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What's New Still Feels Old

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What's new still feels old

by Bill Green, Assistant Property Manager
The Toronto Golf Club

The Toronto Golf Club embarked on a major renovation project to the Colt course during the 2009 season. After six years of planning, town hall meetings, a membership vote, trials, extensive research, and a trip to England the renovation project got underway on July 2, 2009. English architect Dr. Martin Hawtree completed the renovation in keeping with the philosophies of the original designer Harry Colt. The scope of works included: the construction of 90 bunkers, new tee complexes, re-locating two green sites, green expansions, a new irrigation system, XGD drainage, re-grassing to fescue roughs, alterations to green surrounds, fairway re-grading and alignment, creek alterations, and burial of hydro and telecommunication lines. There were many unique aspects to the renovation project, some considered a bit quirky, but everything was very well planned and thought out.

One of the most intriguing aspects of the project was how we maintained our bent/poa greens and fairways by recycling sod and propagating using cores.

There was a very deliberate effort made to maintain our bent/poa greens and fairways. There are several reasons why it was decided to continue to maintain our current grasses as opposed to a mono stand of bentgrass. Once the renovation was completed, we wanted all the disrupted areas on greens and fairways to look seamless, like nothing had been changed. In the past, Toronto Golf Club had widened fairways in a few locations and sodded with pure bentgrass. Fifteen years later you can still see

If the golf course was an antique, our goal was to refinish it to still look and feel like an antique.

a distinct difference between the existing and expanded fairway. This was something we really wanted to avoid due to the extensive nature of the renovation. In an old golf course like Toronto Golf Club a bent/poa mix provides a certain amount of charm. If the golf course was an antique, our goal was to refinish it to still look and feel like an antique. The Toronto Golf Club has been on its current site for nearly 100 years and most of our Poa, especially on greens has evolved into the perennial biotypes that no longer produce seed heads. When this happens it

puts Poa right up there as one of the top surfaces for putting greens. Never say never, but I can't see Oakmont Golf Club in Pittsburgh changing their Poa greens in the near future. The reality is Poa is one of the most adaptable invasive species on the planet and if you have a good cultivar, why change it.

The typical term in our industry for growing turf from cores is sprigging. For those of you who know Al Schwemler nothing is ever as simple as it seems and you better watch what you say or you will be quickly corrected. As Al had pointed out, sprigging by definition is plant propagation whereby cuttings of stolons or rhizomes are planted for establishment. The more suitable term for the process would be something like vegetative propagation, vegetative reproduction, vegetative multiplication, or vegetative cloning. Any of those terms will be acceptable when discussing our process with Al. For the purpose of this article we are going to use the term propagation.



Prior to construction Dr. Hawtree estimated we would require 5000 ft² of sod for green expansions. As a result 1.5 years before the project began we propagated a 7000 ft² nursery green built on eight inches of our greens topdressing material. We core aerated two passes around every green plus the entire practice putting green. The cores were shoveled into carts by hand and dumped into a pile inside our shop to keep them cool. The cores were then put into our Mete-R-Matic topdresser and spread on the green site. This was the first time we had propagated using cores. Although the process was a success, there was definitely some fine-tuning to be done if we were going to attempt this process on a significant acreage of fairways (where recycled sod was in short supply). Obviously, a majority of handwork had to be eliminated and we felt there was too much lag time between collecting and spreading cores and getting them watered.

By the time renovation got underway; we felt that we had fine-tuned the propagation process but had not put it to wide scale practice yet. We purchased a core harvester and a new Mete-R-Matic topdresser to assist in minimizing manual labor. It was critical that the core harvester could dump directly into the topdresser. This completely eliminated any handwork, with the exception of tie-ins along the edges. The operation of the aerator was much quicker than the rest of the process. In order to maintain flow in the operation, aeration ceased once the core harvester was full and waiting to load the topdresser. This eliminated any chance of the cores drying on the surface while waiting to be collected. All the coring was performed on the closest adjacent fairway and any unaffected areas of the same hole being expanded. This significantly reduced travel time and expedited the process. Aerating was done on a one and a half inch spacing to maximize the amount of cores harvested in any given area. The depth was set at ¾ inch to eliminate excess soil waste.

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Spreading cores on the fairway.



Rolling the fairway after the cores began to puff and swell.



Sod is being laid on the 14th fairway that had been sitting on tarps for over 6 weeks.

