we could make a mistake and leave something toxic laying around where it probably should not be left. Safety for ourselves and others should always be our first concern in the garden. Safe use of garden chemicals begins when we understand the basics of proper storage and disposal.

Garden chemicals come in many different forms. Some are purchased as liquids, some as powders, and some as granules. These products were originally purchased to perform a specific task, and chances are they did their jobs well. Unfortunately, the project did not require the use of all of the product and now the unused portion still sits on the shelf waiting for the time when it will next be needed.

Most of us are reluctant to throw away a product that is still useful. After all, that container cost us good money and no one likes to waste money. The problem is that time and heat can do strange things to chemicals and sometimes it is just safer to dispose of the old and start fresh with new product.

The active ingredient is the part of the pesticide or fertilizer product that gets the job done, and, depending upon its chemistry, can behave in different ways during times of heat, cold, and storage. Pesticides and fertilizers are manufactured, formulated, and packaged to exacting standards, but they can break down in storage, especially under conditions of high temperature and humidity.

In general, most granular fertilizers, such as ammonium sulfate, urea and ammonium phosphate can be safely stored for many years, but liquid fertilizers and all pesticides tend to lose their viability over time.

Most chemical active ingredients lose their viability through either chemical decomposition, a break down in chemical structure, or volatilization, a change from a solid to a gaseous state. In addition, dry formulations can become caked and compacted and emulsifiable concentrates can lose their ability to form emulsions. To make matters worse, some pesticides convert into more toxic, flammable, or explosive substances as they break down. Indeed, some products may not only over time become useless in controlling pests, but they could become dangerous and toxic to the garden plants themselves.

Containers have an important effect on the storage and shelf life of pesticides. Many kinds of fiber and metal drums, pails, cans, bottles, bags, boxes, liners and closures are used to package pesticide chemicals. If stored for long periods, these containers may eventually corrode, crack, break, tear or fail to seal properly. Sometimes the label, a most important document that provides valuable information of the use and storage of the product, may become lost or illegible.

Pesticide formulations that contain low concentrations of active ingredients generally lose effectiveness faster than more concentrated forms. This means that the materials used for home and garden usage are more susceptible to general breakdown than those materials used in agricultural applications. Sometimes a liquid pesticide develops gas as it deteriorates and this can make opening and handling containers quite hazardous. In time, the gas pressure may cause explosive rupture of the containers.

Certain pesticide chemicals have a characteristic odor. If this odor grows stronger in the storage area, it could indicate a leak or spill, a defective closure, or an improperly sealed container. It may also be a clue that the pesticide is deteriorating since the smell of some materials intensifies as they break down in storage. If none of these problems are found, chemical odors can be reduced by installing an exhaust fan or lowering the temperature of the storage area.

**Storing and Disposing of Fertilizers and Pesticides Safely**

- Storing and Disposing... Continued on Page 4
Fewer problems occur with stored pesticides, and the products have a longer shelf life, if the storage area is cool, dry, and out of direct sunlight. Protection from temperature extremes is important because either condition can shorten the shelf life of pesticides. At below freezing temperatures, some liquid formulations separate into various components and lose their effectiveness. High temperatures cause many pesticides to break down more rapidly. Extreme heat may also cause glass bottles to break or explode.

Other characteristics of a pesticide product also affect its shelf life. These include the formulation, the types of stabilizers, and emulsifiers used, the chemical nature and stability of the material, and the type of container and its closure.

Small amounts of pesticides can be safely stored for short periods of time in a cupboard or storage cabinet which is locked and out of reach of small children. Larger amounts require a locked shed or a room in a building. The shed or room should be well lit, well ventilated, and constructed of fire resistant materials. It should have a smooth cement floor without cracks or crevasses. The floor should be painted with a hard sealer to simplify clean up of pesticide leaks and spills.

Granular pesticides should be stored on shelves if there is any possibility of dampness on the floor. Separating herbicides, insecticides, and other pesticides out from each other and storing them in separate locations is a wise precaution against cross contamination. Keep all corrosive chemicals in proper containers to prevent leaks that might result in serious damage. Even the simple step of tightly closing lids on containers can help extend the shelf life of these materials.

When you buy a pesticide, write the date that you purchased it on the label and keep a current inventory of your supplies. It is best not to stockpile pesticides or fertilizers. Buy what you think you will need for that specific gardening year and no more. Doing this eliminates the potential for waste and avoids the problem of what to do with old materials.

