How True?

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How true and smooth are your greens? Do you have any idea? Up until now Clubs have been reliant on subjective feedback from golfers to assess whether the greens are good, bad or indifferent. This is about to change!

In the modern age we believe the use of scientific techniques can help improve both the performance and health of golfing surfaces. Smoothness and trueness are two of the key attributes of golf greens, alongside green speed and firmness, and in the opinion of many golfers they are probably the most important aspects of overall performance.

We have been able to measure the speed of greens for many years using the stimpmeter and this remains the most accepted method of collecting data on green speed. Most turf professionals understand the numbers, although there is still a great deal of misunderstanding amongst golfers which can sometimes lead to problems if absurd speeds are sought at the expense of all else. We have preferred and acceptable ranges for golf greens of all types and, in essence, know what is reasonable and what is not.

Firmness can be measured using a Clegg hammer, which involves dropping a fixed mass decelerometer from a standard height and measuring the force of the resultant impact. Again we have acceptable and preferred ranges of firmness and when this data is set alongside moisture and organic matter information it gives a clear picture of how a surface is likely to respond when golf balls are hit into it, and whether or not greens are likely to stand up to the rigours of year round play.

Until now the missing link has been the ability to measure how smooth and true a given playing surface is. We have all seen the close up high definition images on TV of balls running towards the hole, and there is a great deal of variation in performance from one venue to another. Grass type, climate, preparation techniques and time of day all have an impact on how greens perform in given situations. Being able to measure the quality of roll in an objective way is a real step forward. We can now put numbers to those images seen on TV.

This is how it works. The Trueness Meter ™ is a device that is pushed across a golfing surface – it looks a bit like a trolley jack! When the speed at which it is pushed reaches the same speed as the starting velocity of a 10ft putt, the unit starts to record data. This continues for 10m across the surface being tested. Underneath the unit is a metal wheel which has the same weight as a golf ball. This metal wheel is suspended from the frame of the

Trueness Meter ™ but can move and be deflected independently of it. Both lateral and vertical deflection is measured in mm/m over the total length of the run. When a green is being tested it is usual to do three sets of parallel runs in different parts of the green. Vertical deflection is termed smoothness and is essentially a measure of how much or how little the ball deviates vertically eg. bobble. Lateral deflection is termed trueness and is a measure of how much or how little the ball deviates laterally or horizontally eg. snaking. Both effects can cause a ball to miss the hole.

The Trueness Meter ™ is being used increasingly to help prepare courses for championship play. Regular deployment of the unit gives valuable feedback to green keepers and course managers on the impact of individual mowing operations, the impact of double and triple mowing, the effect of groomers, grooved/flat rollers and rolling devices such as turf irons or vibrating units. With this information, which is often site specific, those responsible for championship preparation can adjust and alter practices to ensure the best possible results. At the same time a comprehensive data bank is built up to aid and inform future projects.

But the unit is not just a championship or tournament device. It has a potential role to play for all Clubs that wish to use it. For example, a Club wishing to measure how smooth and true its greens are for an internal event can now do so. It can measure the value of increasing the frequency of mowing, the type of mowinig and whether or not it is worth purchasing the planned new turf iron or rolling device. Equally, it can be used to measure smoothness and trueness at key times of the year eg. Spring, and over time comparisons can be made to see if maintenance initiatives are working or not. When it forms part of a larger package of data collection, to include the Clegg hammer, moisture meter and stimpmeter, every Club can measure its greens and get an idea of how they fare against the very best.

We live in an age of high expectation, and whether we like it or not, golfers now, and in the future, will make choices about where they play, based on the quality of the playing surfaces, with greens being their primary concern. We must get the agronomics right, and try to manage our courses in a sustainable way, but there is no room for any of this in the hard choice process of the golfer, unless the greens are good, and good for most of the year. It is high time we were able to measure how good (or bad) the greens are and at long last we can now begin doing so.

*The development of The Trueness Meter ™ has been a collaboration between **The R&A**, The STRI and Sheffield Hallam University*