

# Putting Greens: It's Time to Set a Speed Limit

There is no national or regional green speed limit, but every golf facility should conduct a thorough analysis and determine a not-to-exceed speed.

BY DERF SOLLER

The speed of putting greens is by no means a new topic of discussion. In fact, when searching through the Turfgrass Information File at Michigan State University, one can find references to green speed over a century ago. The great architect Harry S. Colt discusses it in Horace Hutchinson's book *Golf Greens and Green-Keeping*, published in 1906. Next, consider this excerpt from *The Golf Course*, published in April of 1916.

There is a certain course in this country whose undoubted merits can be appreciated by the best golfers, and yet nearly every expert, in commenting on the course, will refer with regret to the tricky qualities of the putting greens. The excellence of the turf cannot be denied, but the green committee appears to take a fiendish delight in keeping the greens as fast as lightning, and on occasions placing the cups in almost impossible places.

It gets even better later in the article when the authors not too subtly suggest green-keepers had an ulterior motive.

It is an old trick of green-keepers to wager against a score which seems to be very probable, when they are aware that they are to place the cups, for it is quite possible to run a very fine performance many strokes above figures which would have been recorded had the cups been placed normally.

In July of 1933 one anonymous author even penned a short poem entitled *A Round of Golf* discussing the impact of green speed on his round.

He putted the first with one and holed the second with two.  
He missed his drive on the third, on the fourth he started to stew.  
The fifth was three over par, the sixth rimmed the cup for an eight,



*Every golf facility should conduct a thorough analysis of its putting greens to determine a not-to-exceed speed limit. For a variety of reasons, faster is not always better.*

On seven he busted his mashie, the next one he blamed to fate.  
At the turn he had a cool sixty, but on [the next] he lifted his head;  
The eleventh darn green was spongy and at twelve he began to see red.  
Of course the thirteenth is unlucky; on fourteen he twisted his wrist;  
The fifteenth proved very disgusting. He beat the sixteenth with his fist.  
With two more to go he got steady and sunk a long putt on the last.  
"The only sweet green on the golf course! The rest, dear me, are too fast."

USGA interest in green speed began in earnest in 1933 with the publishing of Fred Grau's article [Drift and Speed of Putted Ball on Bents as Determined by Mechanical Putter](#). All of this ultimately has led to the device we use today — the [Stimpmeter®](#).

## GOLFER EXPECTATIONS

Throughout the history of the game, golfer expectations have varied and continue to vary from golfer to golfer and facility to facility. Most golfers expect a certain green speed when stepping onto a golf course, and their reasons can be based on any number of factors. But, as players, we are likely not familiar with everything the golf course superintendent and staff has had to deal with or done to prepare the golf course for play that day. Not surprisingly, weather conditions top the list.

The Stimpmeter was developed to assist golf course superintendents in providing the most consistent playing conditions possible across all greens at that particular golf course for that day. Notice I said *consistent*, not fast. The Stimpmeter should be used by superintendents to gauge the speed of putting greens and adjust maintenance practices as needed. Adjustments may include raising the height of cut, increasing sand topdressing, rolling the greens, or adjusting water applications and fertility rates. While it is understandable that golfers desire a certain pace of greens, the greater concern should be that the putting greens be as consistent as possible throughout the course on the day they play. Consistency would also include smoothness. A smooth putting surface that delivers true ball roll is much more important than speed alone. The goal of consistency should also apply to the practice putting greens where golfers warm up before their round. The practice putting green should provide a good indication of what the green speed will be for that golf course on that day.

Consistency in green speed throughout the course is a realistic

expectation. Expecting the greens to roll the same speed from day to day throughout the year is not realistic since it is simply not possible. The geographic location, sun and wind exposure, and topography all play a part in the daily challenge to provide consistent putting greens, not to mention the different weather conditions each and every day.

While comparisons of one course to another are inevitable, they often overlook many underlying and influential factors that impact the ultimate presentation of a facility. Turf varieties vary from course to course. Geography, climate, soil types, construction methods, budget, fertility, sun exposure, wind movement, drainage, recent environmental conditions, recent cultural practices performed, etc. — all add even more variability from one day to the next and from one course to the next. Perhaps a golfer just returned from a special event at a golf facility across

town. It is likely that the superintendent and staff there invested many hours in preparing for this special event. When this same golfer then returns to his or her home course, it is unrealistic to expect that the putting greens be the same as those just played the day before. Keep in mind that it is common for golf facilities to temporarily peak golf course conditioning for a special event, but seldom is this sustainable for the long term. Doing so is often cost prohibitive. Plus, the increased frequencies of mowing and rolling needed to achieve smoother, faster putting greens often desired for championships and special events can eventually lead to turf failure.

### TURF HEALTH

There is a direct and obvious relationship between attempting to achieve consistently high green speeds throughout the entire golfing season and struggling putting green turf health. For

cool-season species like bentgrass and *Poa annua*, this is especially obvious during the heat of summer. USGA agronomists continually advocate the importance of establishing maintenance standards to provide the superintendent with realistic guidelines for preparing the golf course for daily play. These standards must not be static, but rather dynamic to allow for adjustments when needed. During the heat of summer, closely mown bentgrass or *Poa annua* putting surfaces possess very little leaf tissue to produce food and energy through photosynthesis. Anticipating hot and extreme conditions and raising the height of cut prior to such conditions can go a long way toward improving turf health. It is bewildering that golfers who love their golf course passionately are sometimes more concerned with elevated green speeds than protecting the health and integrity of the putting greens. Some golf facilities are as little as one day away from a severe disease



*The practice putting green should provide a good indication of what the pace of ball roll, or green speed, will be that day on the golf course. This is a realistic expectation for golfers.*



Various tools are available for use by golf facilities in setting realistic green speeds. In this photo, a Stimpmeter® and digital level are used to determine green speed and hole locations.

outbreak, heat stress problems, or turf failure that can diminish playability of the golf course for a long period. The turf will grow back, but promoting recovery and still maintaining good playability at the same time is next to impossible. For a great article with further information on this discussion, please see [It's Time To Put The Green Back In Green Speed](#).