If given proper storage, some pesticides may remain active for several years. However, storage conditions vary so widely that it is difficult to predict how long they will last on the shelf. This is one reason most pesticides are not backed by the manufacturer if stored longer than two years. So plan every purchase of pesticide so that they will be completely used within this two year period.

The label will often have precise information on how to properly dispose of unused materials. In general, for the safety of people, animals, and the environment, if is best to use the materials up according to label instructions. If the materials are definitely too old to use, they must be discarded into a hazardous waste dump or receiving point. Don’t just toss them into a regular landfill. It is illegal and dangerous.

When disposing of pesticide containers, it is important to do it correctly. Glass and plastic containers that held a liquid can be prepared for disposal by rinsing the empty container three times and emptying the rinse water into the sprayer or applicator before making the last application. Paper or plastic bags should be completely empty before disposing. Once the containers are completely free of product, they can be disposed of safely in a normal landfill.

If it has been a while since you have checked on your garden fertilizer and plant protection products, now may be a good time to hunt them down and make sure that they are in a safe place.
A few years back, we discussed the process of deciding what to do with trees and shrubs uprooted by summer windstorms. With the arrival of monsoon thunderstorms, it is a sure bet that there will be some trees that will blow over during one of the storms.

Hard, blowing winds account for most of the damage to landscape trees and shrubs during the summer months. Uprooted trees with broken branches, many of them lying at cockeyed angles, toppled over and strung around like so many pins at a bowling alley are all signs that a summer storm has blown through.

To long term readers, this topic may strike a familiar chord. It should. We have talked about it every year now for several years running. At the risk of sounding like a scratched phonograph record, or an iPod that loops back in on itself playing the same song again and again, I feel that we need to address it again. Wind damaged trees continue to be all too common in our landscapes.

Once the storm has blown over and we have come out with hands on our hips to survey the damage, one of the first questions we have to ask is, “Can this tree be saved?” If all we have are broken branches, pruning the damaged branch back to its point of attachment may be the only chore and we can safely say to ourselves, “Whew, we got by easy on that one!” If, however, the tree has been uprooted, the decisions become more difficult and the prognosis for full recovery a bit more clouded.

Trees blow over because they do not have a root system large and well established enough to hold them in place during the blasting winds of severe storms. Young trees, and trees that have a constricted root system, are particularly susceptible to this problem.

In general, trees with slight to moderate damage to the root system, can often be salvaged. Trees with severe damage to the roots may simply need to come out. It is difficult to place a hard and fast rule on what constitutes light, moderate and severe damage, but you can pretty much tell by how many roots are sticking up in the air. The more that are dangling in the air, the more severe the damage.

No matter what degree of damage, however, many trees that blow over during a storm can indeed be reset into place without harm if corrective action is taken within a few hours. Knowing how to do it correctly is important, but what is really important is just doing something, right or wrong.

When trees blow over, several kinds of damage can occur. Roots are ripped and torn; and limbs, branches and even trunks split or break off, sometimes stripping long lengths of bark as they fall. While the damage can be severe, in many cases it can be fixed. There are those situations, however, where the damage is so severe that the best course of action is to simply remove the tree. You, or your landscaper, will have to be the judge.

A tree with roots exposed to the air demands quick action. Ripped from the soil, exposed roots begin to dry out. When they lose their moisture consistency, the tissues die. If the tree can be reset and the roots covered quickly, many roots can be saved. Resetting downed trees is a fairly simple process. It takes the proper tools and supplies, and a little know how.

When you come up to a downed tree, it will generally be laying on its side with the crown of the tree pointing away from the direction of the wind. If there is damage to the root system, it will usually be most severe on the upwind side. Because broken and stretched roots can’t provide enough support for the tree, it is important to provide that support on the weaker side by placing one or more stakes on the upwind side, or the side that is opposite to the head of the downed tree.
Stakes should be of solid construction and at least six feet in length. Seven foot stakes would be better, especially for larger trees. Metal fence posts can be used, but most nurseries will have supplies of the long wooden landscape stakes.

To set the stakes in the ground, you will need a sturdy folding ladder and a heavy hammer. I like to use a ten pound sledge for this purpose. The extra weight makes it easier to drive the stake. A fence post driver works well for both metal and wooden stakes as long as the diameter of the stake does not exceed the inside diameter of the driver.

