



We cannot manage what we do not measure.

Data Collection

WHAT'S ALL THE FUSS ABOUT?

Written by and photo provided by Andrew Marsan, Turf Technical Sales, Plant Products.

Data collection is a hot topic these days. Many see the value but don't know how to get started, others think it's nonsense, and some can't be bothered either way. One thing was for certain when I started down the rabbit hole: there was a heck of a lot of information available. There are various collection methods, units of measurement, and tools at our disposal. Where do you start, and how does one determine what is valuable data and what isn't? How do you track this data?

First, we must identify what we are trying to achieve through these processes. Then, through consistent collection methods, interpretation, and adjustments tailored to our ideal performance targets, we can start to get dialed in. Let's explore data collection

with an emphasis on putting surface performance and how it can be utilized to produce the desired playing conditions for your site. By reviewing these processes at their most basic, we can illustrate how they can be implemented at any club with a budget of any kind. Measuring clipping volume is an essential practice because the growth rate of your turf will have a direct effect on many different factors. These include mowing requirements, the effects of PGR and fertilizer applications, recovery, playability, green speeds, all things thatch, and the list goes on. One that is attuned to how much the grass is growing will have the ability to identify the best conditions and

playability for that site and what clipping volume is associated with those conditions. This can be replicated over time, establishing when the surface looks and performs its best and then adjusting to nudge the grass in the desired direction. Our process for collecting this data is simple and takes a matter of minutes throughout a mowing event.

This data will allow one to see the golf course with a different set of eyes, and over time, it will start to tell a story

OUR PROCESS

1. Clippings are collected from six greens, located in a variety of microclimates. Unless you plan on managing each green differently based on this data, I wouldn't fret about trying to measure all of them. Even measuring one green is beneficial and better than doing none.
2. All three buckets are measured from our triplex mower using a five-gallon graduated pail. This is excluding the clean-up cut due to the inconsistency in occurrence. No-mow days are recorded as '0.'
3. Wrap your head around this one – dump clippings, shake, measure, and move on. Our operators use a scorecard to record the numbers. Unfortunately, I can't take credit for that idea, but it's a great one, nonetheless. The numbers taken in the field are then entered daily into a spreadsheet.
4. We measure in L and convert to mL/m² as it seems to be the most common unit of measurement and thus easily transferable between locations when making comparisons. It is imperative to know the area of your putting surfaces.
5. Be careful not to get attached to the daily values and instead pay attention to the seven-day average. Variations are normal; don't panic.

The goal is to find the ideal amount of growth for your site by measuring the clipping volume and then using the information to make better-informed decisions. If there is no number associated with how the grass is growing, how can one know if the growth rate is too fast, too slow, or just right?

Before we started to look at things differently, taking daily stimpmeter readings was something I could not wrap my head around. When I started to change my tune, I ended up pulling ours out of the scrap metal pile. Thankfully, the equipment technician



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didn't use it to MacGyver something in the shop. Over time and with regular use, the value of this tool has become quite clear. Our primary focus is consistency from green to green, day to day, not chasing speeds.

It is important to be able to quantify the effect that maintenance practices are having on ball roll distance, and we can do this by taking daily measurements.

- Readings are taken from three greens daily. By design, these are the same surfaces that clippings are collected from.
- We use the Brede equation to compensate for the slope.
- While measuring green speed, we perform a visual test of the quality of ball roll on the surface, coined 'the bobble test.' This is the simplest way to associate a number with smoothness and trueness of the surface.
- In conjunction with the STRI Smoothness Scale which considers variables such as golf ball bobble, chatter, and snaking, and provides a rating from 1-10 based on visual results.

- This method is the easiest to administer but other tools can be used including the STRI Trueness Meter, ParryMeter, Dispersion Test, and the USGA's GS3 ball.

The final piece of the puzzle in our data collection program is firmness and moisture readings. As we know, how a ball bounces on a green is crucial from a playability standpoint, and there is a strong relationship between the two.

- We take firmness readings once per week and associate a VWC% with the number.

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- These measurements are taken from the front, middle, and back of the green, and as is the trend, it is from one of the greens where we collect the rest of our data points.
- A firmness reading could be as basic as walking on a green and asking oneself, "is this surface too firm, too soft, or at an acceptable level?" while linking a number with each.
- Digging deeper, we can use tools such as the Clegg Hammer, TruFirm, or the Precision USA Firmness Meter, which is what we use at our facility.
- It is not only moisture that influences firmness, of course; consider the amount of organic material, top dressing practices, and rolling frequency, among other factors that have a direct impact on surface hardness.
- To dial in our moisture levels, we use a FieldScout TDR accompanied by a colour-coated flag system. We associate a different coloured marking flag with the VWC% range, and we water based on the predetermined target for the day. The introduction of soil moisture meters such as those by Spectrum Technologies or POGO sure has a leg up on the old-school soil probe, allowing us to always be aware of the soil moisture content.
- As with the rest of our data points, this information is noted on a scorecard and entered in a spreadsheet daily.

This is nothing new or groundbreaking; the above points are just easy and effective ways to optimize the quality of your putting surfaces. This data will allow one to see the golf course with a different set of eyes, and over time, it will start to tell a story. Like anything worth doing, it takes time to see the benefits, and during the process, consistency is key. Although it can be overwhelming at first, remember that it's not all or nothing. Start slowly, focusing on one thing at a time and what you feel is most valuable, and go from there. Set your goals, measure the performance, and implement management as needed. There are a variety of different tools available and numerous methods of managing and analyzing the data you take on the golf course, such as the GreenKeeper App, the USGA's Deacon platform, or basic Excel or Google Sheets; there is no right or wrong way. Dig into the data and see what you find. ■

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aquatic.aeration.solutions@gmail.com | Tel: 905-269-6518
www.aquatic-aeration-solutions.com