Rolling with side-to-side rollers or those mounted on triplex mower units is an accepted and encouraged practice utilized at many golf courses today. Research has shown that rolling allows cutting heights to be raised to help produce stronger, healthier turf while smoothing the putting surface and temporarily boosting green speed. In other words, when used correctly, rolling is a practice that benefits both turf health and playability. Improving turfgrass reliability is especially important during weather extremes. Most

research recommends rolling be performed in place of or in conjunction with mowing for limited periods of time. Superintendents at some facilities are required to mow and roll seven days a week. This gives the turf very little time for recovery. Alternating mowing and rolling can improve playability of the greens and maintain healthier, more reliable turf.

Excessive rolling for prolonged periods is also a recipe for failure and, like many maintenance practices if overused, can eventually produce chronic problems. Much like the human body, turf can be subject to either acute or chronic health issues. Acute issues involve a severe or sudden onset of illness or disease, whereas chronic issues occur from long-term exposure. Many of the turf issues observed during Turf Advisory Service visits are of the chronic nature. As with our own bodies, if the behavior

is not changed and the influence eliminated, the outcome can be lethal.

### WHAT IS YOUR GREEN SPEED LIMIT?

The first step is to identify limiting factors for each putting green on a golf course. At this juncture it would be wise to become familiar with the article [S.P.E.E.D. — Consider What's Right For Your Course](#). Unfortunately, many golfers and course officials come up with arbitrary green speed targets for the superintendent to achieve without conducting a full analysis of the golf course. Biological limits can be evaluated by inspecting turf health, impact of trees (shade, air movement, root competition), access points on and off greens (traffic concentration), weather conditions that change dramatically throughout the golfing season, topography, and equitable hole locations. For more information on

the latter, see [Putting Green Speeds, Slopes, and “Non-Conforming” Hole Locations](#).

Many older golf facilities have tremendous putting green features that were designed and constructed with careful thought by the architect. When these golf courses were constructed years ago, green speeds would have been far slower than they are today. As a result, greens were designed with significant slope and contours. As green speeds increased to meet the expectations of today’s players, such greens have few, if any, remaining hole locations. Green speeds, if high enough, simply exceed the architectural design from the era in which the putting greens were originally constructed.

The current financial climate makes it difficult if not impossible for many facilities to rebuild greens just for the sake of having enough hole locations at higher green speeds. A recent visit to a five-year-old golf course in the Rocky Mountains revealed a wonderful golf facility designed to have putting green speeds in the range of 9 to 10 feet. As membership has increased in the years since construction, so too have green speed expectations. No longer are 9- to 10-foot Stimp meter readings acceptable to the membership. Rather than relaxing green speed expectations so that the greens could be used in their entirety for equitable hole locations, the club now finds itself

rebuilding greens to meet demands for faster putting surfaces.

Every golf course should conduct a thorough evaluation to determine realistic putting green speeds and what is best for their membership and budget. Original architectural design and intent for playability of the greens is critical to determining the best green speed for your course. Local environmental conditions must be taken into account. So too soil type, construction method, turfgrass species, green size, and topography. Identifying appropriate putting green speeds will increase enjoyment for all golfers, not just those with single-digit handicaps.

A new initiative by the USGA and other allied associations is to improve the pace of play. Certainly, golf facilities with excessive green speeds are not doing themselves or their players any favors in this regard. The majority of golfers do not have single-digit handicaps. Most do not hit putting greens in regulation. The majority of players are chipping out of the rough, hitting from bunkers, and lucky to reach the putting surface with any chance for par. Fast greens make chipping and putting extremely difficult for the average golfer. The ability to get up and down around the greens of the golf course can increase golfer enjoyment and improve pace of play. When determining the impact of difficult course conditions on daily play, please see the

article [So You Think You Want To Play Championship Conditions All The Time?](#)

For years in the state Montana there was no speed limit. On the state’s highways during daylight hours, drivers were permitted to drive at a speed that was “reasonable and prudent.” Eventually, in order for the state to be eligible for federal highway funds, a speed limit was implemented. If making this comparison to a golf course, it is important to determine a reasonable and prudent putting green speed. Otherwise, turf health and playability will be compromised and courses will likely lose money in the form of green fees and membership dues. Architecture and agronomics should be the guiding lights when determining appropriate green speeds. There is much more involved to identifying the best green speed range for a golf facility than simply picking an arbitrary number that sounds good. Instead of discussing how fast the greens were, how great it would be to hear a golfer say, “Boy, didn’t those putts roll true today? Those greens were so smooth and consistent!”

[DERF SOLLER](#) has provided agronomic support for obtaining consistent, smooth putting surfaces at golf facilities in the Northwest Region for five years as part of the USGA Green Section.



*From its humble beginning in the 1930s to the recently redesigned USGA Stimp meter® in 2012, the readings that this simple device provides have single handedly become the barometer for evaluating putting greens. Focusing only on green speed, however, ignores other characteristics important to playability and putting surface quality, such as surface uniformity, trueness of ball roll and firmness.*