

Golfweek's Superintendent News

Golf Course Restoration Conference

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Tree Management Programs

By

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1. *Agronomic Impact:* Trees are most obtrusive from a turf management perspective. Trees and turf grass simply don't mix. Trees tend to block valuable morning sunlight from the east and the south, which impairs turf growth. Trees conceal light and screen air circulation, thereby obstructing the necessary exchange of gases required for photosynthesis. Without necessary sunlight and air movement, wet turf cannot dry and will naturally suffer. Trees are dominant plants to grass, and when competing for nutrients and water, trees will invariably win.
 - a. Turf grasses ordinarily require five (5) to six (6) hours of unobstructed sunlight per day. This may only be accomplished by removing massive amounts of trees and vegetation to the east and south sides of critical turf grass areas. But how far to the east and south sides must we remove?
 - i. *Solar charts:* Surveys convey that southern states of our country maintain high sun angles. Thus, use a 1/1 ratio in the south whereby 40-foot trees should be removed if they are within 40 feet of significant turf grass areas, such as tees and greens.
 - ii. *Solar charts:* Surveys also convey that northern states maintain lower sun angles. Thus, use a 2/1 ratio in the north whereby 60-foot trees should be removed if they are within 120 feet of important turf grass areas, such as tees and greens.
 - b. Tree exposures, if any, are preferred to the north and west sides of play.
 - c. *Winterkill:* In the winter, trees block precious sunlight, which prevent frozen turf grass areas from warming and thawing. Evergreens and conifers are too often the culprits as they do not lose their leaf material and screen the low lying, winter sun.
 - d. *Landscaping Materials:* when all attempts to grow grass fail, lean and bare areas beneath trees are typically covered with landscaping materials, such as mulch or pine bark nuggets. Try a recovery shot out of this mess! Regardless of your skill and shot making ability, you are stymied. Matters are compounded when this material is shaped into inverted pods approximately eight feet in diameter around virtually every sapling on the course. Such landscaped areas form a double hazard. If the tree does not obstruct you, then you will surely be hampered by the mulch beneath. If critical areas of play need landscaping materials, take down the tree instead.
2. *Strategic Impact:* Clearing plans for wooded areas have traditionally been generous and wide. Thus, it is always good advice to maintain broad corridors with eighty (80) to one hundred (100) yards of width. Problems arise when secondary trees are planted inside these established corridors of play. A good rule of thumb is to maintain at least twenty (20) yards of open rough on both sides of a hole between the fairway lines and adjacent tree lines. Such spaciousness provides unmatched variety as many angles and diagonals of attack become available. Countless golf holes today, however, have become much too linear, narrow and claustrophobic as straight patterns of trees typically squeeze both sides of landing areas. Lateral, alternative routes to the hole are simply unavailable. Straight shots are dictated, and good shots are restricted to the dead center. Because of tree plantings and overgrowth, the strategic value of many golf holes has been negated.

- a. Who precipitated the tree-planting barrage?
 - i. Greens committees plant trees to defend par.
 - ii. Beautification committees plant trees to adorn.
 - iii. Superintendents plant trees to attract beneficial wildlife.
 - iv. Memberships plant trees to honor and remember departed loved ones.
- b. How may we account for the narrow, tree-lined, parkland look that is so prevalent today?
 - i. Trees simply grow. They get much taller and wider if they are not monitored and kept at bay.
 - ii. Irrigation: Wholesale installation of single row irrigation systems down the center of the fairway initiated the tree-planting trend. The extent of the water's throw (15 yards on both sides) gradually became the demarcation lines for the fairway, particularly since the grass was greener in these locations. Thus, wide-open fairways became narrow, and their elaborate curvatures evolved into straight lines. In response, green committees and beautification committees began planting cheap varieties of trees in the prior playing areas, the lateral areas that could not be irrigated.
 - iii. Replacement Trees: The Dutch elm disease also served as a contributing factor. As the American elm perished, awareness of attrition escalated. Consequently, numerous new trees were planted to replace those which perished. And worse yet, an abundance of new trees were also planted in close proximity to others "in case" they perished. Many never have!
 - iv. Pine Valley Effect: Many connected golfers have always been impressed that one hole cannot be seen from another at Pine Valley Golf Club. Unfortunately, too many influential individuals returned to their home clubs and initiated tree-planting programs in attempt to create the Pine Valley look. However, Pine Valley's golf course sits on over three hundred (300) acres of land, while the average classic course contains approximately one hundred twenty (120) acres. Framing golf holes with trees on much smaller parcels of land will inevitably impact play.
- c. Recovery Play: Dense wooded areas with low reaching limbs restrict recovery play. All too often the golfer is forced to punch the ball laterally out of harm's way. Instead, clean out the brush, raise the canopy, and remove undesirable trees within the hardwoods. The standard practice for tree removal places select tree trunks (the keepers) at a minimum distance of twenty-five (25) feet apart. Furthermore, their limbs should be trimmed to a minimum height of ten (10) feet above ground. Under these conditions, the golfer may at least assess the risks for his next angle of attack, and depending upon his skills, may shape the ball through alternative openings to safety.

