

Choose the Best Tree for Your Golf Course

Tree Shopping Facts and Myths

When choosing trees for your golf course or its environs, there are a number of things to consider. Before you buy a tree, inspect its health, size, trunk condition, leaf color and the condition of the root ball. Many problems that trees develop on site began at the place of purchase or, in some cases, at the nursery. This is not to say that growers and sellers cause all the problems that trees develop. Buyers also must be diligent in their care. For example, a tree that dies from lack of water is not the fault of anyone except the individual responsible for watering it.

Here are some guidelines on how to choose trees, with reference to their parts and things to consider, both good and bad. These should not be considered hard and fast rules, but rather a helping hand in determining either if a tree has a potential problem or if it is truly a "stinker."

The Root Ball

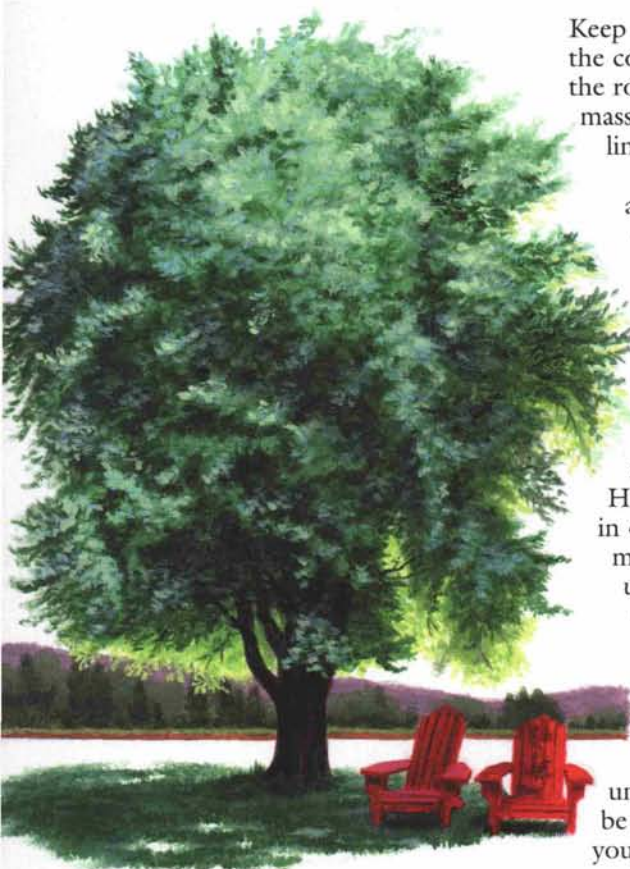
The root ball is just what it says, the ball containing the roots of the tree. Keep in mind that the root ball is just as important as the shape of the trunk, the color of the leaves or the condition of the crown. In fact, the condition of the root ball may be the most important of all, because without a decent root mass the tree, no matter how it looks on top, will have problems down the line.

First, here is a little background on the importance of roots. Roots are a tree's anchor and also play a big role in gathering and storing nutrients from the soil. The root system itself is largely composed of two kinds of roots: feeder roots, which are responsible for the uptake of food, and structure and support roots that not only anchor the tree but also store food reserves. (Feeder roots make up more than 70% of the total roots a tree produces, but their average life is only a month.)

Look closely at the ball itself. There are few things that tell you how long a tree has been sitting in a holding yard or at a garden center. If the ball looks old, it is old. The burlap around the ball should be in good condition, not rotted, and the ball should be firm to the touch. Hold the trunk and give it a good tug: the tree should not move in the ball; in other words the tree and ball should move as one. A loose root ball can mean a poor root system. Inspect the soil of the ball as well, paying particular attention to how wet or dry it is. An overly dry root ball can resemble concrete and be next to impossible to re-hydrate particularly after the tree is in the ground. Look for moist soil that has been watered evenly and that when lifted is slightly heavy for its size.

