

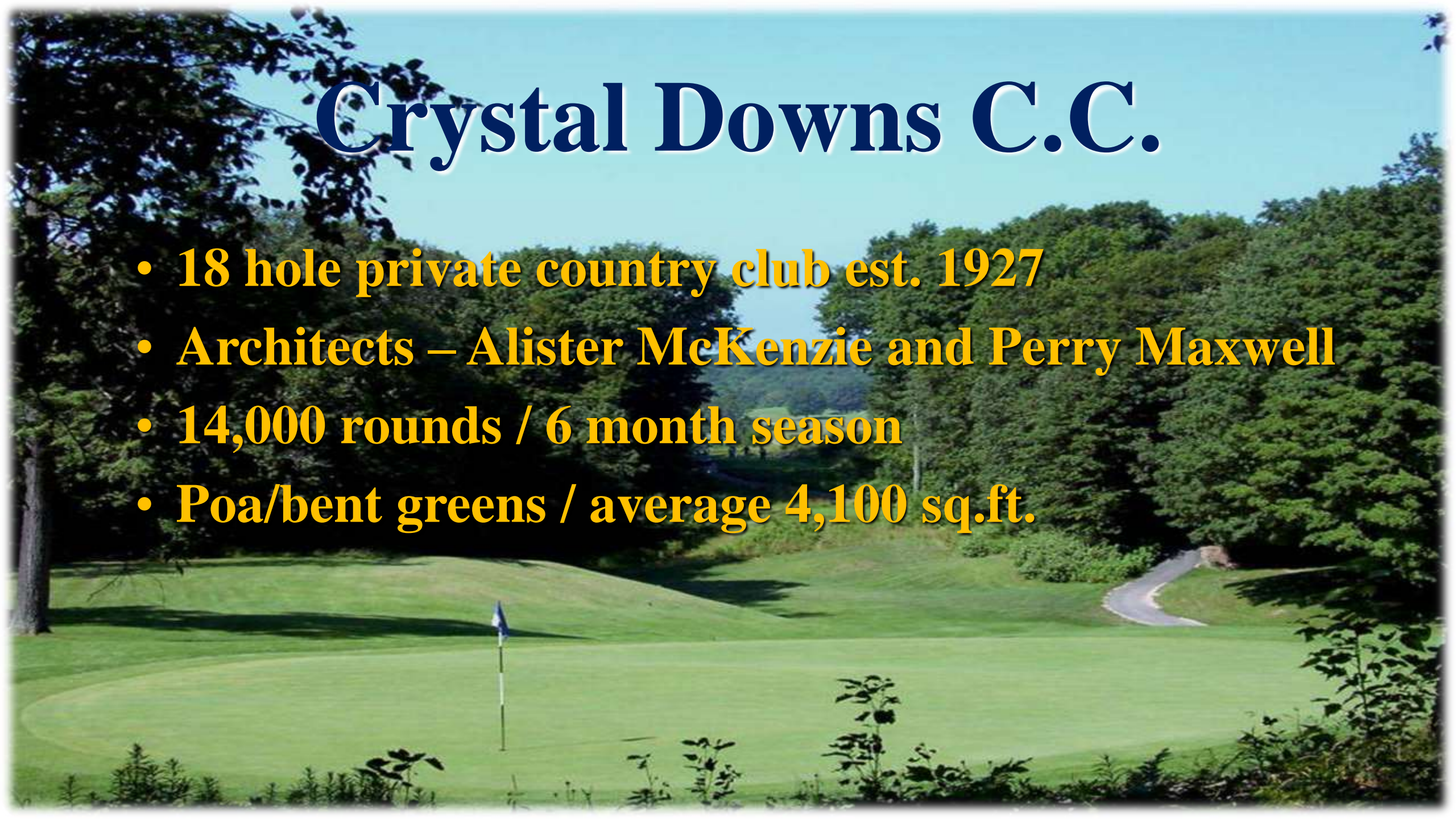


Searching the literature for answers to create the perfect playing conditions for Crystal Downs C.C.