Depending upon the weight of the tree, one or two stakes should be placed approximately eighteen to twenty-four inches away from the trunk of the tree and driven to a depth of at least twelve inches into the ground. Twenty-four inches would be better, especially if the tree is large and heavy. Have someone hold the folding ladder while another person climbs high enough to provide good access to the top of the stake. Safety is important here. We do not want anybody hurt.

Once the stakes are in place, but before lifting the tree, cut sturdy rope or wire of sufficient length to go from the stake, around the trunk of the tree, and back again to the stake. Be sure to leave enough rope to tie a knot behind the stake or enough wire to twist the ends together. String the wire or rope through a piece of old garden hose and place it into position so that once the tree is upright all you have to do is gather the ends and tie off. Be sure that the protective hose is next to the trunk of the tree so that the rope or wire will not cut into the bark.

Once the stays are in place and ready to tie off, lift and push the tree back into position and secure the stays to their separate posts. When this is accomplished, the tree should be solidly in place. If the tree continues to wobble, place more stakes and add more stays until the tree is properly supported.

With the tree upright and supported, it is now time to bury any exposed roots. With a spade or digging fork, dig a trench long enough and deep enough to cover roots that have been pulled from the soil. Be sure to check the watering system to ensure that there are sufficient emitters to wet the soil around the tree in all directions. This will encourage new root growth and development.

Heavy leaf canopies, branches with many leaves, can act like sails on a ship. These trees, which unfortunately are generally the best looking, are usually among the first to blow over. The increased resistance to the wind is simply too much for the roots to handle.

With the tree reset in the ground, it is a good idea to thin out a few of the branches to lighten the total weight of the tree and to present less resistance to the wind. Pruning of branches is best done in the winter when the trees are dormant, but selective thinning, like we are discussing, can be done safely during the summer if only a few small branches are selected for removal. If we are thinking ahead, sometimes we can avoid damage to trees altogether by practicing some selective thinning prior to the storms.

Try to make as few cuts as possible by first removing branches that are damaged or broken. Then, if necessary, remove branches that clog up the middle of the tree, or that are growing in a downward direction. Practice good pruning techniques and never leave a stub that you can hang a hat on. Stubbed branches turn into open doors for disease and insect infestations. Do not apply any pruning sealers to the fresh cuts. Leave them exposed to the air for quick drying.

Trees that have been reset after blowing over need time to recover. You will know that the tree is recovering when you see signs of new growth. The growth of new leaves and stems are an indication that the roots are growing once again. It is a sign of healing.

Trees are worth their weight in gold in the desert. They pick up carbon dioxide, a greenhouse gas, from the atmosphere. They cut down on the “heat island” effect by shading bare, heat-retaining surfaces. They also increase the value of property at the time of resale. For these and other reasons, every tree is important. Saving wind-damaged trees, in the final analysis, saves you money.
One of the challenges to successful desert gardening is learning how to manage salt accumulations in the soil and in plants.

Since salt accumulation is unique to desert environments, those new to desert gardening may have already faced the frustration of wilting plants, leaves with tips and edges turning brown, salt-induced iron deficiencies and other problems caused by the buildup of salt in and around garden and landscape plants. Fortunately, salts usually can be successfully managed with a little planning; and, attention to watering habits.

Salts are chemical compounds of common, everyday elements that are broken down from rock formations worldwide. Soluble in water, they are easily dissolved as rainwater moves through the soil profile. In high rainfall areas, the large volume of water moving through the soil carries these compounds down through and past the root systems of plants so that accumulations never reach toxic levels. This is why salts are rarely a problem in the less arid areas of the country.

In the desert, however, rainfall is relatively low and soil moisture levels rarely reach the point where gravity can pull water and dissolved salts below the root systems of plants. Many native plants are adapted to these conditions and do not seem to be bothered by salt in their environment. Those native plants that are susceptible to salts simply do not grow where salt accumulations in the soil have reached toxic levels. When susceptible, non-native plants are brought into the desert and planted into a salty environment, trouble occurs.

Salt injury can occur at any time during the year but seems to be more frequent during the hot summer months, when plants are under peak stress and using water at a rapid pace. The increased metabolism of plants during the summer speeds the accumulation of salts and hastens the appearance of symptoms in plant tissues.

Salts, dissolved in water, are generally absorbed by plants through the roots. Once inside, they move up through the water-conducting tubes to the leaves where they are left behind as water evaporates out of the plant through the process of transpiration. When sufficient salt has been deposited to reach levels toxic to that particular plant, symptoms appear.