The depth of the root crown or root flare (where the roots and the trunk come together) in the ball may be the most overlooked clue to a healthy root ball. In some trees and shrubs there will be a graft union; make sure not to mistake it for the root flare. Having the root flare be too deep in the ball is not good (see Figure 1). Think of it as sticking your head under water and trying to breath! Trees with a buried root flare

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look as if they were stuck in the ground like a spear, rather than growing naturally from the soil.

Figure 1



An example of the root crown being too deep in the ball.

When examining the tree look for a bulge or slanting away from the trunk into the soil. If there is no bulge or flare, stick a finger if you can into the ball to find out how far down the root flare is. If you truly want or need the tree for your site, then the soil covering the flare will have to be removed before planting.

A root ball is not always "balled and burlapped" (B&B) in the sense that we know it. A tree in a five-gallon container or in a root bag that is not covered in burlap would still be considered "balled" in the trade. Check trees in five-gallon containers

for how deep they are planted in the pot and how firmly they are rooted into the pot. Also check if the trees are root-bound. Either avoid the root-bound ones or scar (cut) the roots to encourage new growth prior to planting (see **Figure 2**). Consider the condition of the container as well. If the roots have burst through it or if it is very brittle when handled, the trees might be old.

Figure 2



Extreme example of 5-gallon, root bound plant.

The root bag (see **Figure 3**) should be checked as well. Non-burlap bag material will have characteristics that may be unfamiliar to those who commonly use traditional B & B material. Just think of the root bag as an in-ground container (which it is) that must be

removed before planting. Container-grown trees and those in non-burlap root bags will have many more roots than those that are B&B. In many cases they will be much lighter in weight, depending on their size. In any case the 'rules' for root ball inspection should remain the same.

Figure 3





Root system common to bag material.

The Crown


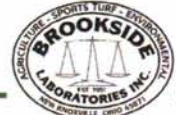
The branched portion of the tree above the trunk is referred to as the crown. Think of the crown as the hat the tree wears to show off its colors. A healthy crown is another key in choosing top performing trees. However, the crown is the hardest of the keys to read because a good-looking crown does not always indicate a healthy tree. So, when looking at the crown of a tree to gauge its health, keep a sharp eye on the following characteristics.

When sizing up the crown first check the tree's growth rate, by

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roughly measuring the distance between the nodes, or the distance from the end of the branch back to the first scar that circles the branch.

By gauging the rate of growth you can get a rough idea of the tree's vigor. Short or no growth on the ends of branches that appear weak (i.e. wilting, brittle or deformed), may indicate the tree is under stress and may not transplant well. Look for trees with moderate to long growth on the ends of its branches, and branches that are firm to the touch and show no sign of wilting.

Next, examine the leaf size, which together with its condition, is a good indicator of the tree's health. The leaf should be at or near full size and firm to the touch with no deformities. Leaves that are undersized, thin, papery to the touch, or curled/deformed are signs that the tree may be suffering from stress or another malady.

Certain leaf characteristics are not worrisome. The first of these are galls. Leaf galls may look like little nipples, orbs, vein enlargements or upright growths, and their color can vary like the rainbow (see **Figure 4**). If it helps, think of galls as decorations.

Figure 4



An orb leaf gall.

Look for them on the leaf stem and on the leaf itself, but remember: their presence does not indicate that the plant is sick or under stress. There are other types of galls found on the branches and trunk of trees that vary in description, but generally they look like little globes or domes that are attached to the plant in areas where growth is still a little soft.

Tree genera that are commonly found with these types of galls include *Acer* (Maple) and *Celtis* (Hackberry).

Very few species of gall will harm trees, and those that do will be apparent even to a casual inspection. Contact a tree professional if you think that the galls on your tree are harmful.

Next, check if the leaves are wilting, discolored, or deformed. One of the first places a tree shows stress is in its leaves. However, that stress may have more than one cause. So judging the leaves should be only one of several steps in checking for stress.

That said, the leaves should be a healthy green (or the expected color of the cultivar or hybrid depending on the tree) and have no major deformities.