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Assistant Superintendent
Crystal Downs Country Club
Frankfort, Michigan

Crystal Downs C.C.

- 18 hole private country club est. 1927
- Architects – Alister McKenzie and Perry Maxwell
- 14,000 rounds / 6 month season
- Poa/bent greens / average 4,100 sq.ft.



An aerial photograph of a golf course. In the upper center, a large, multi-story clubhouse with a gabled roof is situated on a grassy hill. The foreground and middle ground show a green fairway with several irregularly shaped sand traps. The surrounding landscape is a mix of green grass, brownish-red soil, and scattered trees. The text is overlaid on the upper portion of the image.

The impetus: A Green Chairman's Questions

- 1. What are our green speeds day-to-day?**
- 2. What is the best speed for our golf course?**

Who is your source of information?



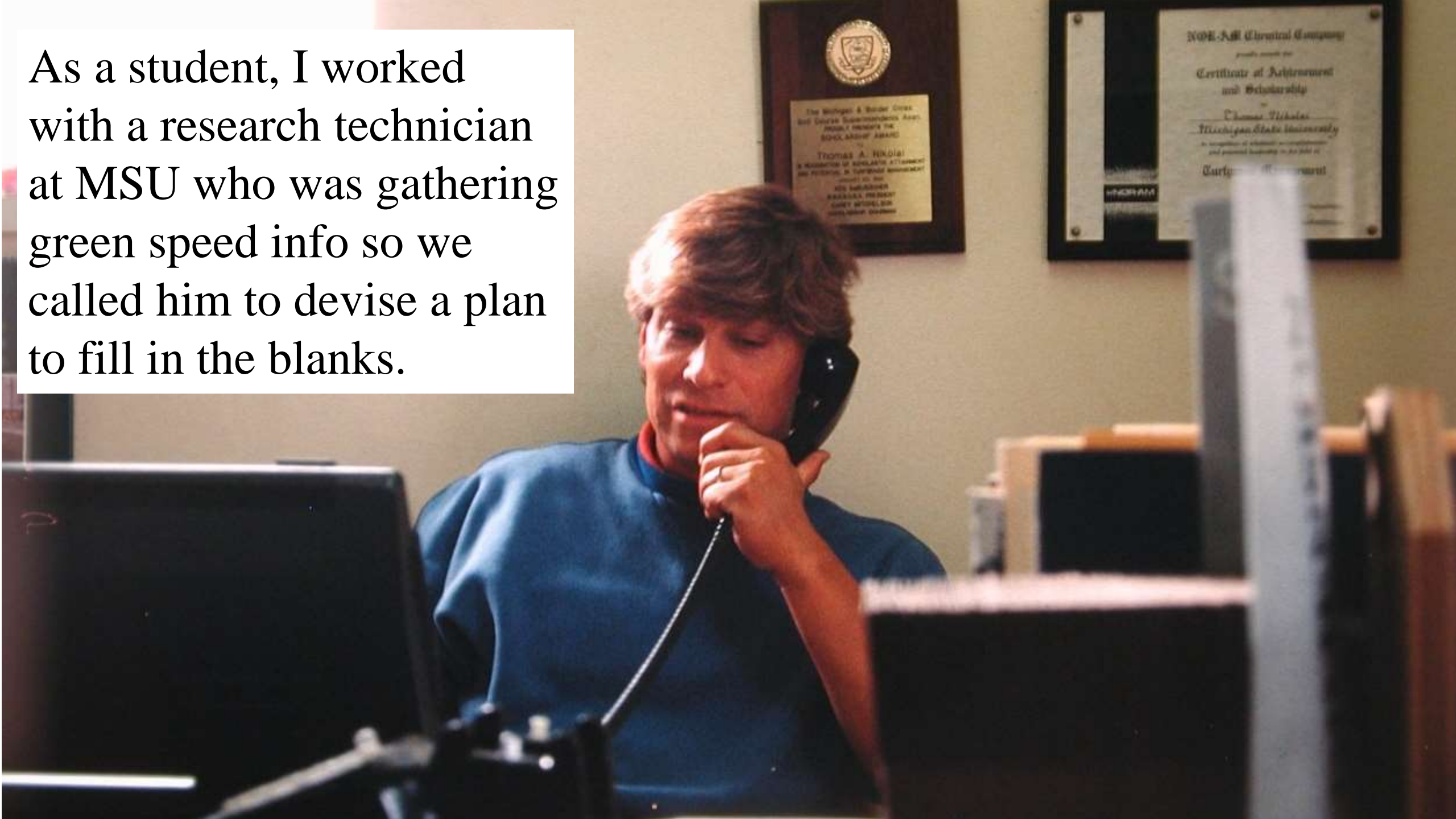
JUST LIE !