3. Aesthetic Impact

- a. Tree Clearing: gives a golf course the look with the added dimension of "depth". Beautiful vistas of hills and terrain are available when your eyes are not confined by a dense framework of trees. Strive to achieve an airy look within wooded areas between holes. Also avoid filling up open spaces with small saplings. Newly planted tree unfortunately pepper golf courses like crumbs. They clutter open spaces and camouflage intricate ground game contours. Clean up the mess! The visual depth and beauty of long, sweeping perspectives is simply more pleasing to the eye
- b. Expose Signature Trees: Bring to view the best trees which long have been hidden away among unloving companions. Grand oaks and other specimens will become accentuated and highlighted upon the removal of unattractive evergreens and saplings nearby.
- c. Tree Health, Safety and Maintenance: golf courses may desire to inventory and catalogue tree condition and care, especially with specimen trees. Tree damage could be caused by a number of agents including insects, chemicals, fungus, lightning, wind, and dry or cold weather. Tree damage raises safety and liability concerns as well. Certified arborists may be hired by golf courses to protect and maintain tree health. Lightning protection units and cable wire suspension systems can be affixed to the appendages of specimen trees to reduce the hazards caused by weather.

-However, don't bother with the tripod of stakes and ropes which support virtually every young tree on golf courses. While saplings are simply not this valuable to a golf course, this conspicuous support system appears unattractive and constitutes a double hazard.

-Meanwhile, crowded trees typically must be addressed. Congested trees often reveal their stress by merging together or awkwardly bending in search of sunlight, air, and water.

- d. Frameworking Green Sites: Because of tree plantings and overgrown vegetation, a framework of trees typically outlines today's greens.
 - i. Greens with Backdrops: Backdrops of trees aid golfers in their pre-shot routines. An intended ball flight is ultimately connected to a backdrop of trees that visually assists the golfer with shot direction, club selection, and shot execution. These trees navigate the golfer by visually operating as points of reference. They effectively orient the golfer of the shot suggested. Furthermore, tree backdrops evoke a sense of containment and dimension which are comfortable and pleasing to the golfer's eye.
 - ii. Greens without Backdrops: Without backdrops, a green lacks any visual assistance and requires a golfer to possess the talent of feeling the depth and distance to the hole. This effect can be achieved by removing trees and exposing vast expanses of space behind a green. Whether the view is of an ambiguous skyline, an open body of water, or a stark span of terrain, golfers lack visual orientation and must trust their sense of depth in the approach shot to the hole. Such fortitude is not often required because of tree plantings and overgrowth behind greens
- e. Do not straightjacket trees lines on both sides of a golf hole. Tree areas appear natural when they have a soft loose flow

4. Tree Planting Guidelines and Issues

- a. Plant trees in clusters, never individually or alone.
- b. Within these groups, plant trees of different species, never all of the same species. Disease, therefore, may kill one, but not the whole.
- c. Plant trees on the perimeter of the premises to partition unattractive structures and noise. Favor removing trees on the interior of the golf course instead.
- d. Never plant low-limbed species, such as white pines, silver maples, willows, hemlocks, and firs. Remove these varieties of conifers and evergreens. These trees possess shallow surface roots and therefore present a maintenance burden. They are also unduly penal in that they block recovery shots and stymie the swing.
- e. Avoid planting trees in formal arrangements, such as rows of trees between fairways. A single-file, row of trees appears contrived and forced in a natural landscape. Plus the loss of a single tree destroys the form created.
- f. Avoid planting trees to the inside corner of a dogleg hole or abutting typical landing areas. Blocking corner angles and squeezing landing areas with trees promotes target golf; therefore, these locations are to be avoided. Instead, peripheral trees may be planted between typical hitting areas and typical landing areas. Here, trees cannot obstruct or stymie the next shot. Rather, they will affect the curvature or trajectory of the next shot in proportion to the error of the drive. Thus, planting peripheral trees before and beyond typical landing areas advances the classical attributes of strategic shot making.
- g. Memorial Trees: It is always good advice to avoid planting memorial trees. Determining desired tree types and locations are always an issue with memorial trees. Their sense of permanence also becomes debilitating in an ever-changing environment. Allow one memorial tree, and soon your course will be inundated with them. Ironically, if you really want to show your devotion to a recently deceased loved one, have a tree removed from your course in their name.
- h. Avoid planting trees that block clear visuals of bunkers and other hazards. Similarly, remove trees that obstruct full-scale views of these hazards. Classic architects believed that hazards should stand prominent in the mind's eye.
- i. Avoid planting new trees too close to sand bunkers or other hazards. Such would create a double hazard.
- j. Who? Preferably, golf course architects, superintendents, and informed greens committeemen should be permitted to plant trees on a golf course. Arborists, horticulturists,