A deformity in a leaf or stem is usually seen as a curling of the leaf or incomplete growth of part or all of the leaves and/or stems. Stems will suffer from similar defects that also may include wavy or curled ends. There also may be a problem with the tree's genetics, causing bizarre growth patterns or the total suppression of the tree's ability to grow in any recognizable form at all (see **Figure 5**). If the leaves or stems show these kinds of growth patterns, the tree may have been exposed to a number of toxins, may have insect infestation, or may simply have a gap in its genetic make-up. There is a good chance that the tree will grow out of its deformity but it's a risky bet. The only deformation that does not seem to bother trees at all is incomplete leaf growth.

Figure 5



A limb with a severe genetic deformity, the cause of which may have been direct application of an herbicide.

There are many reasons for leaves to wilt or be discolored, and in many cases they are related. Under watering or over watering a tree is the number one cause of wilting and discoloration. Always check the root ball if the tree shows these two signs.

Mineral deficiencies also cause leaf discoloration. The color can indicate which mineral is lacking. Always check with a tree professional if you think that a plant is mineral-deficient to confirm which mineral it is and how to solve the problem.

A disease such as anthracnose or *Verticillium* wilt also might cause wilt. Again, always check with a professional.

The Trunk

The trunk is the tree's pillar of strength. You only need to check a few things to insure the tree is healthy.

One, the trunk should be free of open wounds, cracks or evidence of insect infestation (such as holes in the trunk) (**Figure 6**). These conditions are easy to spot and are big warning signs if the tree shows no signs of healing. If the tree does appear to be healing, then most likely it is healthy. Note: if the tree has holes from insects boring into it, stay away from it. Bringing an infested tree back to your site is not a good idea.

Figure 6



A deep trunk crack.

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Two, avoid the tree if there is any sap seeping that cannot be explained.

Three, the trunk should support the weight of the tree without bending over or needing the assistance of a pole.

Four, avoid trees and shrubs that have tape or wire imbedded into their wood (see Figure 7) where the wire or tape can't be removed without cutting it out from the tree or removing the limb in which it is imbedded.

Figure 7



Embedded marking tape.

Five, the bark of the trunk should not be falling off or be withered, either of which conditions can indicate damaged vascular tissue, from which trees rarely recover fully.

Growth and Vigor

Growth and vigor are two rather vague words used to describe a tree's intangible aspects. For example, you see a tree has a deep trunk wound, but is showing no outward signs of stress, is growing well and has some new tissue forming around the wound. So, despite the fact that a wound exists, the plant is healthy and would likely be a great tree for purchase. These intangibles are hard to assess and require a judgment call.

Another example would be if a tree is wilting but in all other aspects is excellent. Is the tree wilting from lack of water, and only needs a good soak before it goes in the ground, or is there something else wrong? The

decision to buy the tree or not is up to you. Keep this in mind: Is the tree in the kind of condition after your inspection that you are willing to accept?

Zones and Habitats

Keep in mind that you must choose trees that are of the highest quality for your particular site. A word of warning here is necessary: No tree, no matter how healthy, can survive for long in areas that do not suit it. So, planting a southern magnolia in Chicago and expecting it to live through a cold winter is not always reasonable.

This warning also applies to trees that initially are close to hardy in that same Chicago location, but die after a cold winter down the road. Saying a tree is hardy means that it can survive in a certain range of temperatures or zones. Trees planted outside their home zones are prone to an assortment of maladies such as frost cracking or tip die back. Conversely, a tree that loves conditions usual to Chicago will be unlikely to like conditions in Phoenix! These problems can't be seen while picking out the plant at the nursery, but must be researched before purchase, to insure that the tree is hardy in your area.

Also match your choice of tree to your site's conditions. Match the soil where a tree is found in nature to the soil at your site for best results. You don't want to plant a tree that prefers sandy soil and a tree that prefers wetland soil in the same location. Make your mantra, "Match the plant to the site not the site to the plant." If you don't know the tree's natural growing conditions, or its native range is half a world away, it can be difficult to match its soil conditions, so look to the genus of the tree and come as close as you can to ideal conditions.

