



PLANT YOUR TREE IN THE RIGHT LOCATION

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Shade, property value, beauty, and landscape function often rank high among the reasons for planting trees in both commercial and residential properties. When planted in the right location, and given good care, trees can provide many years of excellent service. Planted in a location that is wrong for the tree, they can easily become a nuisance. Sometimes they shrivel and die. During the selection and planting process, it is important to carefully consider the proposed site and make sure that it and the tree are right for each other.

There is much to consider when choosing a tree. First, it needs to be right for the climate and then it must be right for the intended purpose. Many consider the tree's specific water requirement because they want to keep their water bill as low as possible. Others may want a fruit tree, or a tree that gives flowers for a colorful landscape. These are all valid reasons for selecting a particular tree. Equally important to consider are the factors that make the tree right for its new location.

Many sources, including Cooperative Extension, provide information on how to select plants right for the environment and intended purpose. This bulletin highlights the importance of selecting a tree right for the new location. It also provides ten examples of trees planted in locations where problems can far outweigh the benefits.

Selecting the best site for a new tree

Many people select the planting site for a new tree and then go purchase the tree. Others might buy a tree and then decide later where to put it. In either case, it is important to match the tree with the site to make sure that the tree fits the area allotted and that the conditions are right for the tree.

As a long term investment, trees are expected to provide benefits for extended periods of time, usually decades. Trees planted in locations where they cannot survive or where they create problems are usually either removed when they start causing problems or when they die. Unfortunately, mistakes made during site selection can shorten the life of a tree.

When choosing the best site for a new tree, there are many tree characteristics and environmental conditions to think about. In general, most of these can be grouped into four key issues:

- 1) the mature size of the tree
- 2) the presence of power and other utility lines
- 3) soil hazards
- 4) safety concerns

The mature size of the tree will impact whether a tree will fit into the space available. Planted in spaces too small for their mature size, the common but poorly advised remedy is to severely cut back the tree to make it fit the space. Doing this has negative effects on the tree and rarely solves the problem. A following section discusses the effects of heavy pruning in more detail.

Power and other utility lines can be major hazards when trees grow into above ground lines or when roots become entangled with underground services. Likewise, sidewalks, buildings, and exterior structures are sometimes damaged by invasive tree roots. Trees should be sited where roots and branches cannot cause damage.

Soil hazards, such as calcium carbonate (caliche) and compacted soils can limit root growth or interfere with the tree's ability to anchor itself properly in the soil. Good soil preparation in many cases will resolve these kinds of problems.

Safety concerns, such as sharp thorns, branches that cover traffic signs, sidewalks pushed up by roots, or trees planted in locations where broken, falling branches could do injury or damage are important considerations. Safety and liability should always be key criteria considered during tree site selection.

Through careful planning, many of the more common mistakes made at planting can be avoided, especially those that are related to site selection.

Mistakes can be costly

Planting a tree in a location where it will fail to thrive or become a nuisance can be a costly mistake. Far too often, trees are planted where they will eventually create a hazard, fail to grow properly, bother the neighbors, or cause damage to sidewalks, foundations, or other structures. Later, sometimes after years of growth, the owners of an offending or struggling tree must pay the consequences, financially and emotionally, when it has to be removed. It would be much better to avoid these consequences by making sure at planting that the site selected is right for the characteristics and the needs of the tree.

There are many ways that a tree, planted in the wrong location, can cause significant loss in time and money. For example, the time lost in dealing with frequent landscape problems can be expensive as well as aggravating, especially if it is a commercial property and the landscape issues intrude on a manager's time. If a tree must be removed, the time between removal and when a new tree achieves the landscape purpose intended, such as shading an area, screening a view, or cooling a landscape, is an example of wasted time and effort. Additionally, the cost of paying someone to actually remove a tree in a safe manner can be significant. It is much better to plant the right tree in the right place than experience the losses that are sure to come from making poor horticultural choices.

