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# Superintendent's Perspective: The NTEP Putting Green at North Shore Country Club

*Editor's Note: This is the second part of a two-part article describing the results of the National Turfgrass Evaluation Project (NTEP) putting green research at North Shore Country Club in Glenview, IL. Part one, which reported trial results, appeared in the February 2004 issue of* On Course.

*As the superintendent of North Shore Country Club, I feel very fortunate to have been part of the onsite bentgrass evaluation project sponsored by NTEP, USGA and GCSAA.*

*"Which cultivar is the best?" is a question often asked . . . Like any relationship, the best fit is one where both parties can fulfill each other's needs.*

As Dr. Tom Voigt previously described, the goal of the study was to evaluate bentgrass cultivars' performance under "real world" putting green conditions. The trial green at North Shore serves our members and guests as a putting and short-game practice facility, complete with two greenside bunkers and a 70-yard bentgrass fairway. Over the five-year data-collection period, Dr. Voigt from the University of Illinois accumulated much useful information. Cultivar differences in seedling vigor, green speed and general quality ratings were formally assessed. Overall, the study proved very beneficial to our industry and was especially fruitful for us in the Chicagoland area. Selecting a cultivar or blend of cultivars for putting green use is very important and not a simple task. Many considerations must be studied for long-term success. Soliciting information from several resources is often the best approach to understanding a cultivar's personality. Data from NTEP, researchers at universities, turfgrass breeders, turf pathologists, sod farm growers, turfgrass seed producers and fellow superintendents all contribute to understanding cultivars' needs, strengths and weaknesses.

## Valuable Lessons Learned the Hard Way

I recall when C-15 decline *(Xanthomonas campestris)*—our first known bacterial blight on turf in the Chicago area—hit in the early 1980s. Many Toronto C-15 putting greens were affected and succumbed to this disease, a lesson learned on the potential problems of planting cloned monocultures. At North Shore Country Club, we had 11 putting greens, collars, nursery turf and tees growing Toronto C-15. However, only turf grown under the stress of putting green conditions succumbed to the disease.

Most superintendents growing C-15 greens looked to regrassing. Basically, Seaside, Emerald, Penncross and Penneagle were the seeded cultivars from which to choose. After consulting with experts, North Shore received the recommendation to grass greens with Penneagle creeping bentgrass. NSCC was shortly to host the 83rd U.S. Amateur Championship. The theory was that Penneagle's fine texture, upright shoot growth and reduced thatch potential would produce the highest-quality putting surface. As Penneagle was fairly new to the market, experts' understanding of this variety's nature was gained from nursery trials. Clubs in the area started to plant Penneagle on their greens. In a few years, Penneagle's lack of vigor demonstrated poor putting surfaces when grown under the stress of putting green conditions. Another tough lesson learned! Ball-mark recovery, wear from play (golfers wore metal spikes then) and *Poa annua* infestation all became highly problematic for Penneagle. Penneagle is no longer considered a turf for putting green use, but one of the better performers for fairway use. Many of these lessons could have been learned under the rigors of putting green trials.

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## Challenges with Onsite Testing

