

Man's Friend or Golf's Enemy?

Trees have long been known to hinder healthy turfgrass growth, but solving tree problems can be a difficult and touchy issue.

by DAVID A. OATIS

Trees by Joyce Kilmer

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is prest
Against the earth's sweet flowing
breast;

A tree that looks at God all day,
And lifts her leafy arms to pray;

A tree that may in Summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

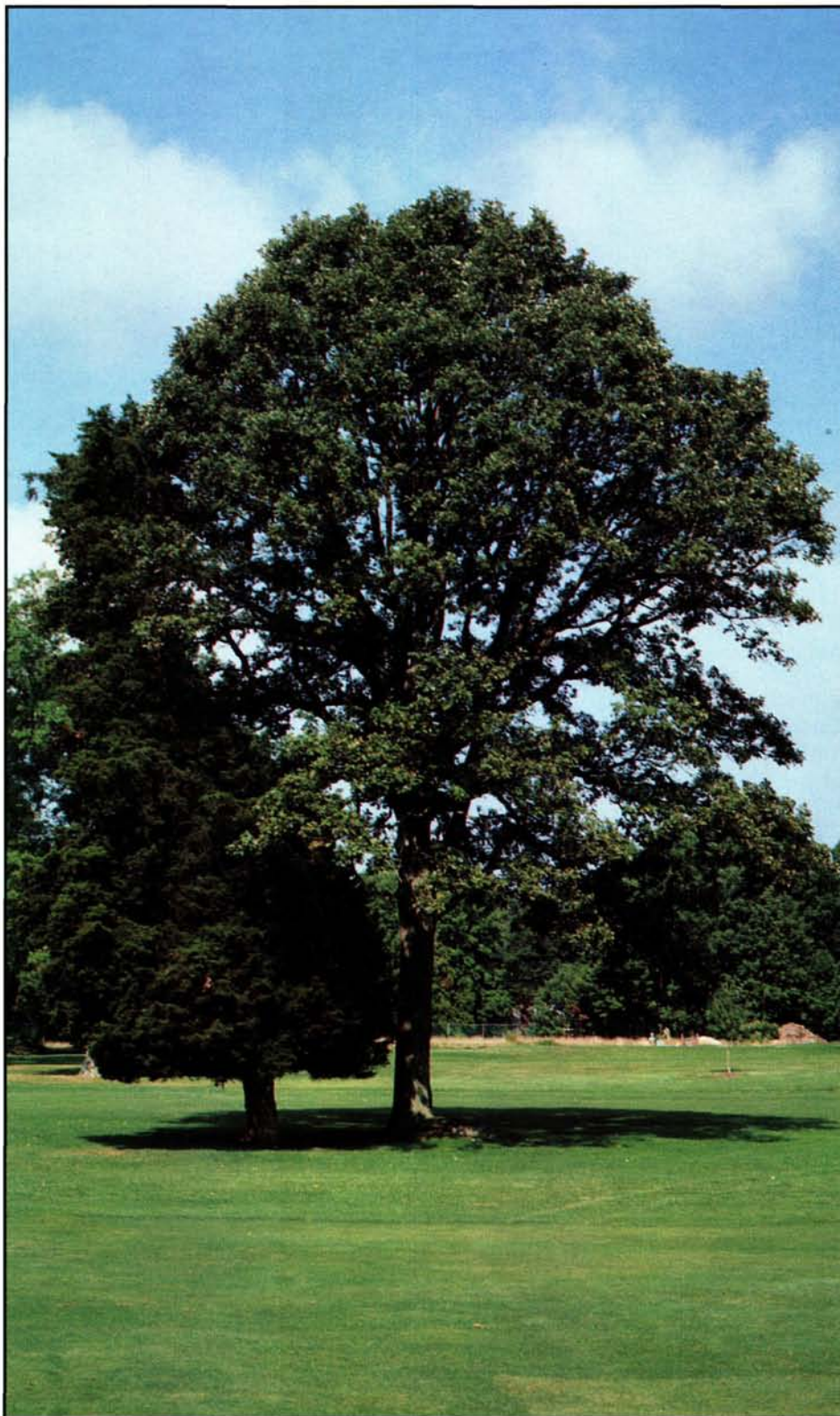


"As beautiful as trees are, and as fond as you and I are of them, we still must not lose sight of the fact that there is a limited place for them in golf. We must not allow our sentiments to crowd out the real intent of a golf course, that of providing fair playing conditions. If it in any way interferes with a properly played stroke, I think the tree is an unfair hazard and should not be allowed to stand."