beautification committees, ornamental tree planting committees, and memberships in general should not take on this endeavor.

5. Restoration:

- a. A Traditional Perspective: Tree removal programs are integral to the restoration process. Dated aerial photographs, topographical pictures, and original routing plans often reveal that golf courses were treeless, windswept, and barren. Historical evidence will convey that trees did not intrude upon ground features or limit playing options. Pioneers of the classic design simply did not believe that the game of golf needed trees.
 - i. Donald Ross: "As beautiful as trees are and as fond as you and I are of them, we still must not lose sight of the fact that there is a limited place for them in golf".
 - ii. Harry S. Colt: "A tree is fluky and obnoxious form of a hazard....",
 - iii. Alister MacKenzie: "...there are more mistakes in designing a golf course by attaching too much importance to the element of luck...and there is too much of that very element...in having to negotiate with trees".
 - iv. A. W. Tillinghast: "I sometimes take my very life in my hands when I suggest that a certain tree happens to be spoiling a pretty good golf hole."
- b. A Modern Perspective: Restoration is site-specific. Certainly every tree does not have to be removed. Clubs should prioritize and remove only those trees which have a negative impact on agronomy, course strategy, and aesthetics.

6. Tree Removal: Finessing the Landmine of Club Politics:

- a. A Covert Approach: How to skirt membership detection and the wrath of those emotionally attached?
 - i. Don't notify or alert the membership of tree removal plans. The practice of marking a tree for removal with orange paint or a red ribbon is much too conspicuous.
 - ii. Unless it is an outright specimen, don't bother trimming a tree either. The wound typically leaves an obvious scar to remind all golfers of your sin.
 - iii. When? The best time to remove trees is when the club is closed or when no one is around.
 1. If trees are removed in the middle of winter, no one will notice the next spring.
 2. If trees are removed in the dead of night with a high horse power chipper, a tarp, and a sod crew, no one will likely miss the trees the next day.
 - iv. How many? How often? Take a conservative, gradual approach. Do not send the membership into a state of shock or panic. Prioritize and start removing slowly. By the time memberships start noticing the tree loss, they are endorsing a program they never would have honored up front. With tree removal, a methodical approach builds consensus.
 - v. Superintendents, however, should be prepared to respond to membership inquiries. Perhaps they should nickname their chainsaws "*storm*" or "*lightning*". As tree loss becomes conspicuous over time, if confronted, superintendents may honestly say, "Oh, *lightning* hit those trees a few weeks back".
 - vi. If tree removal is necessary, but not urgent, copper nails and chemical treatments are fine choices to promote a slow departure. Ordinarily, memberships don't object to the removal of rotten, brown hardwoods which have mysteriously or inexplicably perished. Golfers will offer good riddance when these trees become unsightly and present liability or safety concerns.
- b. A Negotiable Approach: Club democracies often demand membership approval and consent.
 - i. Agronomic Persuasion: Virtually all golfers prefer thriving turf. Because memberships are more concerned with good agronomics than with strategic shot making, it would be good politics to approach tree removal with the emphasis on the ability of growing healthy, green grass. Architectural principals are generally unaccepted as justifications for tree removal. For instance, if you explain that a tree

was removed from behind the green because its root zones were penetrating the fill pad, then you will satisfy those who are most alarmed. However, if you try to convince them that the tree was unoriginal, unattractive, unduly penal, or strategically improper, you had better take cover.

- ii. Barter and Compromise: Compromises work just as well. Golfers, who are sentimental about trees, ordinarily appreciate flower gardens and other formalized beds adorning the premises. Focus on such arrangements in conspicuous sections around the clubhouse. Thus, if you erect a shrub bed beside the parking lot, you will not appear as ecologically insensitive for logging a few menacing trees on the golf course.

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