USGA
Green Section
RESEARCH YOU SHOULD KNOW
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THE IMPACT OF GREEN SPEED
PACE OF PLAY

BY USGA GREEN SECTION

- Increasing green speed leads to slower pace of play.
- As little as a 1-foot increase in green speed can slow pace of play by more than seven minutes per foursome.
- Increases in green speed can significantly reduce golfer enjoyment.
- Green speed plays a significant role in the overall health of a golf facility by directly impacting revenue, expenses and customer satisfaction.

Background

It is no secret that current golf management strategies need to change to help reverse declining trends in golfer enjoyment and facility revenue (Licata and Tiger, 2010). Time constraints and slow pace of play are the most frequently cited reasons for golfers leaving the game (NGF, 2017), while pace of play and course conditioning are the biggest factors influencing golfer enjoyment (USGA, 2017). However, the link between

course conditioning and pace of play is poorly understood.

In a recent survey, golfers reported preferring "true and consistent" greens over fast greens (USGA, 2017). However, golfer demand for fast greens is common. Unfortunately, many golfers aren't fully aware of the resources required to produce extremely fast green speeds or of the implications for playability. Increasing green speed can raise maintenance costs, stress turf and significantly reduce the area available for hole locations.

A study conducted by the University of Minnesota, in conjunction with the USGA, sought to determine the impact green speed has on pace of play and golfer enjoyment. Specifically, can green speed influence pace of play and if so, by how much?

Methods

Nearly 40,000 green times – i.e., the time a golfer spends on a putting green – from more than 2,200 golfers were collected at seven facilities across the United States. These facilities were selected to represent a broad spectrum of golf facilities, including public and private courses from various regions. During the three-week data collection period, green speeds were adjusted by 1 foot each week to provide Stimpmeter® readings of 8, 9 or 10 feet, respectively. For example, courses that maintained a daily Stimpmeter reading of 9 feet would slow their greens to 8 feet for the first week of data collection, then increase green speed to 9 feet for the second week and then to 10 feet for the final week of the study. Golfers carried a GPS device either in their pocket or on their belt to record their location and elapsed time during their round. Additionally, golfers completed a post-round survey to collect demographic and course data and assess their perception of the golf course and their enjoyment of the round.

Results

The study showed that faster green speeds led to a slower pace of play. For every 1-foot increase in green speed, the average pace-of-play increased by 6.4 seconds per player per hole. That results in more than a seven-minute increase in the total round time for a foursome. If this data is extrapolated, it is reasonable to assume that an increase in green speed from 10 feet to 12 feet or higher would yield more than a 14-minute increase in the total round time per foursome.

However, there are other variables that influence pace of play in addition to green speed. While green speed is a significant contributor, it may not have as much of an impact as anecdotal evidence suggests. Perhaps the most impactful finding of the study is that a 1-foot increase in green speed led to a significant decrease in golfer enjoyment based on survey results following their round.

Further research is needed to examine the numerous variables impacting pace of play and golfer experience. Until additional research is conducted, it is recommended that golf facilities maintain green speeds that are reasonable for the skill level of golfers playing the course while also facilitating an appropriate pace of play.

Citations:

Licata, Jane W., and Andrew W. Tiger. "Revenue Management in the Golf Industry: Focus on Throughput and Consumer Benefits." *Journal of Hospitality Marketing & Management,* vol. 19, no. 5, 2010, pp. 480-502.

National Golf Foundation. "Golf Participation in the U.S.: 2017 Edition." www.ngf.org. Accessed February 2017.

United States Golf Association. "Facility Survey Results." Accessed May 2017.