— Donald Ross, from
Golf Has Never Failed Me

JOYCE KILMER had no idea of the damage that trees can inflict upon golf courses when he penned his immortal poem, "Trees." This is a poem that many adults can quote or at least recognize immediately, and it is the epitome of how many people feel about trees.

Fortunately for golfers and golf course superintendents, master architect Donald J. Ross also commented on trees. In his book *Golf Has Never Failed Me*, Mr. Ross spoke volumes in his simple, straightforward statement. Many courses would do well to take his message to heart. America has a love affair with trees, and there is much to love. Trees provide us with many practical and environmental benefits, and they are a phenomenon of nature that most find fascinatingly beautiful. Planting trees is an enjoyable pastime that



Planting trees too close together results in problems in later years. Crowded conditions result in neither tree developing its natural shape.



Trees that block advancement from a hazard are sometimes referred to as double hazards. The solution in this situation is straightforward — remove or relocate the bunkers or remove the trees.

can leave us feeling that we have made a lasting and beneficial mark on the earth. Since many of our home lawns are small, there often is limited space available to plant trees. For golfers, it is only natural that their tree planting efforts frequently are transferred to the biggest landscape they know, the golf course.

The Problem

Most golf courses start out or eventually become overplanted with trees, and they eventually begin to suffer through all of the associated problems. Overplanting is inevitable for most courses. Once it occurs, the turf declines, playability suffers, views are lost, and the golf course gradually acquires a closed-in, claustrophobic feel. A common result of overplanting is that good golf holes are made unfair or just overly penal, and they become less enjoyable to play. Distinguishing design features frequently are obscured, the original intent of design is lost, and the altered holes wind up becoming gimmicky. It is at this point — when the care of the golf course and the turfgrass begins taking a back seat to the tree plantings — that the course

begins a slow downward agronomic spiral.

Sometimes tree planting is taken to ridiculous extremes. This often is something that happens at courses where a “tree committee” or a “course beautification committee” has been appointed. Such committees can provide an invaluable service, but they also can get carried away. It only makes sense. After all, what is the duty of the tree committee if not to plant trees? Tree removal is often extremely unpopular, and at some courses, every tree becomes sacred, no matter how deformed, unhealthy, or unsafe it becomes. Trees and tree planting must never be allowed to interfere with the fundamental objective, which is to grow healthy, reasonable-to-maintain turfgrass on which to play the game.

Tree problems come in a variety of forms, but they basically revolve around quantity, quality, and location. The wrong (species) tree in the wrong location can be disastrous for the turf. It also can greatly increase the cost of golf course maintenance. By now you might be concerned over the trees on your course, and you may be wondering just what you could do to determine

whether or not your course has tree problems and just how severe they are. What makes for a good stand of trees? How does a course assess its tree situation?

Getting Started

For years, Green Section agronomists have helped golf course superintendents and committees pull their courses out of the tree-induced death spiral, but it requires plenty of hard work and communication. Golfers and board members who are willing to listen and be educated are a prerequisite. Over the years there have been many articles written on the subject of trees and their impact on playability and turfgrass health. A list of some of the better ones is included at the end of this article. Reading these articles is a great place to start for any course that is ready to get serious about its trees.

