Have We Gone Too Far with Low Nitrogen on Greens?

by A. M. Radko
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REPORTS INDICATE that more and more superintendents are caught up in a green speed race, and some are combining a program of one pound of nitrogen per 1,000 square feet per year with a ⅛-inch height cut to attain maximum speed.

My question is, "Why?" Fastest doesn't necessarily mean best! I could understand these extremes if all greens were constructed billiard-table level, but the real joy in putting is to be able to make a putt now and then on well-contoured greens. The challenge of putting on sloped, terraced and mounded greens that vary in severity is what makes every course so interestingly different. This is where every club has the unusual opportunity to find, through trial and error, the speed that is best suited to its character and special conditions of play.

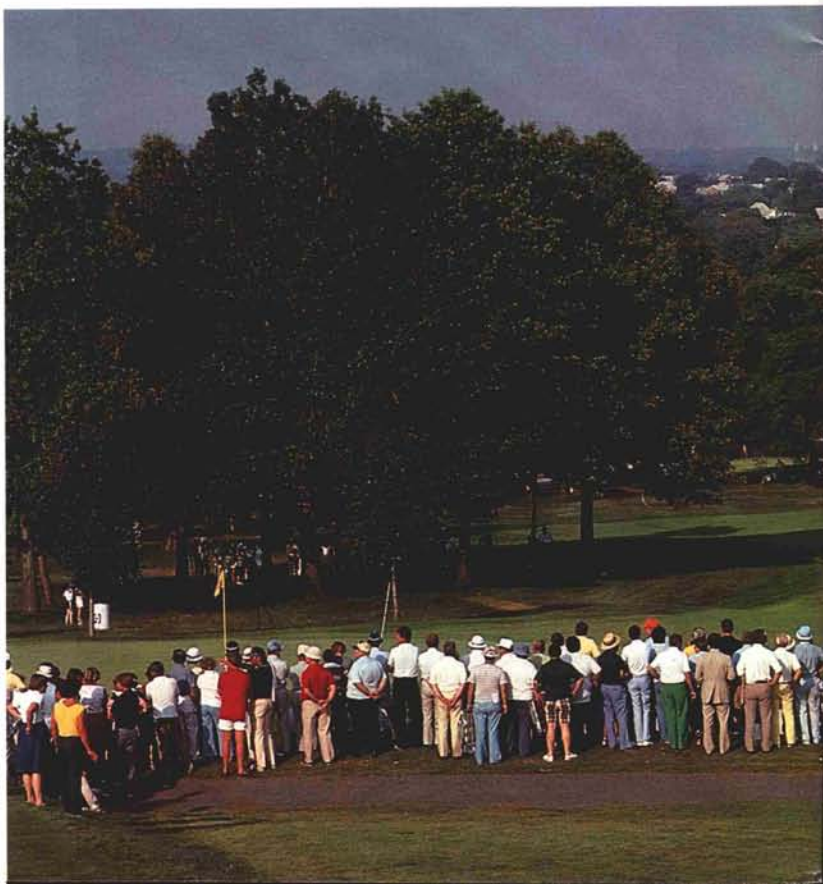
The place to start is not at a speed of eight feet six inches, measured by the Stimpmeter, but at seven feet and work up until you find the speed that is best suited to your membership. From what I've observed through the years, many clubs will find that an average speed in the range between seven feet six inches and eight feet six inches will satisfy most members.

Believe me, this is an excellent and enjoyable putting speed range. Remember especially that as speeds grow faster on well-contoured greens, the ability to stop the ball close to the hole becomes more difficult . . . and this should be the main criterion in determining green speeds at every course. A speed of seven feet six inches on well-contoured greens may well be far more difficult to putt on than mildly contoured greens with a Stimpmeter speed of eight feet six inches. As an example, the 1974 Open Championship was labeled the Massacre at Winged Foot by one sports writer because of extremely fast greens. In 1974 the Stimpmeter was not yet used to test green speeds.

Prior to 1974, I visited Winged Foot annually for about 25 years and played it several times. It is a beautiful course and an exceptional test of golf. The greens are always in superb condition. I was not concerned, therefore, about moving up to championship speeds; it would all be routine. Ted Horton was superintendent then. Those of us from the USGA concerned with championship conditioning asked Ted if he thought he could, without danger to the turf, set the mower a hair lower. This he did, from 5/16 to 9/32, and it caused no problem. Then he tried for 1/8 inch, but the turf wouldn't accept that cut. That was fortunate, because at 9/64 these well-contoured greens were very, very difficult to putt. The point is that Winged Foot's greens were converted from regular membership speed to championship speeds for the best golfers in the world with only a slight modification in Ted's regular nitrogen program and a 1/64 reduction in height of cut. His regular nitrogen program was about five pounds per 1,000 square feet per year — a little heavier than he would like, but he was forced into it because of continuous heavy play.