With a little ingenuity, high Stimpmeter readings can be achieved without being a detriment to the turf!

So how did we start?



As a student, I worked with a research technician at MSU who was gathering green speed info so we called him to devise a plan to fill in the blanks.





**Is it possible to maintain a
consistent green speed for an
entire playing season?**

(Mike Morris, CGCS, Crystal Downs)

We developed a 4-step process to meet golfer expectations.

1. Determine daily green speeds: data collection.



Data Collecting



Easy to incorporate into morning set-up procedure.

Data Collecting



Great opportunity to:

- 1. ... interact with golfers and get direct feedback;**
- 2. ...educate/explain your current cultural practices.**

The Superintendent's Dilemma



It was not more work, it was proper work

We developed a 4-step process to meet golfer expectations.

1. Determine daily green speeds: data collection.

2. Survey the golfers to determine the target green speed range for your golf course.



Step #2: Member Input : Golfer Survey

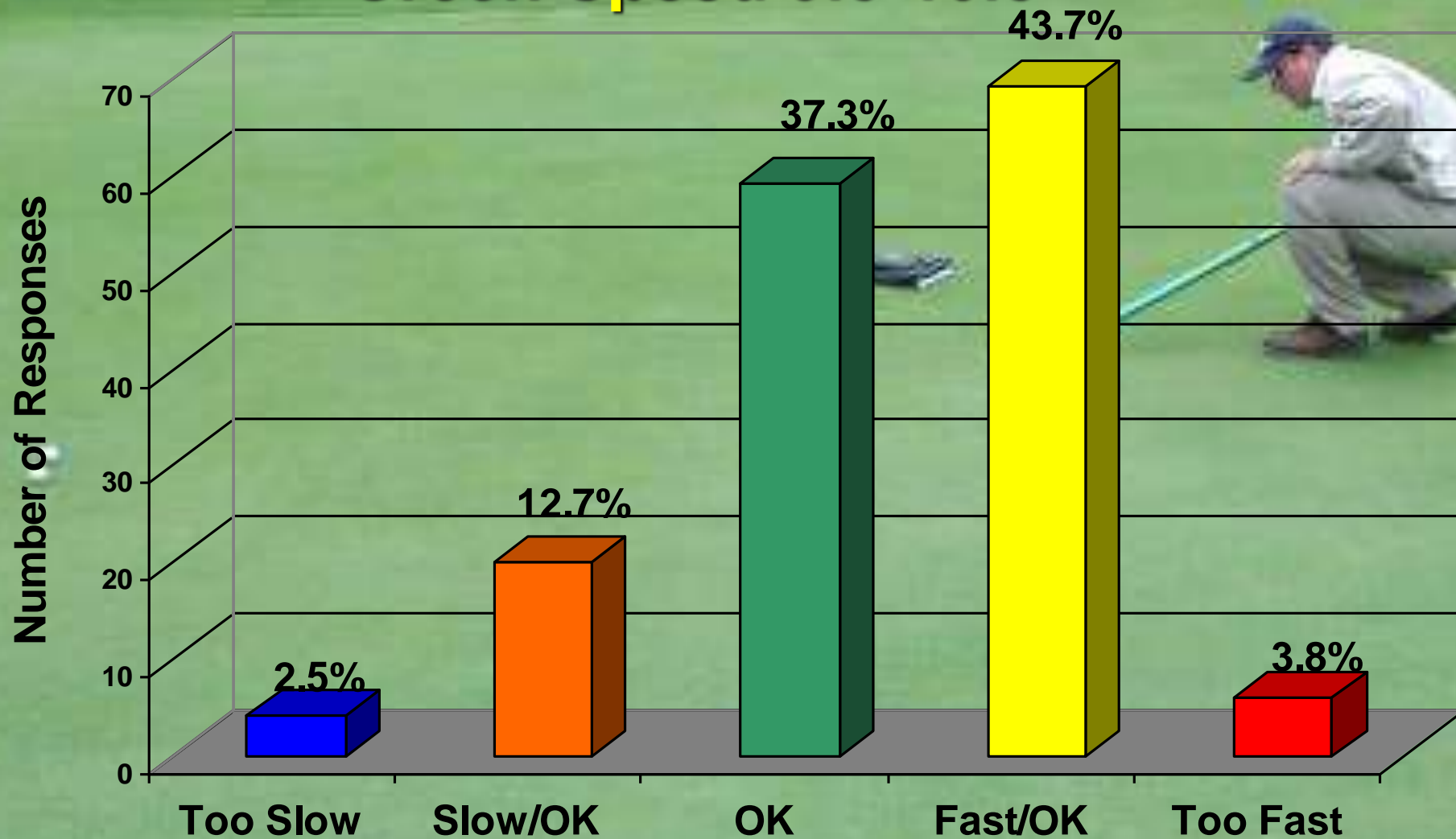
The Morris Method: the missing piece

Today's Green Speed was...

- **Too Slow**
- **Slow/OK**
- **OK**
- **Fast/OK**
- **Too Fast**

Golfer Survey Responses

Green Speed 9.5-10.5



The Survey Says...

- **81% of the golfers surveyed rated the green speed as O.K. or Fast/O.K. when speeds were between 9.5 – 10.5**
- **Green Speed was 9.5 – 10.5 or faster, 75% of the time.**

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 limit.

“Expecting the greens to roll the same speed from day to day throughout the year is not realistic since it is simply not possible.”

Shortcuts?

No! 16 years later...

1. We still use the Stimpmeter!