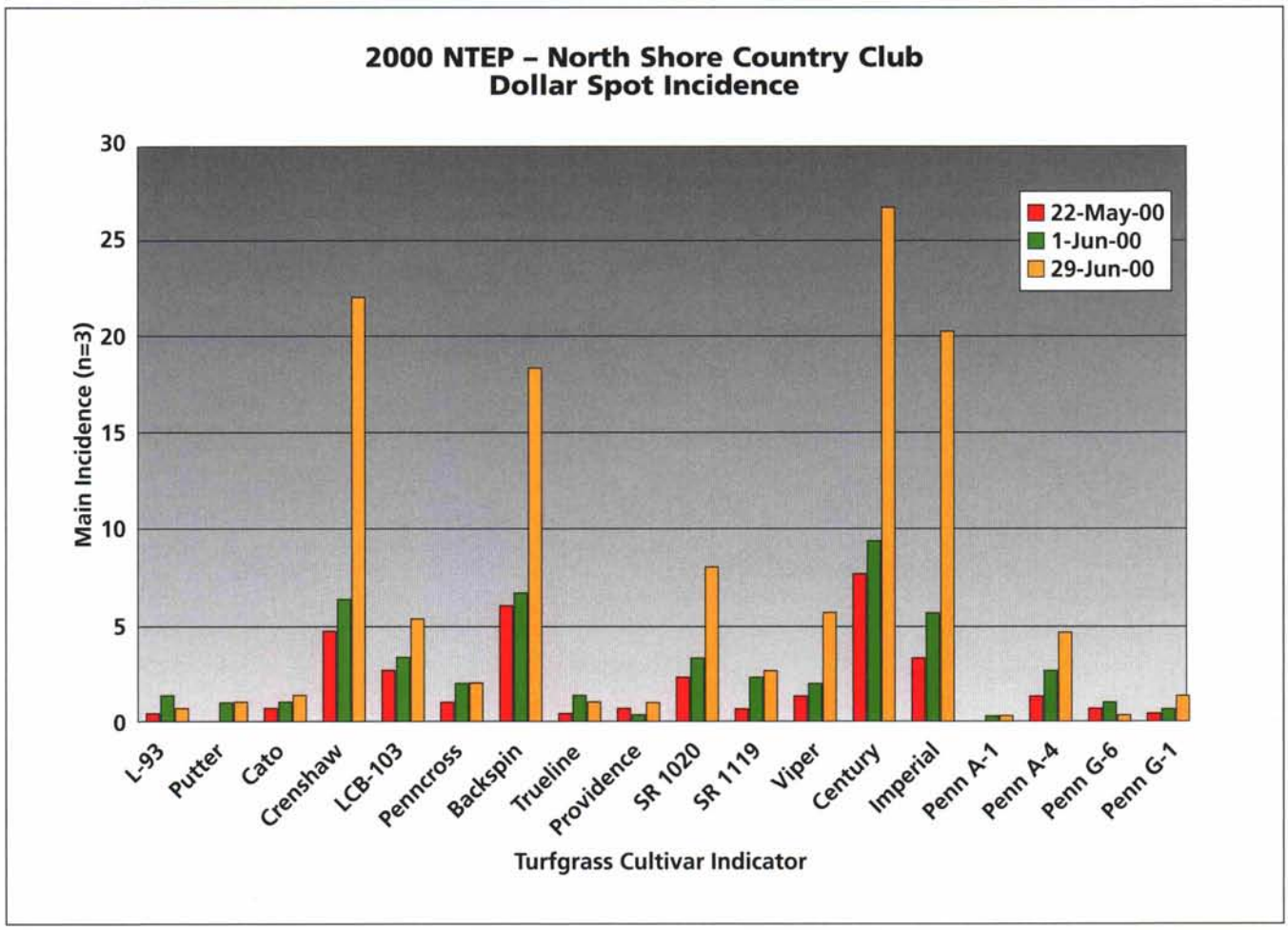
How to fairly maintain various cultivars grown for onsite testing has its challenges. I was instructed to maintain the green as one of the 18 greens used in regulation. This in and of itself was challenging, for the other 18 greens are mostly *Poa annua* growing on a "pushup" root zone. However, I understood the goal and viewed the putting surface as a product needing to be comparable to those greens played in regulation.

Officially, 18 cultivars are growing in the trial at NSCC. Living in the world of researchers, one learns of the forced compromises in field evaluations. To be consistent, and to generate scientific data, a management program needed to be applied equally across all cultivars. Yet mowing heights, topdressing frequency, grooming, nitrogen application rates, disease management and other cultural practices can differ greatly from one cultivar's needs to another. For example, large differentials in dollar spot *(Sclerotinia homoeocarpa)* susceptibility occurred with several cultivars. If a plan were implemented based on suppressing symptoms of a disease-prone cultivar, over-application of plant protectants would occur with other, less disease-prone cultivars. This high application rate may mask disease symptoms that could otherwise be learned and skew depiction of a cultivar's susceptibility.

At first, it was a struggle to develop a management plan that would not impact quality ratings on certain cultivars. Common sense dictated not to tailor to individual cultivar needs but to manage the general stand of turf. I subscribed to "less is better" most of the time. In general, daily mowing heights were maintained at 120-125/1,000ths of an inch, with topdressing every three weeks, daily grooming, water as needed and fertilizing based on soil and tissue tests and according to general color and clipping yield. We applied disease controls only as needed based on symptoms observed on least disease-prone cultivars. Under this disease-management program, cultivars prone to dollar spot got pretty ugly at times. The trial demonstrated clearly that great differentials occur with plant genetics in terms of susceptibility to various diseases.