One of the keys to successful propagation is to get water down A.S.A.P. On a large fairway we would work in specific zones, dependant on the location of irrigation coverage. Once the cores were distributed in the specific zone, bentgrass was overseeded at $\frac{1}{2}$ lb per 1000 ft², pre-plant fertilizer was applied, and the area was rolled with a sod or speed roller. The zone was immediately irrigated while the process continued into the next zone. Zone size was dictated by the time of day and environmental conditions at any given moment. On extremely hot days watering cores was top priority. Regardless of the stage of the process the operation was halted temporarily to water cores. On a few occasions the soil was watered prior to placing the cores on the soil to cool the surface. It was imperative to never let the vulnerable cores dry out.



Staff are matching the final grade of the new 11th Green to the same grade as the original green



Sod from the 15th green is being rolled and replaced on the green after it had been grown on tarps for 4 weeks.

During the grow-in stages the newly propagated areas were watered several times a day in a similar fashion to establishing turf from seed. Prior to the first mowing, propagated areas were rolled 2-3 times because the cores had a tendency to puff up and swell. The swelling of cores often continued even after several mowings. As a result propagated areas were rolled an additional 2-3 times throughout establishment.

At the completion of the project over 6.5 acres of fairways had been successfully propagated. Every fairway on the golf course was core aerated at least once with the tightest possible spacing. It was calculated that we pulled 16.7 million cores. If all the cores were stacked one on top of another, the string of cores would be 318 km long. The last area propagated was on Nov.30, 2009, which is now known as dormant vegetative propagation.

The sodding process on the fairways was like a game of musical chairs and the odd man out was propagated. Once an area was prepared and ready for grassing, sod was removed from a hole to be completed in the next phase of the construction process. Priority of sodding was always given to green surrounds and high traffic areas. Fairway sod became a pretty hot commodity and on a few occasions some pretty questionable sod was used. Some of the sod used had sat on skids rolled up for a week, sod was used that had more dollar spot than grass, and some sod that had sat on tarps for so long the first cut had to be done with a line trimmer. There was a large amount of uncertainty on whether the sod was going to make it, but with a little extra care in the form of water, fertilizer, and sand it all surprisingly bounced back.

As part of the project two green sites were completely moved. The greens were rebuilt with the exact same grades as the original greens. A push up style green was reconstructed with the addition of the topdressing layer that had been stock piled from the old green. This construction method was used to maintain consistency with the other 28 greens on the property. At no point during the recreation of these greens was a piece of machinery used. All grading



Completed hole #11 showing propagated fairway.

Everything on the greens was done by hand to reduce the impact of compaction, and for nostalgic reasons, to build them the way they were done back in 1911.

and finish work was done with wheelbarrows, shovels, pitchforks, and rakes. Everything on the greens was done by hand to reduce the impact of compaction, and for nostalgic reasons, to build them the way they were done back in 1911. It seemed to have served the club well over the last 100 years.

After the sod was cut from the green it was catalogued and stored on plastic tarps. There was nothing significant about the tarps; they were your basic Home Depot clear polyvinyl drop sheets used while painting. Once the sod was on tarps, it was constantly monitored and watered while the new green was being constructed. It was very surprising how well the sod did on the tarps and how little water it needed. The sod received regular applications of fungicide, growth regulators and fertilizer. Applications were made using a hand wand and were done on the same schedule as the other greens. After 4-5 weeks of the sod growing on tarps it had a large mass of roots underneath the sod. Several pieces had to be cut with an edger because they had started to knit together. A day after laying the sod the roots were well on their way into the topdressing layer. Green expansions were done in a similar fashion; often times sod from the existing

green had to be removed and stored on tarps to tie-in the expansion. The expansion area was then sodded with the sod that had been propagated on the nursery.

After the first season post renovation the project was a great success from the design, to construction and grow-in. All budgets and schedules were not only met but exceeded expectations. One of the key components of an effective renovation is extensive planning and research that is done prior to the project. Nothing less would be expected when you have 6 years to prepare. Not everything went exactly to plan but problems were quickly identified and adjustments were made accordingly. Many new challenges and setbacks were confronted during the first year post renovation. All of the staff worked hard all year to improve many of the areas affected by the scars left behind after a renovation project. The propagation of cores and recycling sod is one of the biggest accomplishments of the project. After such an extensive renovation The Toronto Golf Club still feels and looks as old as it did prior to the renovation and for that reason alone it can be considered a success.

Photos by Bill Green and Al Schwemler, Toronto Golf Club