Most of the things covered here range in importance, and it is usually either a combination of issues or one serious thing that affect the tree's health. However, smaller trees (with trunks smaller than 3" in diameter) have a better chance of surviving a wound, insect attack or other problem simply because most of the tree is still actively growing and it should

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grow out of the problem. Larger trees, when dug out and transferred first to a nursery and then to the intended site, are under more stress and are more likely to suffer long term consequences when wounded or under stress. This result is similar to how we've all seen that a child who gets cut heals faster than someone over 30. The younger, the easier the healing, for both trees and people!

Picking healthy trees from nurseries or garden centers usually is easy because quality trees of all types are offered in good quantities. All trees have their place and it is up to us, as gardeners and growers, to put the best trees in our landscapes. It is also our responsibility to reject plants that are of poor health or quality. Far too many buyers accept trees that should never have left the nursery because they did not perform an adequate inspection.



Midwest Breezes



*From time to time, I would like to profile the innovations of superintendents outside our region. For this issue, we are going north of the border. Our first stop is at **Maple Bluff Country Club in Madison Wisconsin**, where **Tom Harrison** has been the golf course superintendent for 37 years.*

Tom Harrison has a reputation for keeping things very dry at Maple Bluff Country Club. I called Tom to speak to him about his water conservation measures, but our discussion turned more toward his cultural practices, which Tom feels have the most impact on how much water his turf needs.

On greens, Tom sand topdresses with a Scott's rotary spreader every week. He has been topdressing with this method for over 30 years, using white crystalline round quartz sand, which is mined by a company called Unimin in Portage, Wisconsin. Tom discovered this material when he built a new green to USGA specifications in 1973, and this particular sand tested very well for construction. It has performed great for topdressing also; it works in very easily, is not detrimental to mowers, and because it is a hard crystalline material, it does not break down as calcareous sands may over time.

Over the years, Tom has experimented with various wetting agents, but he has gone back to managing localized dry spots with quadratine aeration and hand watering of hot spots. He holds off on watering as long as possible in the spring, and then when he does begin to use the irrigation system, he waters as little as possible with the sprinklers. He does not flush greens or water deeply. His philosophy of watering is to water lightly when he does water.

Next we go to **Kevin Rue at Detroit Country Club, Detroit Lakes, Minnesota**. Kevin rebuilt one the greens of Detroit Country Club last season using T-1 bentgrass. The green is in a shaded location where *Poa annua* has always been the predominant turf. However, the T-1 seems to have adapted very well to this green site. T-1 has a very high chlorophyll concentration in the leaves and it seems to flourish under relatively lower light intensities than the other elite bents.

Detroit Country Club, located 45 miles from Fargo, North Dakota, was built in 1916. It is an older golf course with mature trees, and the greens are mostly *Poa annua*. In 2004, Kevin began interseeding his greens with a Redixium seeder, and the Spiker Tip seeder, using T-1.

Because of its high chlorophyll content, the germination and establishment of T-1 has been very easy to observe and track. The leaves of T-1 are a much darker green than *Poa annua* and the older bents. Kevin reports that he has gained at least 10 to 20 percent T-1 bentgrass from interseeding, and the T-1 is spreading.

And we end our tour with **Steven Benson, Grand National Golf Club, Hinckley, Minnesota**. In the winter of 2005, many areas in Wisconsin and Minnesota suffered severe turf loss on predominantly *Poa annua* greens. At Grand National Golf Club in Hinckley, Minnesota, Steven Benson lost nearly all of the turf on his 17th green. The green was closed in mid-May and seeded to T-1 with a Jacobsen slit seeder in four directions. The final rate of T-1 seed was four pounds per thousand square feet. Seeding was followed by topdressing, starter fertilizer, and water. Grand National Golf Club is located nearly two miles north of Minneapolis, and it was a very cold spring in general, but even under these circumstances, the T-1 germinated in nine days under covers. On day fifteen, the green was ready for regular mowing, and the density of the T-1 was so impressive that Steven is now on a program to interseed the other greens with T-1 following his annual aeration.



Grand National Golf Club's 17th green successfully interseeded with T-1 in 2005.

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Inspiring the Next Generation of Golfers

Hook A Kid On Golf activities are extremely popular around the country, and very easy to become involved with. Over the past several years, golf course superintendents have become increasingly involved in the various programs that Hook A Kid On Golf offers.