## Beyond Cultivar Evaluations

Data generated from this study would prove very useful to anyone selecting a new turf for putting green construction or overseeding. Perhaps less obvious is the useful information gained from the study on how to best manage these new cultivars. The test green attracted a lot of attention from many, stimulating interesting discussion on various management issues. Dr. Randy Kane, Dr. Hank Wilkinson, Dr. Tom Voigt, Dr. Bruce Branham, Dr. Tom Fermanian, Dr. Andy Hamblin, the USGA's Paul Vermeulen and others, in conjunction with experiences from the study, contributed to a database



on how to best manage various cultivars. What makes onsite testing fairly unique are the tools and resources available. Better understanding the impacts of such inputs proves helpful and adds direct correlation to the practioner. We all learned from each other in a growing environment common to most courses.

## The Frustrating Question

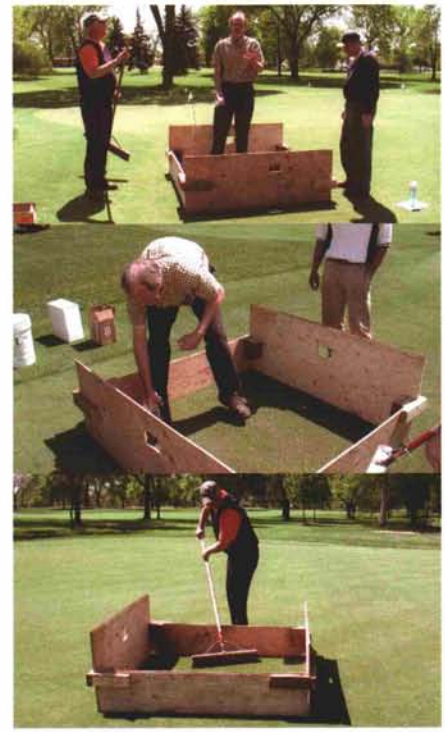
"Which cultivar is the best?" is a question often asked. One might think that question has an easy answer. The best way I can respond is by first sharing which cultivars performed poorly. Often this relates to a cultivar's susceptibility to diseases. Color, texture and general quality did differ, but among some, differences could be challenged if they had not grown side by side. I feel many cultivars can produce high-quality putting surfaces. In part, selecting the best cultivar relates to the level of commitment and resources available at each site. The higher-density cultivars require management practices that differ from those with half the shoot density. Like any relationship, the best fit is one where both parties can fulfill each other's needs.

## Learning Continues from the Onsite Test Green

Now that the formal five-year commitment has been completed, we are free to look into other questions on potential cultivar differences, including competitiveness against *Poa annua*, ball-mark recovery, long-term genetic disease resistance, genotype segregation, cultivars' response to various *Poa annua*-control chemistries, tolerance to ultra-low mowing heights, drought tolerance and attraction to plant-parasitic nematodes, to name a few. With help from turfgrass researchers Dr. Bruce Branham, Dr. Tom Voigt and Dr. Randy Kane, several of these questions are already being addressed.

A *Poa annua* study is underway to evaluate the bentgrass cultivars' competitiveness against *Poa annua*. In June of 2003, *Poa annua* seed was used to overseed each variety cell. After double-core aerification with 3/8≤ tines, the replicated 5′ by 10′ plots were divided in half, overseeding only half of the cell. A 5′ by 5′ isolation box was used to ensure no seed escaped outside the overseeded area. Before removing the isolation box, we worked the seed in with a broom. Upon completion of the overseeding process, we topdressed the entire green with straight sand and watered it in. Over a several-year period, we hope to see differentials of *Poa annua* establishment in cultivars. The second part of the *Poa annua* study will include two objectives: one, to evaluate each variety's tolerance to *Poa annua*-control products and each variety's ability to out-compete *Poa annua* when control products are implemented.

We will continue to observe and utilize the onsite test green as a research site. Visitors are always welcome to observe for themselves the evaluation plots. I also have data that is easily shared via e-mail or hard copy. Also, look for a follow-up article on the root-zone trials later this season. Many organic and inorganic root-zone amendments are being evaluated on the other half of the green with some interesting results.



*A study to evaluate the bentgrass cultivars' competitiveness against* Poa annua *began last summer. Half of each 5′ by 10′ plot was overseeded with* Poa*; use of a 5′ by 5′ isolation box should ensure that no seed escaped outside the overseeded area.*