



GOLF COURSE Tree Planting for Success

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Tree planting initiatives are often added to a long list of tasks that golf course superintendents are charged with outside of their normal turf grass operations. In this article, I thought it helpful to draw attention to best management practices for these projects' long-term success.

Planning

To quote Benjamin Franklin; "By failing to plan, you are preparing to fail." Keep this top of mind with any tree planting project no matter the size. As it seems with everything Covid, sourcing quality planting stock along with qualified contractors now takes significant time and resources. Use this as an opportunity to develop a sound plan of attack well ahead of the install timeline.

Try to involve all necessary parties (turf managers, golf professionals, course architect, etc.) to properly vet "planting opportunities" thoroughly before any trees hit the site. Involve course ownership in

these meetings so that they better understand all the considerations with installing trees on golf course grounds. This aids in developing sound communication to players on the most effective management strategies of tree conservation and golf course operations.

Try to take a "less is more" approach when establishing the number of proposed trees in any given site. We tend to extrapolate a few years later in canopy development but we need to constantly focus on the size and reach of mature canopies 50+ years into the future. This will result in well-spaced stems that can properly develop and mature while minimizing negative agronomic competition (i.e., air and sunlight penetration) to adjacent turfgrass surfaces. Try to avoid large scale planting projects which are economically taxing and hard to complete outside of prime playing seasons. Smaller projects completed on a semi-routine basis (>2-4-year rotation) often results in better planning for stem locations and increased age diversity with any installed canopy.

Review your properties dominant species count to properly select regionally native species that perform the best on your site. Endeavour to set a goal of your properties entire canopy coverage (all age classes) equally spread over at least 6 *Genus*.

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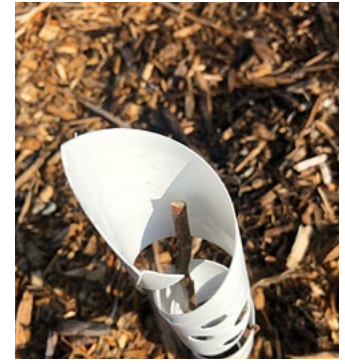
Buried root flare.



Deer damage.



Girdling root ball.



Rodent damage.

In some cases, we will lean on non-native and/or ornamental varieties where significant spatial and/or aesthetic concerns are paramount (i.e., Clubhouse grounds). As these species are often cultivated without significant plant hardiness in mind, they can require increased plant health care operations to maintain optimum vigour and aesthetics.

There is significant value for clubs to purchase plant material within the 40-60mm caliper (2-3m height) size class while large enough to minimize damage from maintenance and/or golf-related traffic. Substantially sized stock provides a more immediate aesthetic benefit but can be harder to source and handle on site. Additionally, it has been our experience that the smaller material will often overtake this larger material in a relatively short time (2-3 years) given their propensity to have a higher vigour potential.

Installation

It's better to put a \$25 tree into a \$100 hole than the alternative, so take the time to properly install these stems to maximize establishment to their new site. Remember to call before your dig (ontarioonecall.ca).

Root Flares: Significant cultivation activities occur with caliper stock from nurseries often resulting in excess soil surrounding the root flare of these plants. This can place excessive moisture up against the stem bark causing decay predisposing them to longer term decline. Look to excavate soil within the pot/root ball at the base of these stems to properly establish the identified flare above grade with proper hole depth (approximately 1/3 of root ball above grade). Properly back fill with native soil and/or quality topsoil materials (care not to bury the exposed root flare) tamped in to reduce air pockets which can result in the plant shifting within the hole when settling.

Mulching: Establishing 2-4" of a wood chip mulch over top the disturbed area will further aid in the establishment of any planted stock; try not to bury the exposed root flare. Natural wood chip mulch provides many benefits such as increased moisture retention, moderates soil temperature, and minimizes turfgrass competition, all reducing the risk of mowing operations damaging these installed stems.

Staking is not imperative with mid-sized stock but may be required with larger stock, especially thick canopy conifers more exposed to wind throw risks. Be sure to establish "T bars" or wooden stakes outside of the root ball/planting hole with tie points properly protected (rubber hose)/loose enough to not damage the upper stem bark. Remember to remove this hardware 1-2 growing seasons post installation to avoid girdling these stems. With smaller stock sized plantings, especially in non-manicured naturalized areas, additional protection measures may be required such as rodent guards and deer protection fencing.

After Care Maintenance

Proper watering of installed stock is imperative for establishment and survival with most woody plant material requiring deep but infrequent applications (>2cm over a 48-72-hour period) dependant on localized transpiration rates. Proper mulch applications can reduce the evaporation of any applied water; however, care must be taken to properly monitor plant moisture and provide dedicated watering. Golf course irrigation systems often do not adequately cover the fringe areas trees are planted in.

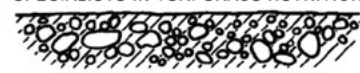
Pruning of any dead, dying, diseased, and/or broken limbs can happen at any time to promote plant health. Limit any live limb pruning (i.e., structural pruning) for a few seasons post installation, again, to promote establishment.

Fertilization: Soil amendments (organic and/or inorganic fertilization treatments) are not imperative for plant establishment where normal playable rough fertility treatments are taking place. Notwithstanding these conditions, specialized treatments such as liquid soil injection fertilization (deep root fertilization) can be prescribed to fracture the surrounding parent soil and encourage root development in heavily compacted and/or silty soils.

As we often recognize, trees can truly be a significant asset to any golf course property. By following just a few of these highly effective strategies, you can ensure the tree you plant today can be enjoyed for many generations, a true legacy!

Steven is an International Society of Arboriculture Board Certified Master Arborist specializing in the management of trees on Golf Course properties across Canada and the Eastern United States for over 25 years. More recently he has become a partner in DCS Agronomic Services to offer more comprehensive consultation to the Golf Course as well as Sports Turf Industry. Paul Hanousek is an International Society of Arboriculture Certified Arborist owning & operating Douglas Wood Large Tree Services across Ontario for over 35 years. ■

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