This is the way we believed it would work when the two Stimpmeter speed tables were published in 1977. At first we considered publishing only the Tournament Speed Table and using the Stimpmeter only on courses preparing for national championships. We agonized about making the Stimpmeter available to all clubs, because we felt it might cause problems through misuse. Finally we decided to release the instrument to all because we wanted to be sure it got into the right hands at a price that couldn't be duplicated commercially. When that decision was made, we released the Regular Membership Speed Table.

THIS IS WHERE the misunderstanding occurred. Almost everyone believed we were advising all clubs to



switch back and forth from one table to another every time a club held a tournament. This certainly is not the intent. The Regular Membership Speed Table is meant for use by clubs for everyday play as well as all their tournaments, with exception of national events. The Tournament Speed Table is meant solely for tournaments of national caliber for the best golfers in the world, and only for the brief period that the tournament is being played.

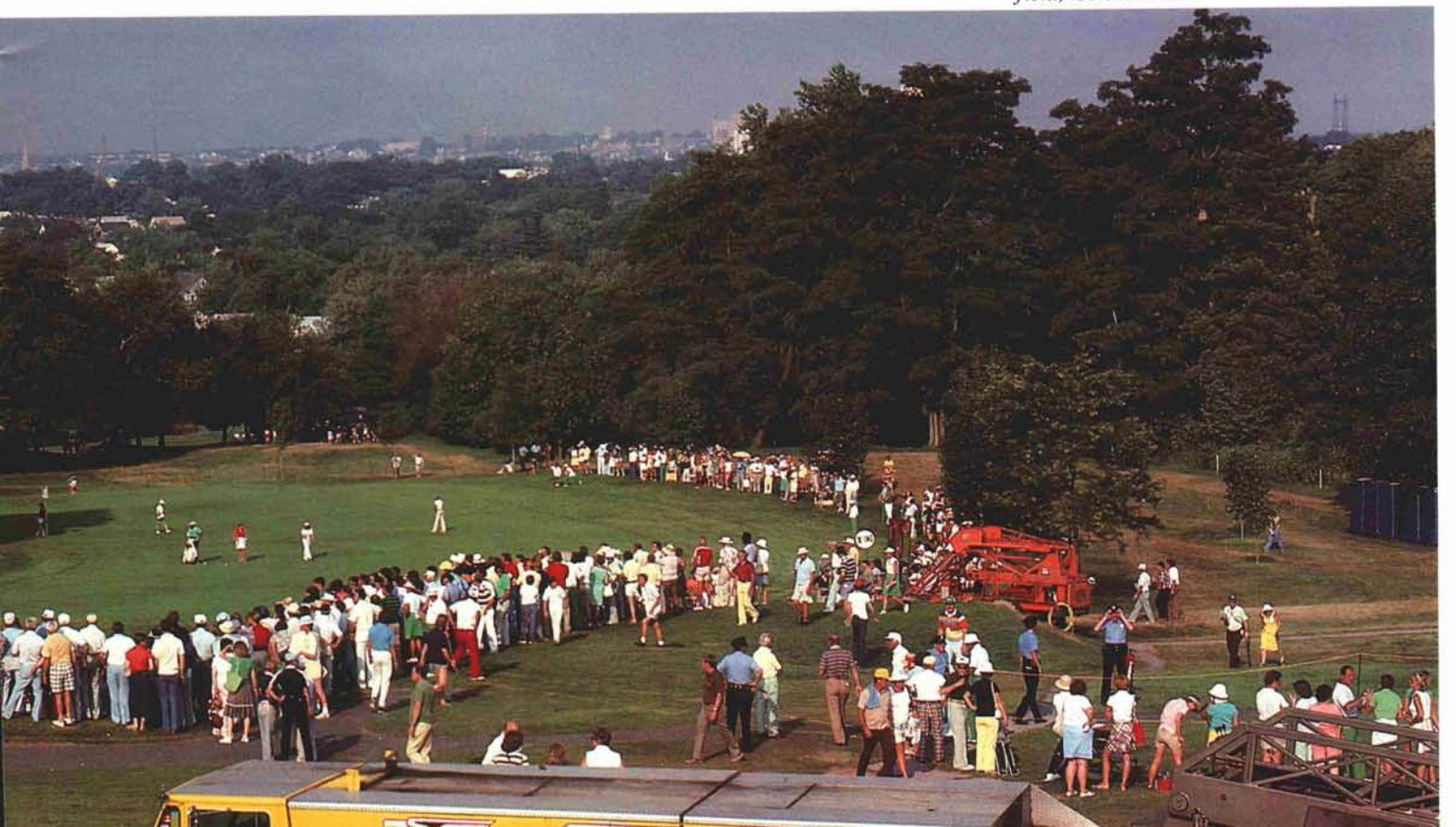
Now it appears that many clubs are attempting tournament speeds for the entire playing season. This, in my opinion, places putting green management in a totally new category, with risks far greater than greens were ever subjected to before. This, in my opinion, is madness!

