



# A Guide for Selecting and Planting Golf Course Trees

A basic knowledge of trees, golf course architecture, and a defined planting objective are critical to select new trees on the golf course.

BY JIM SKORULSKI

For many, trees are synonymous with American golf. That point may be arguable in some locations, but trees continue to be a major component of most American golf course landscapes. Good quality tree species that are planted in the proper locations can be spectacular and functional golf course features for decades. On the other hand, poor quality or ill-advised tree plantings can be a nightmare for the golf course and those who manage it. It is always disappointing to see new tree plantings that are destined to fail because too little thought was given to species selection and placement. It remains a mystery how such a casual attitude can be taken towards planting and maintaining trees, considering the long-range implications and expenses associated with those actions. It takes specialized knowledge of trees, golf course architecture, and sun angles to properly locate and arrange tree plantings. It can be a challenging task, even for experienced professionals.

## GETTING STARTED

Most golf courses are not faced with major tree planting projects. In fact, USGA agronomists spend far more time convincing golfers to remove trees that have a negative impact on the golf course. Trees should only be added to a golf course when there is a purpose for doing so. Planting trees just for the sake of it is a terrible idea that will cause years of added expense, frustration, and aggravation. New trees are required from time to time to replace aging, hazardous, or unsightly trees. New tree species also may be added to increase tree species diversity and add interest to the golf course. The purpose or function of any new tree added to the golf course should be defined before any other steps are taken.

It is difficult to determine tree planting needs without first knowing what you already have. A thorough inventory of all the primary trees on the golf course is a good starting point. It will

The oak and maple trees pictured along the right side of the fairway are beginning to block sight lines to the right side of the green complex. Too little thought was given to the planting's future impacts on the original design intent and play of the hole.



Larger-sized trees were transplanted successfully from other areas of the golf course to produce a screen for the practice facility at the Country Club of Darien in Darien, Conn. Transplanting or purchasing larger trees is usually more difficult and expensive but may be the only choice where an immediate screen is required.

identify individual tree species, map their location, and note the trees' structural condition and appearance. The site conditions and sun angles also should be recorded, along with comments on the trees' impacts on the turf, play, design value, and nearby trees. Work with a certified arborist to complete the tree identification, mapping, and structural evaluations. The trees' impacts on play and turf quality can then be determined by the golf course superintendent, golf professional, and members of the green committee. Input from Green Section agronomists and golf course architects can be very useful as well. Trees that have inherent problems or a limited life span should be documented. The information gained from the inventory and evaluation will be the basis for future tree removal, pruning, and planting programs.

### TREE DESIGN CONCEPTS

Trees fulfill many roles on golf courses. In some cases they separate holes and provide privacy and protection. Trees also are used to frame holes and provide a backdrop to greens. A properly placed tree can serve as a design feature or stand alone and be admired for its beauty. These design roles are by no means universal, nor are they appropriate for every golf course. The style and original design intent of the golf course architect should always be important factors in the design role and use of trees. The purpose of a golf course is to have the game of golf played on it, and not to be viewed as an arboretum. The ground features and playing surfaces should always be top priority, with trees playing a supportive role. For purposes of this article, it is important to recognize the design roles for which trees are used on golf courses, but also realize that those roles can vary widely.

### KNOW YOUR SITE

Trees are amazingly adaptable, but they do have specific growth requirements that have to be met. Choosing trees that are best adapted to the site conditions will allow those trees to grow vigorously and perform to expectations. Analyze the soil to determine the pH, texture, and salinity. Take note of drainage concerns and the depth of the water table. Does the site receive irrigation? Determine sun, wind exposure, and traffic patterns across the site. Consider the available growing space and the site's proximity to play areas, design features, cart paths, roads, and buildings. Take special note of sites on the south and southeast sides of greens, tees, and other play areas, where future shade patterns may be a problem.