A quick tour of any course by a trained professional can quickly reveal whether extensive tree work is needed. However, considerably more time is required to determine the full extent of the work required. Although rare individuals have the knowledge and

expertise to do an evaluation without assistance, the most prudent course of action usually is to perform a systematic evaluation, utilizing professionals from different disciplines. In this manner, the different perspectives can be discussed. The following are some good possibilities:

- Golf course superintendent
- Agronomist
- Arborist
- Golf course architect
- Golf professional
- Interested committee members

The goal should be to select a committee with varied backgrounds so all issues are considered. Starting the review process with the proper criteria on which to base decisions is critically important and should influence the selection of committee members. Depending on the size of the property, the number of plantings, and nature of the problem, effective and thorough tree reviews may take a few days to complete. The work identified may be so extensive that it could be scheduled in phases over a couple of years.

Although it may seem an overwhelming task, an excellent approach often is to evaluate each tree individually. Some courses have gone so far as to mark each tree in one of four ways:

- Prune
- Remove
- Relocate
- Do not touch

This time-consuming approach forces conscious decisions to be made regarding the fate of each tree and can result in better decisions. Just be sure to use a non-permanent marking system so that changes can be made easily. It also helps if the marking system is discreet, as this will help avoid calling attention to the program and unnecessarily alarming golfers. Small pieces of color-coded plastic tape, stapled to the trees, work well. Marking paint also can be used but can be too persistent. In the Northeast, mid/late September is an ideal time to perform the review, with the work being carried out during the fall and winter months.

The Criteria

Next come the criteria, and this is where many courses get off the track. There are many reasons to plant and maintain trees, but the reasons should be reviewed, especially for trees that are having a deleterious impact on the course. Perhaps the first question to ask regarding such a tree is, "Does the tree

have a specific purpose?" or "Is this tree necessary?" It certainly is not essential for every tree to have a specific purpose, but this is a good place to start for trees that are having an undesirable agronomic impact on the turfgrass. If the answer is no, the solution is straightforward. The following are some of the appropriate criteria to be used in the decision-making process:

- The desirability of the tree based on its species
 - Golfer safety
 - The general health of the tree, including its form and structure
 - Life expectancy
 - The impact on playability
 - The impact on the agronomics of growing turfgrass
 - The impact on traffic flow
 - The impact on aesthetics and surrounding trees



A tree simply cannot be valued above a human life. Unsafe trees in heavy traffic areas need to be addressed quickly and should be removed.

The desirability based on species:

Certain species are inherently more valuable than others. In fact, a guide for determining tree valuation has been developed by insurance companies with the help of the National Council of Tree and Landscape Appraisers. Because of the requirements of the game in general, and the turfgrass in particular, many species of trees are not well suited to use on golf courses. Fast growers, soft-wooded, or species with invasive roots are among the first to avoid. Dense canopied trees that cause excessive shade or create especially severe penalties to golfers are best

left unplanted. Species that create litter or have severe pest problems also should be avoided. It gets even more complicated because species that may work well in one climate may be totally inappropriate in other climates. Regrettably, there are no perfect species, and selection often involves some trade-offs.

Golfer safety: Safety likely is the most serious consideration when evaluating trees. Tree failure cannot always be predicted, but trees with obvious structural problems must be removed, particularly when they are located in high play/traffic areas. Surprisingly often, large, damaged, severely declining trees are allowed to remain even though they may pose a serious injury threat to golfers or maintenance staff. This is an example of emotion getting the best of intellect. Simply put, preserving an old, dying, and obviously unsafe tree must not take precedence over protecting the health and well-being of human beings. No tree is worth more than a human life, but if the value of a human life is not enough to convince some, talk to the insurer—perhaps the liability issue will!

General tree health including form and structure:

If the form, structure, or species is poor or undesirable, it should be considered for removal. Specific knowledge of trees and their growth habits therefore is essential, which is why an arborist should be included in the review process. This is not to say that all imperfectly formed trees should be removed; on the contrary, it is the nature of some tree species to have an irregular growth habit. The northern white pine (*Pinus strobus*) is just such an example. Mature specimens usually display an irregular growth habit, often as a result of ice damage, which can be quite attractive. On the other hand, trees with naturally symmetrical growth habits that are somehow damaged and wind up misshapen, should be considered for removal. Trees that have to be over-pruned for playability reasons also fall into this category.