I've visited several courses that use this combination of one pound of nitrogen per 1,000 square feet per year and mowing at ⅛ inch. I've also talked to superintendents who have been pressured into the program because "other clubs are doing it." Only one superintendent among those I visited feels comfortable with the program; all the others foresee problems. These problems include moss, algae, crabgrass, silver crabgrass, and other undesirable encroachment; thin, stringy turf; decumbent rather than upright growth; turf lacking in turgidity, thatch, and density; many more ball marks with displaced turf; more scalping over terraces, mounds, and crests of slopes; decidedly a weak, off-color appearance, not a healthy look; weaker turf in summer; weaker turf in winter, which could add to winter injury problems and also mean slower spring recovery that could affect length of playing time. These are the possible agronomic problems that I see.

Al Radko

There are serious implications here also with regard to the playing of the game when greens are exceptionally fast.

Putting green speeds averaging over 8'6" on the Stimpmeter are intended for National competition — 1979 Women's Open Championship, Brooklawn Country Club, Fairfield, Connecticut.



On occasion, I've heard of players taking four to seven putts on some well-contoured fast greens. Slow play already is a problem on greens of normal pace. Slow play is definitely more of a problem on extra-fast greens! Will golf become a six-hour game now? Will the 95 shooter, alive with hope that one day he will break 90, lose interest when he can't break 100 because he no longer can average his usual number of putts over 18 holes? Will this discourage the golf club membership and reduce club revenue? If a player, attempting his fourth putt from a spot farther from the hole than his first putt, goes through his normal ritual of studying that putt from four sides, then plumb-bobs it, then takes two vigorous practice swings with his chipping stroke before putting . . . golf will no longer be known as a gentleman's game.

The Stimpmeter's influence rests heavily on the golf course superintendent. Used as a cruise control device, the Stimpmeter can be a valuable asset in pursuit of a contented membership. Used only as an accelerator, the Stimpmeter will provoke risky problems unnecessarily.

At extremely low nitrogen rates crabgrass will again be a serious problem on putting greens.

WHAT IS THE BEST program for you? Only you can work this out because of the many variables. As a starting point, if you are not satisfied with your present program, here are some general guidelines you might consider for a typical six to eight months per year golf course operation:

If the course receives an average of 25,000 rounds a year, my program would be three to four pounds of nitrogen per 1,000 square feet per year.

If the course receives well over 25,000 rounds a year, my program would be four to five pounds of nitrogen per 1,000 square feet per year.

If the course receives well under 25,000 rounds per year, my program would be between two-and-a-half to three pounds of nitrogen per 1,000 square feet per year.

If greens were constructed with a high sand mixture, my program would begin at five pounds of nitrogen per 1,000 square feet per year and would be monitored yearly to determine whether more or less nitrogen is required as the turf matures and the soil medium adjusts.

Equally important as the yearly rate is the rate of nitrogen per application! These are the guidelines recommended:

One quarter of a pound of nitrogen per 1,000 square feet approximately every two weeks for a total of one-half pound of nitrogen per 1,000 square feet per month until the total yearly amount is reached. This applies to granular and non-granular forms of nitrogen — the water soluble, the water insoluble, and the natural organics. This program would vary only at heavily played courses, where heavier rates would be required to prevent traffic wear. In such cases mixtures of slow- and fast-acting formulations would be used preferably at no more than three quarters of a pound per 1,000 square feet per application. If liquid nitrogen is used, apply it at rates of 1/16 to 1/8 pound per 1,000 square feet per application.

Fertilization during periods of high temperatures should be avoided, except for extenuating circumstances, such as heavy traffic or other special conditions. If required during this period, apply no more than 1/8 pound of nitrogen per 1,000 square feet per application, nor more than one quarter pound of nitrogen per 1,000 square feet per month.

If a dormant application is made at the end of the season, I would reduce the seasonal total by the amount of nitrogen applied as dormant feed.

Light, frequent applications of nitrogen are recommended, because it takes only one heavy application to cause the turf to become coarse. Once it does, it is impossible to fine it down again within that growing season. Nitrogen is acknowledged to be the key element in turfgrass management. Nitrogen is the superintendent's control in putting green management! A superior nitrogen program provides unforced, steady growth during the entire playing season.

The field height of cut would depend upon member speed preference and turf performance during stress periods. I definitely would advise my members to select a speed between seven feet six inches and eight feet six inches. It is the sure way to better putting and to more pleasurable golf for the greatest number of players.

USGA Green Speed Test Comparison Table (Regular Membership Play)

Fast	8'6"
Medium-Fast	7'6"
Medium	6'6"
Medium-Slow	5'6"
Slow	4'6"

USGA Green Speed Test Comparison Table (National Championships)

Fast	10'6"
Medium-Fast	9'6"
Medium	8'6"
Medium-Slow	7'6"
Slow	6'6"