Heavy pruning is harmful to the tree and rarely solves problems

While planting a tree in the wrong place can cause many types of problems, the most common may occur when a tree outgrows its allotted space and becomes a nuisance. Some try to reduce or solve this problem by cutting the tree back heavily. Unfortunately, such treatment usually encourages heavy regrowth that quickly returns the tree to an offending size. Additionally, heavy pruning often makes the condition worse by creating an ever more frequent need for repeat pruning. This cycle can be not only expensive but also cause problems for the tree. It invites insect and disease infestations. It results in weak, poorly attached branches, and it upsets the delicate balance of energy in the plant. A heavily pruned tree left with a reduced number of leaves struggle to provide the energy needed for everyday living plus the extra amount required for repairing damage and returning the tree to good health.

Tips to avoid making costly mistakes

- Learn to recognize horticultural mistakes as you walk or drive through residential or commercial areas
- Resolve to avoid costly mistakes by making good choices before trees are planted

- Create and frequently review a landscape plan that takes into consideration the various elements of the landscape, including all potential hazards and problems
- Mark the expected size of the mature tree on the landscape plan to lessen the potential for mistakenly planting a tree in the wrong place
- Choose and plant a tree that will not offend or struggle in the place where it is located
- Never plan on "fixing" a tree hazard problem with intensive pruning after a tree is in place
- Provide each tree with appropriate care after planting to ensure good health during its life span

Ten examples of trees planted in the wrong place

1. **The tree is growing into a power line.** Tree limbs growing into electrical lines strung from power poles can be dangerous hazards to people and property. Maintenance crews regularly trim out branches that grow into and around these lines. (Figure 1.) Such heavy pruning usually destroys the natural form of the tree and creates structural weaknesses that can later result in significant hazards. Heavy pruning also leaves large wounds that expose the tree to the ravages of insects and disease. Sometimes trees planted under power lines must be completely removed. At planting, a tree should be sited in a location where it can grow to its natural full-sized form without danger of growing into power lines. (Figure 2.)



Figure 1. Large trees planted directly under a power line will most likely grow up into the wires and have to be heavily pruned for safety. For these locations, select a smaller tree or shrub whose branches at maturity will not extend into the lines.



Figure 2. A mesquite tree previously pruned by the power company has already begun to encroach once again into the lines.

2. **The tree branches grow into the street.** Planting a tree too close to a street or highway could eventually create a traffic hazard as the tree encroaches into space where bicycle, car, or truck traffic will either hit, or have to swerve around the branches. A tree growing in front of a traffic sign can obscure the message and make it difficult for motorists to see and react in a timely manner. In these cases, the tree exposes the property owner to potential liability. Trees with weeping or down-growing branches are common offenders. Examples include some species of mesquite, acacia, and palo verde. A tree that becomes a safety hazard will need frequent, often severe pruning to reduce the hazard. Since such pruning can be detrimental to tree health and often encourages a flush of new growth that causes additional problems, complete removal may be necessary. (Figure 3.)



Figure 3. These trees are planted in locations where they will not interfere with a driver's ability to see the traffic signs. Trees that obscure signs or hang over into a street or sidewalk are examples of trees planted in the wrong place.

3. **The tree limbs and branches grow over the fence into the neighbor's yard.** If the neighbor doesn't mind the tree or the shade that the tree provides, this may not be a problem. More frequently than not however, the people next door would prefer that trees not invade their space. The hassles and potential conflicts that could occur are easily avoided by planting the tree in a location where it will not cross property lines.
4. **The tree branches rub on the exterior walls or the roof of a building.** Branches blowing back and forth in the wind can scrape and damage brick, panel, or stucco walls. They can also rip asphalt shingles or break tiles on the roof. Branches touching a structure may also provide a green bridge for rodents such as roof rats and pack rats to enter the building. It is an essential step in the planning process to know the expected mature shape and dimensions of a tree so that a site with sufficient space can be selected. It is important to plant the tree away from buildings to avoid having to make expensive repairs or suffer other negative consequences. (Figure 4.)