2. Our target range is unchanged.
3. Our greens are the best they can be..
4. We communicate with members.



We developed a 4-step process to meet golfer expectations.

1. Determine daily green speeds: data collection.

2. Survey the golfers to determine the target green speed range for your golf course.

3. Evaluated maintenance practices to best manage green speeds in your target range.

Some Maintenance Practices We All Do...

- mow
- double mow
- use groomer
- irrigate
- fertilize
- apply PGRs
- verticut
- topdress
- sharpen/adjust mowers
- brush/broom/drag
- "hydro-ject" aerate
- spike/needle tine aerate
- core aerate
- deep tine aerate
- control *Poa annua*
- syringe
- roll
- overseed

Evaluate Maintenance Practices





inch/mm

0.115

OFF

ON

ZERO



0.059

Inch/mm

OFF ON ZERO



Inch/mm

0.0375

OFF ON ZERO

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Topdressing







Drag





**Remove Stone Chips and
Debris**



Hand-Water




Mow





Rolling...

History of Green Maintenance Improvements at CDCC

- 
1. Walking Green Mowers
 2. Improve Topdressing Process
 3. Improve Grinding/Reel Sharpening Process
 4. Evaluate Fertilizers and Growth Regulators
 5. Improve Rolling Process
 6. Evaluate Soil/Thatch Management and Vertical Mowing

Step 4: Communicate Results

A wide-angle photograph of a golf course green under a clear blue sky. In the background, there is a sand trap, a large green tree, and a small figure of a golfer on a raised area of the course. The foreground is dominated by the green grass of the putting surface.

What do you objectively measure that impacts putting conditions?

Which items do golfers need to know?

Even at the 18th hole we are never finished