Our goal is to build better citizens through the character-building experience that golf provides.

Any organization can adopt a program and is responsible for identifying one person who will be deemed the "Site Coordinator." In Illinois, the state office and Foundation helps these Site Coordinators with the program every step of the way. An organization can choose to adopt one or multiple program elements, based on its community, kids currently served, and other resources.

Golf Course Superintendents can assist Hook A Kid On Golf in many different ways. One of the best ways to help is by running their own programs and becoming a Site Coordinator. In that way, superintendents can relay their knowledge of the game to kids who are eager to learn and participate in the sport.

Meredith Deverman of the Peoria Park District believes that the assistance she received from a golf course superintendent with her program was

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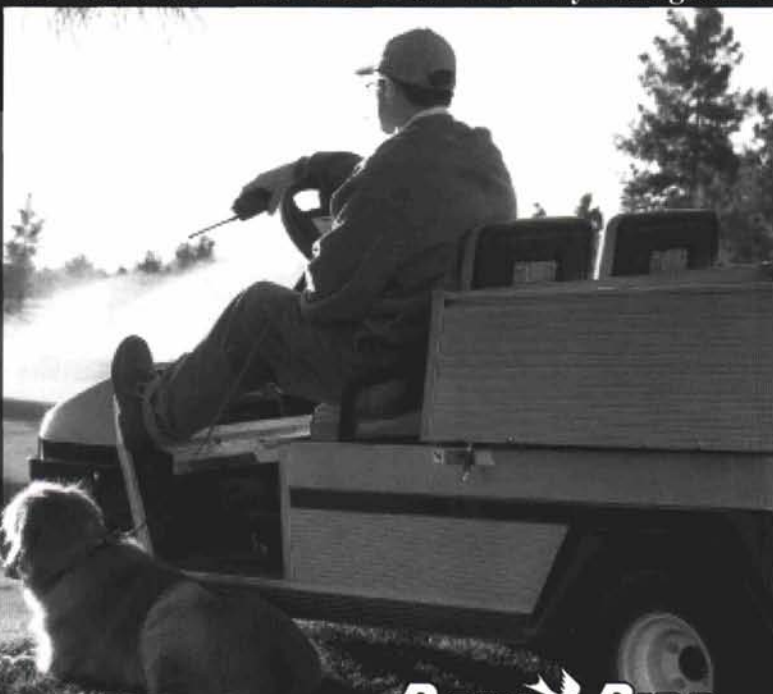
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invaluable. "It has always been great for us to involve a course superintendent in the program, to give the kids options as far as careers in golf," said Deverman. "Like the rest of us, most of the kids in the program will never be on a tour or play golf for a living, so we want them to see other ways they can still have a golf-related career."

Another way in which superintendents can help is by becoming guest speakers at local Hook A Kid On Golf sites. Topics that superintendents can lecture on or discuss include proper golf course maintenance, golf course design, and golf course etiquette. The possible topics are infinite and the kids in the program would enjoy learning about how golf courses are created and designed. Also, discussing the maintenance of the course can be helpful to them in learning how to respect the courses that they play.

Marc Heidkamp runs Hook A Kid On Golf activities with kids in the Prospect Heights Park District. "The kids that leave our program have learned to respect the golf course and to leave it better for the next player, thanks to the work our Superintendent has done in teaching them," said Heidkamp.

Hook A Kid On Golf provides communities with the structured curriculum and equipment to introduce the game of golf to kids ages 5 to 15. The Hook A Kid On Golf program has reached over 40,000 kids since its inception in 1990. These kids are not only introduced to the game of golf, but they receive special presentations on rules, etiquette, history, drug and alcohol awareness, staying in school, golf course maintenance, caddy opportunities, and more. Our goal is to build better citizens through the character-building experience that golf provides.

By working with various allied associations, recreational professionals, volunteers, and other influential people in Illinois, we hope to introduce children to the sport of golf, teach or reinforce valuable life lessons, provide career opportunities, and change a child's life.