Life expectancy: Most tree species have predictable life expectancies that are greatly influenced by their care and location. A properly trained arborist can take the myriad of factors that affect individual trees into account and provide an estimate of a tree's life expectancy. This is not an exact science, but taking a tree's potential life span into consideration is helpful in long-term planning. It simply does not make sense to spend money on corrective

pruning, pest control, or fertilization for trees affected by a serious or incurable malady. Removal is usually the most fiscally prudent decision.

The impact on playability: Playability can be a gray area because there are few hard and fast rules in golf course architecture. However, an overriding principle to keep in mind is that “golf is a game, not a penance,” and as such, it should be enjoyable. Trees that unfairly penalize one segment or another of the golfing population may not be appropriate. Dense canopied trees with low branching habits (cedars, spruce, etc.) present an extreme penalty, and usually are not appropriate in high-play areas. The following are a few other situations to avoid:

- Double hazards: Trees or brush located in or in front of hazards (e.g. sand bunkers) that block advancement generally should be avoided. The game is hard enough without making it overly penal!

- Vegetation blocking play from a teeing ground: Why build and maintain a tee that cannot fairly be used?

- Vegetation blocking play from a significant portion of a fairway: A player who has hit a ball in the fairway deserves a shot at the green.

- Design alteration: Indiscriminate tree planting can have an insidious impact on a good design. Do some of your tees point into the woods? Do some of the doglegs seem too severe? If so, chances are good that trees have altered the original intent of your design.

The impact on the agronomics of growing turfgrass: It is a well-known fact that trees compete effectively with turfgrass for moisture, nutrients, and sunlight. Some trees are worse offenders than others, and some turfgrasses are better adapted than others to handle the shade and root competition. However, in many situations trees and turfgrass simply are not compatible. If healthy, wear-tolerant turfgrass is to be maintained, the trees have to go.

Turfgrass grown in a shady, pocketed environment is physiologically different from turf grown out in the open. Reduced sunlight affects the growth habit of the turf, causing it to be more open and “leggy,” much the same as a houseplant grown with insufficient sunlight. This leaves the turfgrass more succulent and susceptible to wear injury. Under low light conditions, the turfgrass also will suffer from reduced vigor. A good rule of thumb is that grass needs at least

eight hours of direct sunlight to exhibit moderate recuperative power, and turf that receives extra stress, wear, and tear (i.e. greens and tees) will perform better with even more light. Thus, trees that block sunlight must be considered for removal. All things being equal, morning sun is more valuable (e.g. for drying the turf) than afternoon sun, so concentrate efforts there first. Also realize that sun angles change dramatically throughout the year, and performing sunlight assessment without taking seasonal changes into consideration is a major mistake.

The other major effect trees and brush can have is in reducing air circulation. Reduced air circulation translates to increased temperature and relative humidity, and this favors the growth and development of many turfgrass pathogens. In summary, a poor grass-growing environment creates less vigorous turf that is more susceptible to injury and infection. When the turf suffers injury, whether it is through wear, fungal infection, nematodes, or insect infestation, the damage is enhanced and the recovery is hampered by the lack of adequate sunlight.

In many cases, superintendents are successful in overcoming poor grass-growing environments and are able to produce good playing conditions despite the handicap of a poor environment. However, few will dispute the added cost and extra effort involved. For golfers wishing to minimize the use of pesticides, the poor grass-growing environment will prove difficult to deal with. Failure to provide turf with its most basic needs clearly increases labor requirements and the use of pesticides. It also is the limiting factor in achieving the desired level of playability. All of this translates into more expensive golf.

The impact on traffic flow: The placement of any physical obstruction in a high-traffic area results in concentrated and impossible-to-manage wear problems. When the obstruction is a tree, the problems with the turf are magnified because of the added stress of tree root competition and shade. Thus, it is recommended to refrain from planting trees or other vegetation in high-traffic areas. Keeping these areas as open and unobstructed as possible will result in healthier and better playing turf.

The impact on aesthetics and surrounding trees: Although it is well understood that trees compete with turf, one must remember that trees also



Some trees, due to structural weaknesses, are not good choices. If the trees provide strategic value to the golf course, they should be replaced with a better species.



