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Measurement of Green Speed with the iStimp Application

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Abstract
The stimpmeter is a tool originally developed by the United States Golf Association to measure putting green speed. The stimpmeter is a 36-in., V-shaped aluminum bar with a notch milled 30-in. from a tapered end. The device is operated by placing a golf ball in the milled notch and lifting the non-tapered end until the golf ball releases.

Turfgrass practitioners use a variety of management practices on putting greens to achieve the uniform turf conditions that golfers expect. Many golf course superintendents use green speeds to tailor maintenance practices to meet golfer expectations.

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Measurement of Green Speed with the iStimp Application

RFR-A1119

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Introduction

The stimpmeter is a tool originally developed by the United States Golf Association to measure putting green speed. The stimpmeter is a 36-in., V-shaped aluminum bar with a notch milled 30-in. from a tapered end. The device is operated by placing a golf ball in the milled notch and lifting the non-tapered end until the golf ball releases.

Turfgrass practitioners use a variety of management practices on putting greens to achieve the uniform turf conditions that golfers expect. Many golf course superintendents use green speeds to tailor maintenance practices to meet golfer expectations.

More recently, iGolfApps.com has released an application called the iStimp. The iStimp is supported by the iPod Touch, iPhone, and iPad and the application uses these devices to measure green speed. Because the iStimp is a readily accessible and affordable means of measuring green speed it could become a popular tool among golfers. A comparison of this device with traditional stimpmeters has not been conducted.

The objectives of this study were to determine the accuracy of the iStimp applications compared with traditional stimpmeters for measuring green speed.

Materials and Methods

The experiment was conducted in June 2011 at the ISU Horticulture Research Station, Ames, Iowa, and stimpmeter measurements were recorded with five devices (Table 1). All tests were carried out according to recommendations by the manufacturer. A level area of the green was selected and a tee was inserted at the end of the measurement device. Three golf balls were released, one at a time, from each device according to the guidelines suggested by the manufacturer.

The distance each golf ball traveled was measured from the golf tee to the front of the golf ball. This length was recorded for each golf ball and the average obtained. The same three golf balls were rolled in the opposite direction along a similar line and the same measurements and calculations performed.

Data were analyzed using the General Linear Model procedure of SAS (Statistical Analysis Software) and means were separated using Fisher's protected least significant difference at the ($P<0.05$) level.

Results and Discussion

Differences in stimpmeter readings were observed between the five devices. The USGA and research stimpmeters produced similar stimpmeter readings and previous research demonstrates values between the two devices are highly correlated.

The iStimp application when utilized on the iPad underestimated stimpmeter readings compared with all other devices (Figure 1). In contrast, the iStimp application tended to overestimate stimpmeter readings on the iPod and iPhone. This preliminary data indicates that stimpmeter readings obtained with the iPad, iPod, and iPhone are not as accurate compared with the USGA or research stimpmeters.

Table 1. Characteristics of five measuring devices used to evaluate green speed.

Green speed measuring devices				
	Length (in.)	Width (in.)	Thickness (in.)	Release date
USGA Stimpmeter	36			1978
Modified Stimpmeter	18			1995
iPhone 4	4.5	2.31	0.37	2010
iPod Touch (2nd & 3rd gen)	4.3	2.40	0.33	2010
iPad 2	9.5	7.31	0.35	2011

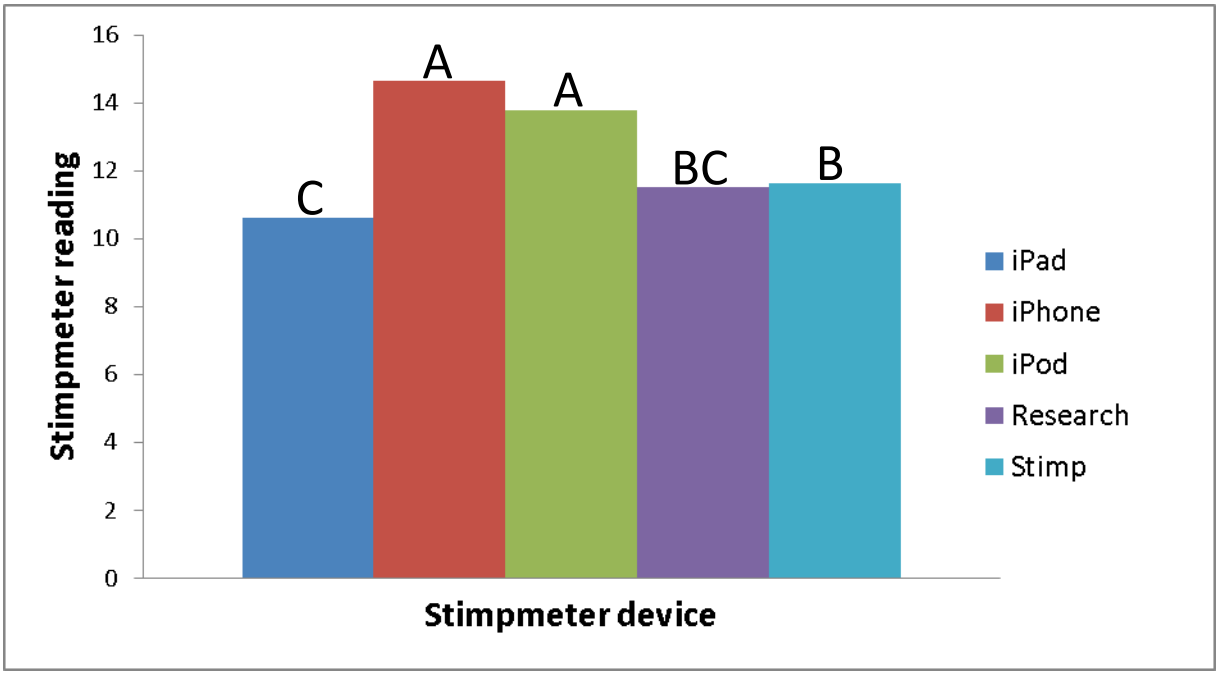

Figure 1. Stimpmeter readings for five devices used to measure putting green speed.