Figure 4. Tree branches rubbing on the tile roof of a home and lopping over into the yard of a neighbor caused the owner of the tree in the photograph to prune the tree heavily. Six months later, the tree is again creating problems.

5. **The tree invades the space of another tree.** Trees planted too close together compete for water, air, nutrients, and sunlight. A lack of proper nutrition or sunlight will generally stunt and weaken plants. Branches that cross and rub together are easily damaged, sometimes with serious consequences. The landscape plan should support good tree health by providing an appropriate amount of space between trees. (Figure 5.)



Figure 5. Trees planted too close together often compete for light, air, nutrients, and water. Avoid competition by giving them plenty of room.

8. **The tree is in a place where it can heave and buckle sidewalks, paved surfaces, and fences.** The roots of large trees, if they grow too close to the surface of the soil, can push up sidewalks, building foundations, and fences. This type of structural damage can be difficult, as well as expensive, to repair. Trees should be planted in a spot where their roots will have sufficient room to grow without causing damage to adjacent hardscape features. (Figure 6.)



Figure 6. The roots of large and aggressive trees occasionally cause damage as they grow underneath sidewalks, pavement, and foundations. Choosing the right tree for these locations coupled with good soil preparation are key steps in avoiding structural problems.

6. **The tree is damaging water, sewer, or natural gas lines.** Many trees have aggressive, fast-growing roots that can sometimes overpower and damage underground utility lines. Sewer pipes are particularly vulnerable to the invasion of some tree roots. Depending upon the type of line, the damage can range from a mere frustration to one of real danger. It is important to know where the utility lines are located and then avoid planting trees with aggressive roots in their vicinity.
7. **The tree shades out lawn grasses and flower beds.** Dense shade from large trees will often prevent lawn grasses, bedding plants, shrubs, vines, and smaller trees from growing properly. Lack of sunlight and poor nutrition resulting from competition can lead to weak and unthrifty understory plants. The landscape plan should account for the light and nutrient needs of all desirable plants growing beneath larger trees. An alternative plan would save the tree by eliminating all understory plants completely. The tree could be further supported by replacing the understory plants with a thick layer of organic mulch to provide nutrients, protect the roots, cool the soil, and reduce evaporation of soil water.

9. **A compacted soil layer or caliche accumulation causes the roots of the tree to grow up close to, or rise above, the surface of the soil.** Shallow, improperly rooted trees often blow over in a windstorm. Exposed roots can damage mowing equipment and other expensive landscape tools. To avoid these problems, it is important to identify compacted soils and caliche deposits before planting. Soil compaction and restricted water penetration can easily be assessed by checking the percolation of water through the soil prior to planting. One way to test water percolation is to dig the planting hole and then, before putting the tree in the hole, fill the hole with water. The length of time required for the water to sink into the soil should be noted. If it takes longer than two to twelve hours, depending upon the texture of the soil, there could be a problem. Sandy soils will drain water much faster than clay soils but all soils should drain within an expected period of time. If soils are compacted, it would be best to resolve drainage problems

by properly preparing the planting hole or by completely avoiding the area. (Figure 7.)



Figure 7. Roots that grow above the surface of the soil often indicate a soil problem. At planting it is important to avoid potential problems by properly preparing the soil.

10. **The tree cannot be properly irrigated in a timely manner.**

All plants, including those that are native to the area, require a specific minimum amount of water to survive. The water must come at the appropriate time and amount for it to be beneficial. If, for some reason, water cannot be properly supplied at the right time and in the correct amount to a given location, a tree may be in the wrong place. It is also a mistake to plant a tree into an area paved with bricks, cement patios, walkways, and other impervious hard surfaces because these surfaces inhibit proper irrigation. It is important to plan for and apply water correctly.

Summary

Planting a tree in the wrong location can be an expensive mistake. However, negative consequences can be prevented by locating a tree in a place where it will be free to grow to its full and natural size without becoming a nuisance. By learning how to recognize potential problems and by taking the time to plan and install a tree properly, major landscape mistakes can be avoided. This will result in savings of both time and money.

References

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