### FINDING THE RIGHT TREE

A thorough knowledge of trees is a must for a tree planting program. That includes a tree's growth characteristics, site adaptability, pest tolerance, and other positive and negative qualities. Fortunately, there are many informational sources available to help make informed tree selection decisions. The internet is a good starting point to reach online databases, publications, and books that provide tree characteristics and information to select trees best suited for your growing region. The National Arbor Day Foundation ([www.arborday.org](http://www.arborday.org)) and the Urban Horticultural Institute ([www.hort.cornell.edu/UHI](http://www.hort.cornell.edu/UHI)) offer tree databases and helpful links to other urban forestry sites that can be used to find trees that are appropriate for specific site conditions and uses. Catalogs from larger commercial nurseries also provide descriptive tree information that can help in selecting the right tree for a site and the intended function. Experienced arborists, landscape designers, and reputable nurserymen also can offer their professional expertise in helping select the plant materials most suitable for your site conditions.

Use tree species that are native to your region. Non-native trees may be available, but they can be invasive outside their natural range and pose a significant ecological threat to native trees and flora. The USDA National Invasive Species Information Center website ([www.invasivespeciesinfo.gov/index.shtml](http://www.invasivespeciesinfo.gov/index.shtml)) lists invasive tree species for each state. It is a good idea to learn what trees are native to your region and avoid those that are not.



The Florida dogwood tree pictured above exhibits uneven branch distribution and narrow branch angles that leave the tree more susceptible to future storm damage. Look for nursery trees that have even branch distribution and wider branch angles.

A tree species' mature size and growth form are also important considerations. Smaller-sized species that grow to a 10- to 20-foot height are best used in group plantings and in smaller areas where they remain in scale with their surrounds. Moderate-sized tree species generally range 25 to 50 feet in height and have moderate canopy widths that can be valuable for larger planting areas where there are space limitations or concerns with shade. Moderate-sized trees also are used successfully in group plantings or intermixed with larger-sized species to replicate a natural woodland planting. Large tree species will grow to heights of 80 to 90 feet, with a canopy spread of nearly the same width. They should be used in open areas where their canopies can fully develop and not adversely impact play.

A tree species' mature growth form and shape also dictate its use and placement on the golf course. A tree that produces a more upright, column-shaped canopy is effective for tighter spaces. Spruce, fir, pine, and arborvitae species exhibit a naturally low-branching habit and take on more of a pyramidal or blocky shape that provides screening for boundary and out-of-play areas (although arborvitae are prone to deer browsing). Many classic deciduous shade trees have larger oval, rounded, or spreading crowns. They serve as excellent specimen trees if provided adequate space to grow. Some deciduous trees have dense shading canopies that should be

avoided in play areas. Others are more open and spreading in habit.

A tree's weaknesses should be taken into account during the selection process. Tree species that are especially vulnerable to pests and other biotic problems should be avoided. Avoid weakly branched or brittle-wooded trees that are susceptible to storm damage. Trees that produce large quantities of surface roots or roots that are invasive should be avoided. Willow species (*Salix spp.*), poplar (*Populus spp.*), and silver maple (*Acer saccharinum*) exhibit most of these poor qualities and generally are poor selections for golf courses, especially in the vicinity of drain lines and cart paths. Callery pear (*Pyrus calleryana*) is another popular small to mid-sized flowering tree that generally is not recommended because weak branching habit makes the mature trees susceptible to storm damage. Trees with brittle branching or that frequently drop leaves, needles, and other debris are not good choices for areas close to play. Trees with thorns should be avoided altogether or limited to out-of-play areas.

There is often a tendency to select faster-growing tree species to obtain a more immediate effect. The faster-growing trees are often weaker-wooded and shorter-lived trees that exhibit poor qualities mentioned earlier. Northern trees that fit into that category are Norway maple (*Acer plantanoides*), silver maple, poplar, and willow species. There may be some value to planting

Ornamental flowering crabapple trees, popular for their spring flowering, are susceptible to apple scab disease that damages the leaves and impacts the tree's appearance. Potential pest problems should be a primary factor when new tree species are being considered for the golf course.



faster-growing species where a more immediate screen planting is required. At best, those trees should be considered temporary and used only until more durable, slower-growing trees can take hold.



A tree species growth form and shape should be known so the right tree can be selected for the right site. The sugar maple cultivar shown above has a columnar growth that makes it better suited for areas where there is minimal room for lateral growth.

