

# Investigating Green Speed and Superintendent Perceptions

Thomas A. Nikolai  
Michigan State University

## Objectives:

1. To update the original green speed chart to reflect the contour of the putting surface in conjunction with the desires of the golfer.
2. To gather green speed and cultural practices data from numerous golf courses to alleviate myths associated with cultural practices and playability that will result in agronomically sound playing conditions.
3. To increase communication skills between the golf course superintendent and his/her clientele.

**Start Date:** 2004

**Project Duration:** two years

**Total Funding:** \$6,000

The underlying premise of this research was to initiate a continuous green speed database that reflected putting green topography with golfer green speed surveys at each course. The surveys simply asked the golfer to rate the speed of the greens at the end of their round as being either too slow, slow/ok, ok, fast /ok, or too fast. The idea was that collecting real world green speed data and golfer surveys and correlating them to topography and numerous turfgrass agronomic practices would assist in communication necessary between the golf course superintendent and his/her clientele.



It is commonly believed that reducing mowing heights will always result in green speed gains. In this particular study the mowing height that resulted in smoothest putting surface was 0.120 inches. No mowing height reported in this study resulted in faster greens speed than 0.120 inches.

Annual Budget	Increase in green speed	Number of entries
\$300,000.00	-----	98
\$400,000.00	+18 inches	401
\$500,000.00	+29 inches	404
>\$1,000,000.00	+23 inches	981

**Table 1.** Increase in green speed on golf courses with various annual maintenance budgets (compared to green speed at golf courses with \$300,000 annual maintenance budgets).

The original idea was that golfer surveys would lead to the most contoured putting surfaces resulting in the slowest green speeds. However, this outcome could not be obtained because green committees did not allow the superintendent to take golfer surveys and size of maintenance budgets most likely had a great deal of outcome on the overall green speed at each golf course.

As the golf course maintenance budget increases from \$300,000 to \$500,000, the average increase in speed was 29 inches (Table 1). However, when the golf course's annual maintenance

budget increased above half a million dollars, average green speed did not increase.

It is commonly believed that reducing mowing heights will always result in green speed gains. In this particular study the mowing height that resulted in fastest putting surface was 0.120-inches (Table 2). The cutting height of 0.105 was the most commonly reported mowing height below 0.120. No mowing height reported in this study resulted in faster greens speed than 0.120 inches. At some point, lower mowing heights results in putting surfaces that are less uniform due to loss in density which, in turn, diminished ball roll distance.

In this study, superintendents were given six different putting green species and asked to rate them according to

Bench-setting (inches)	Speed increase compared to slowest
0.105	+11 inches
0.120	+15 inches
0.130	+ 9 inches
0.156	-----

**Table 2.** Increase in green speed of various mowing heights (bench settings) compared to green speed of 0.156 inches.

green speed. Winter overseeded bermudagrass resulted in the slowest speed although it differed by only 1-inch over non-overseeded bermudagrass. The turfgrass species that resulted in the fastest perceived overall green speed was *Poa annua*.

Although the amount of data in this study was not sufficient to draw conclusion due to the limited number of superintendents surveyed, the data suggests that further data collection at more golf courses may be warranted.

## Summary Points

- As the golf course maintenance budget increases from \$300,000 to \$500,000, the average increase in speed was 29 inches. However, when the golf course's annual maintenance budget increased above half a million dollars, average green speed did not increase.
- No mowing height reported in this study resulted in faster greens speed than 0.120 inches.
- The data suggests that further data collection at more golf courses may be warranted.