In order to better serve junior golfers such as those who participate in Hook A Kid On Golf, industry professionals such as Golf Course Superintendents need to become more involved in programs. It is a fun and rewarding experience that can influence a kid's life forever. If you are interested in changing kids' lives through the Hook A Kid On Golf Foundation of Illinois, please e-mail the Illinois Foundation Office at hakogillinois@earthlink.net or call (630) 466-0913.



the Bull Sheet

John Gurke, CGCS,
Contributing Editor

DATES TO REMEMBER

April 24 – MAGCS monthly meeting at Heritage Bluffs Golf Club in Channahon, IL, **Chuck Anfield, CGCS** host.

May 7 – JW Turf's annual equipment auction and consignment sale in Hampshire, IL. Call your JW Turf rep for details.

May 22 – MAGCS/ITF Annual Spring Golf Day at Midlothian Country Club in Midlothian, IL, **Dave Behrman, CGCS** host.

June 7 – MAGCS monthly meeting at Old Oak Country Club in Homer Glen, IL, **Chad Walk** host.

June 20 – 6th Annual John Buck Memorial Golf Outing at Marengo Ridge Golf & Country Club in Marengo, IL, **Luke Roth** hosts.

Congratulations to the following old people (those who have earned the right to boast that they are the proud owners of a MAGCS 25-year pin): **Brad Anderson, CGCS**—Midlane Country Club.

Dan Anderson, CGCS—City of Aurora.

Bob Breen—Retired, but only recently (Arrowhead Golf Club).

Brian Comiskey—Pinecrest Golf Course/Huntley Park District.

Phil Hall, CGCS—Emerald Hill Golf and Learning Center.

Tom Lively, CGCS—Medinah Country Club.

Robert Morrell—Class AA.

Mike Sauls—Butler National Golf Club.

Michael Sprouse—Randall Oaks Golf Club.

The busy off-season continues with major free-agent signings, a couple of blockbuster trades, and even a few minor league pick-ups that have made the starting lineups. And I'm not talking major league baseball, but the still-active job market in our own back yard:

• **John Ekstrom**, formerly assistant superintendent at Cantigny Golf Club is now the assistant at Hinsdale Golf Club.

• **Pat Maksymiu**, formerly assistant superintendent at River Forest Country Club is now assistant superintendent at Cantigny Golf Club.

• **Rob Foster**, former superintendent of Highland Park Country Club is now superintendent of Lake Bluff Golf Club.

• **Alan Perkinson**, former superintendent of Broken Arrow Golf Club has "crossed over to the dark side" and is now the General Manager at Broken Arrow (but insists he won't forget us little guys).

• **Adam Crissey**, former first assistant superintendent at Broken Arrow is now the golf course superintendent at same, under the watchful eye of that new GM guy.

• **Mike Mumper, CGCS** is the new superintendent at Arrowhead Golf Club. Congratulations, and best wishes for success and prosperity, gentlemen!

A couple other MAGCS members have new titles—and without even changing jobs. **Tommy Witt, CGCS** (Northmoor Country Club) and **Dan Marco, CGCS** (Ruth Lake Country Club) were elected to serve as directors for the Chicagoland Association of Golf Course Superintendents (CAGCS) at the March 15 Annual Meeting at Oak Park Country Club (**Al Fierst** host). Congrats, and good luck to you both.

The late winter season in Chicagoland was once again chock-full of educational opportunities for our membership. It seems there wasn't even time to get my one tie dry cleaned after Atlanta before we were learning something somewhere from somebody. The first educational offering—and one which I believe will gain popularity in the future—was the 2nd Annual Assistant Superintendent Winter Workshop at Midwest Golf House on the 23rd of February. The program featured a great cast of characters including donuts, coffee, Phil Schwarz, meteorologist and weekend weather guy for ABC Channel 7-Chicago, lunch, **Paul Vermeulen**, USGA Agronomist, and wild wings from Buffalo. The day's theme was weather, and morning speaker Phil Schwarz hipped the

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MAGCS 3rd Annual Assistant Winter Workshop Attendees