It takes some imagination to envision that the cute little shrub in a one-gallon container will eventually grow into a golf ball-swallowing monster!

compete with trees. It is entirely appropriate to mass trees in some areas, perhaps to create definition or separation. However, stand-alone specimen trees also are desirable and can have dramatic visual impact. It is not recommended to make every tree a specimen tree, but highlighting and exposing some of the better ones is certainly worthwhile. Golfers will be allowed to appreciate a magnificent tree they might otherwise completely overlook.

Many courses have hidden specimen trees that are worthy of exposing and highlighting. Stop for a moment and try to recall your favorite golf course trees. More than likely, you are recalling trees that are 75 or 100 years old or more and are exposed and uncluttered with other plant material.

Tree spacing also should be carefully checked. Trees planted too closely will be sickly, stunted, and deformed, and they will never be able to achieve their full potential. Even if there are no specimen trees involved, culling out the less desirable trees may be worthwhile. The turf and the remaining trees will benefit from the reduction in competition, which also may extend the life span of the trees. This type of tree work can enhance the appearance of the course since it amounts to "getting rid of the clutter." Reducing competition among trees and choosing potential specimen trees for the future is a wonderful gift for future generations.

High-Tech Sunlight Assessment

For critical areas where safety and/or particularly valuable specimen trees are

involved, it might be worth utilizing a high-tech sunlight assessment technique. It takes all of the guesswork out of tree removal and can predict how much light will be gained by doing specific tree work before the work is actually done.

Concentrate on Quality Rather than Quantity

That golfers love to plant trees is a simple fact of life. Planting a tree is to leave a lasting mark on the landscape of our courses. Memorial trees are especially popular, particularly because of the emotion associated with the loss of a loved one. Unfortunately, memorial tree programs can result in emotional and indiscriminate tree planting. When the number of monuments or plaques that often accompany memorial plantings accumulates, it can create an undesirable cemetery-like feel.

It must be noted that a comprehensive tree program must also include planting trees, but all potential plantings should be reviewed in the same manner as suggested for reviewing existing trees. Few programs can ruin a golf course more quickly than overzealous tree planting. There clearly are many valid reasons for planting trees, but a good rule of thumb is to "Never plant a tree without a specific purpose in mind." Remember, planting trees can be expensive, but the costs for years of care, leaf removal, and eventual removal are much higher. Overplanting is an expensive mistake that future generations have to bear. Most courses

would do well to *concentrate on quality rather than quantity* when it comes to planting trees.

Conclusion

By now, some readers may be chomping at the bit to get out their chainsaws. So, should you go out blindly and begin cutting trees down? No, but you should undertake a systematic and unemotional review of your trees. Once the review has been completed, develop options for scheduling the needed work. Utilizing large-scale land clearing equipment, some courses have removed several hundred trees in just a couple of weeks. Other courses take a more conservative approach and spread the work out over several fall and winter seasons. Since tree removal work can be upsetting to golfers, it usually is best to schedule it for the off-season.

In all likelihood, much of the work needed will be straightforward. However, there may also be some very difficult decisions to make along the way. Removal of the "no-brainers" is a good place to start. These are the trees that have no redeeming features, and getting them out of the way first usually makes the tough decisions easier. These might be trees of the wrong species or ones located where they are interfering with turfgrass health or playability.

Next, look for any specimen trees that might exist on the property. If they are in good health, have a reasonable life expectancy, and make sense architecturally, carefully cull out the competing trees to expose the better ones.



The products of a poor grass-growing environment include thin, weak turf, moss, algae, and increased pesticide usage.



Trees with invasive root systems, both above and below the surface, wreak havoc with the turfgrass, golfers, and maintenance equipment.

Trees take a long time to grow, and there is nothing wrong with having to come back and revisit some of the more complicated situations.

Ultimately, the goal of a thorough tree review is to promote healthier turfgrass and better playability. Properly carried out, this comprehensive program also will create a better stand of trees.

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