The most common symptom of salt injury in plants is the dying back of tips and edges of leaves. As salts accumulate, the plant tissue in these areas may turn yellow first, but this is not always the case. The browning of these tissues is caused by the actual death of cells and tissues. As the condition worsens, the dead, brown areas may get larger until the entire leaf dies and falls from the plant.

Sometimes salt accumulates in the soil around roots to the point that it prevents the absorption of water by the plant. It is easy to tell when this happens by looking at the leaves and soft stems. The soil will be moist around the plant, but the plant itself will show water stress symptoms, including hot, wilting, drooping leaves and stems. Often times, these symptoms will be accompanied by the tip and margin burn symptoms described earlier.

Another symptom of salt problems is iron deficiency. Because salts have a basic or alkaline pH, they can raise the soil pH to the point where iron and other nutrients are insoluble in the soil. High soil pH values make it difficult, if not impossible, for the plant to absorb and use these essential nutrients.

Leaves of tender plants show iron deficiency symptoms when they start to turn a pale to brilliant yellow color, but the veins of the leaves stay green. This is a sign of iron deficiency. When this happens, cut back on the watering frequency while increasing the length of time the water is being applied to the soil and treat the plant with a chelated iron fertilizer product. The leaves should turn green within a week to 10 days.

The solution to salt problems is usually fairly simple. In most cases, salt accumulations are caused by frequent, shallow irrigations. First, make sure that the basin around the plant is at least as wide as the outside edge of the plant. This will help wet as much of the root system as possible.
Second, during irrigations, turn down the volume of water coming from the hose to a trickle and slowly fill the basin around
the plant. The extra water from the longer irrigations will sink deeper into the soil and move the salts down and away from
the plant. There is an added benefit to doing this. Water stored deep in the ground will allow lower roots to help support the
plant’s water needs and lengthen out the time necessary between irrigations. For those using drip irrigation systems,
increase the duration of the irrigation set to provide the volume of water needed to leach the salts.

For leaves that already have dead tips or margins, there isn’t much that can be done to alleviate the damage, because the
tissue is already dead; but new leaves that grow after treatment should not show new damage if the problem has been
solved.

Sometimes the soil does not readily accept water because of a hard layer, like caliche, or because of a chemical imbalance,
like an overabundance of sodium. Physical barriers can be fixed by digging or drilling holes down through the compacted
layer to a more permeable soil layer which will accept the salty water and move it away from the root zone. Backfill the
holes with sand to help keep the hole from caving in and reconsolidating.

If sodium salt is a problem, water may stand for hours and sometime even days before it sinks in or evaporates away. The
rule of thumb for managing sodium is this: If it takes more than 30 minutes for water around a plant to sink in, treat for
sodium.

Gypsum, available by the bag at most nurseries, is an ideal way to deal with sodium problems. Sprinkled on the surface of
the ground and raked gently in before a deep irrigation, gypsum will replace the sodium in the soil with calcium. The deep
irrigation then leaches the sodium out of the root zone.

Soil sulfur can also be used to eliminate sodium but it will only work if there is calcium or free lime already in the soil. Sulfur,
wet with water, becomes sulfuric acid which combines with the calcium to form gypsum. The process then proceeds as
described above.

The summer is a difficult time for plants, even those that are adapted to the extreme heat of the desert. Salt damage is one
of the more common problems that gardeners must face during this time. By correctly managing irrigation water, most salt
problems can be prevented.

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.

This newsletter is available to view on our website at: http://extension.arizona.edu/pinal

Richard D.Gibson  
Extension Agent, Agriculture

RDG/te/sh/aw

59 mailed copies  
262 emailed
Have a sick plant or just questions about caring for your plants?

Visit our Plant Diagnosis Clinic held every third Thursday of month from 9:00 am til noon at the U of A Cooperative Extension 820 E. Cottonwood Lane, Bldg. C Casa Grande, AZ 85122

Or you may call the Maricopa Agricultural Center at (520) 374-6263 and leave a message.

If you are able to email a picture, please send it with any information you can provide about the plant, and your contact information to the diagnostic team at macmastergardener@gmail.com and a Master Gardener will contact you.

The next Garden & Landscape Short Course will be held at the SRP Service Center Eagle Conference Room, 3735 E. Combs Road, San Tan Valley, 85140 from 9:00 am to 12:00 pm.

Classes run from August 23, 2017 to December 13, 2017 from

For more information or to pre-register, please call Lynne Davis, 480-464-4627 or Mary Nielsen, 480-882-1897

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