## PURCHASING AND PLANTING TREES

It is not always necessary to buy trees for a new planting. Sometimes trees can be transplanted from one area of the golf course to another to fulfill a planting need. Trees that are candidates for transplant should be healthy and vigorous. Trees that are poorly branched, severely damaged, or otherwise have negative characteristics, are not worth the risk or cost of transplanting. Moderate and smaller-sized trees are more easily transplanted than larger-sized trees that have deeper tap roots. An arborist or nurseryman can be consulted to determine if a tree is a good transplant candidate or not.

More than likely, the majority of new tree plantings will be purchased from a nursery. A reputable nursery will offer a wide selection of tree species and will help select the right tree to meet your requirements. Visit the nursery to examine the stock and growing conditions and to develop a working relationship with specialists

there. Larger-sized tree species are usually purchased balled and burlap (B&B). Smaller ornamental trees and faster-growing, moderate-sized trees may also be container grown. Trees ranging in size from 2.5 to 3 inches in diameter at breast height (DBH) are most common for new golf course tree plantings. The trees are substantial enough to tolerate golf course activity and will acclimate quickly and grow rapidly following transplant. Larger-diameter trees are also used where a more immediate effect is required. The costs are quite a bit higher for older and larger nursery stock, and the initial growth of those trees may be slow until the trees acclimate to the site.

Plan ahead when ordering trees for the golf course. Special orders for trees should be placed in the winter, well before the spring season when trees are traditionally dug from the larger wholesale nursery fields. A larger inventory in spring will also provide a wider selection of trees to choose from. Late-season sales may offer some buying opportunities as long as the trees are of good quality and are the species best suited for the site. Saving a few dollars on the wrong tree is not a wise decision.

New trees are planted throughout the year, but early spring and late summer/fall seasons are ideal for planting deciduous trees in temperate climates. Conifer species should be planted in early fall or late spring, while broadleaf evergreens do best when planted as new growth begins in spring. Summer planting should be delayed until the new spring growth on the tree has matured. Trees can be planted throughout the winter months in milder climates.

## AVOID COMMON PLANTING MISTAKES

Envisioning the mature size of a tree can be a challenge. Use the tree's potential mature canopy size to establish the spacing between trees and the location relative to design features. The canopy of a mature-sized tree should not extend into the line of flight or interfere with the site line from a tee box. Larger deciduous trees should be spaced to allow plenty of room for their canopies to spread to their intended size. Smaller and moderate-sized trees should be spaced accordingly as well. Screen plantings may call for a higher planting density to produce an immediate effect. This can be a successful strategy as long as the stand is thinned as the

trees mature and the canopies begin to crowd each other. Tree plantings should provide some penalty for a poor shot. However, they should not be so dense as to prevent an opportunity for a skillful recovery shot.

Seldom is there a need to plant trees on the inside of most cart paths. This is especially true around greens, where larger-sized tree species should not be planted within 75 feet of a green. Avoid planting larger-sized tree species altogether on the southeast side of greens, where they will block the morning sun. Conifer species should be kept away from green sites or used sparingly at best, due to the dense shade and potential impacts on air circulation. Keep in mind the direction of the prevailing wind when selecting tree species and planting sites.

The goal in planting is to recreate a natural landscape, so space trees irregularly and leave wider gaps between trees and/or groups of trees. This creates a more natural appearance and allows avenues for sun penetration and air circulation. Straight line plantings never exist in nature and are too formal for a golf course site. Try to maintain a general continuity with the tree species planted across the golf course. Some planting diversity is good, but too many different tree species can leave a planting design unsettled. Utilize tree species that match the trees that already dominate in the natural landscape.

Not every open rough area needs to be planted. Be mindful of unique vistas or prominent landscape features when considering new

sites for planting. Never plant trees on mounds intended to be design features. Do not plant trees that will obstruct a prominent design feature or create a double hazard.

“One generation plants the trees; another gets the shade” is an appropriate proverb when it comes to planting and managing trees on a golf course. Matching the right tree to the right site, adhering to naturalistic design principles, and envisioning the impacts of the mature planting are key to a successful tree planting and management program, the effects of which will be enjoyed by many generations to come.

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Weeping willows are popular, fast-growing trees for wet sites. However, their invasive root system and weak branching make them a poor choice around drain lines, cart paths, and play areas. The large willows pictured are also blocking a river view.