



Here's the Stimp meter, which measures the putting speed of turf.

INTRODUCING THE STIMP

By EDDIE STIMPSON

LAST March, J. W. F. MacDonald of Brae Burn asked me to look at an artificial putting green and a mechanical putter he had built in his cellar. The green, ten by three feet, was built on a sturdy wooden frame and surfaced with heavy felt matting. The cup was slightly undersized to make the hole look bigger when play was resumed on the course. A heavy metal stand with a ball-bearing swivel held a putter securely so that any desired direction and force in a putt could be duplicated with reasonable accuracy.

MacDonald had experimented to determine which was the more important factor in a putt on a level green, the direction in which the club was faced or the direction in which the club was swung. He found on putts of less than 10 feet on a fast green that the direction in which the club was faced was more important. When the face was aimed at the hole, the club could be swung 10 or 15 degrees off line without having the ball miss the hole.

It was suggested that the real test of putting skill was not the ability to esti-

Eddie Stimpson, 1935 Massachusetts amateur champion, herewith presents an interesting idea—the stimp meter. As for its use in actual play, we have the definite idea that it's out—not only because of the mechanical phase but because the player actually couldn't make enough use of what he has learned about green speed to warrant use of the device.

However, there may be something to the device as an instrument for greenkeepers who might want to answer arguments about the speed and uniformity of their greens.

We toss Stimpson's interesting contribution into the lists for the arguments it will provoke.

mate the line on a straight putt but to judge and execute the line on a sloping surface, such as is invariably encountered at Brae Burn. It was also suggested that in sinking a putt on a sloping surface it was harder to judge and execute distance than direction. Experiments were undertaken to verify this guess.

The MacDonald green could be tipped to any desired slope. This was done; a variety of slopes were tested and the following conclusions were proved for the conditions under which the experiments were tried:

1. The more slope to the green the greater variation possible in the line on which the putt could be hit and still sink. (Slope was always from side to side.)

2. With relatively level putts of about 8 feet there could be wide variations in

the force of the blow with which the ball could be hit and still sink. The blow could be strong enough to go 3 or 4 feet beyond the hole, if off line.

3. With each given slope there was an optimum angle at which there could be wider variations in the forces of the putt and still sink.

4. As the slope was increased, it became more important to gauge exactly the force of the putt. With a slope of $\frac{1}{2}$ inch to the foot it became necessary to duplicate the required force within 3% or 4% of perfect or the putt would miss.

It soon became evident that with reasonably accurate mechanical equipment it was still difficult to duplicate the proper force of the putt, while the proper line could be easily duplicated hundreds of times. One unexpected variation was causing trouble in duplicating the force of the putt. It was found that if the ball was hit by the club's "sweet spot", one force of putt was delivered, but if the ball was struck a half inch from the "sweet spot," the force of the putt was about 10% less. Curling putts fell far short of the cup. It was also proved that slight imperfections in balls had a decided influence on the accuracy of the line and the force of the putt when the imperfection came in contact with the club.

Speed, not Line, Vital on Slopes

In general these experiments proved conclusively that great accuracy is necessary in the force of the blow in sinking putts on curved surfaces and that wide variation is possible in the line on any one putt provided the force of the putt is properly correlated to the line chosen. In discussing the practical question of what use could be made of information of this sort by the player on the course, it was apparent that standardized conditions could never be duplicated in play and that the personal factor was always present.

The player has two problems; to decide what to try to do, and the other, to do what he wants to. In putting, the player must know the resiliency of his ball, the slope of the green, the speed of the surface and many other details. And on curling putts his guess must be within a very few per cent of perfect in order to sink.

It occurred to us that there was no way of measuring how fast putting greens are. Every one knows that the greens at Oakmont are fast but no one knows how fast in terms of a unit which can be duplicated.

In playing any course the players who were accustomed to the greens have a competitive advantage. In negotiating tricky putts on fast greens, the player must guess how hard to putt and he must also learn to produce a putt which corresponds to his guess.

In developing a device to measure the speed of putting greens, it was necessary to have something which could be easily carried. It must not take long to make the measurement. Because there are so few level places on a green it had to be usable on a slope. The section of green tested had to be a fair sample, but not so large a section as to be impractical be-



Members of Merlon watch the inventor put the meter through its paces.

cause of variations in the slope. The gadget which I now call a Stimp Meter fulfills these requirements and requires neither time nor skill to learn to measure the speed of a green.

The device consists essentially of a grooved wooden stick down which a ball can be rolled. Near one end, a notch in the groove holds a ball until the chute is tipped to a certain angle. The ball will roll out of the notch at the same angle every time. This provides an inclined plane of the same length and slope every time for the ball to roll down regardless of whether the ground underneath is level or not. The ball always leaves the Stimp Meter at the same speed. The faster the green being tested the farther the ball will roll.

In order to eliminate error due to slope,

it is necessary in most cases to roll the ball over the spot selected in opposite directions to see if it goes the same distance. If the measurement is not more than 4 or 5 inches different, the average of the two directions can be taken as a measure of the speed of the green. For convenience in measuring, the meter has been made longer than necessary to provide a place for the ball to roll and on the reverse side a 30 inch scale is marked. This is a convenient length to fit into a golf bag and to measure the distance that the ball usually rolls, 1 to 4 feet.

Stimp Defined

In order to describe the speed of greens it was essential to have a unit of measurement; it was decided to call the unit a Stimp. A Stimp is one inch traveled by the ball on the level after it has left the meter. Just to show how the lingo goes, I might mention that the greens at Brae Burn last year measured all the way from 19 to 36 Stimps. During one round on a dry day they varied from 27 Stimps on shaded moist greens to 36 Stimps on the top of a hill where the water had drained off and the sun had dried out the turf. Greens at Brae Burn average faster than greens on any other course I played last spring. Some greens at the Country Club in Brookline during the Cup tournament measured 24 Stimps after and during a heavy mist which lasted a couple of days. At Woollaston GC, during a Boston Four Ball League match, the greens were only 18 Stimps.

Unfortunately, it does not follow that a ball will roll the same distance in opposite directions on a level spot. The grass may be matted so that the ball will roll farther with the grain than against it. This was the case at Oak Hill—maybe 16 Stimps against the grain and 26 with. Cutting and rolling the green sometimes makes it faster in one direction, as at Oyster Harbors where the greens just after being cut measured 27 Stimps with the cutting and only 21 Stimps against the cutting.

From the wide variations which occur at different courses and at different greens on the same course at the same time is it any wonder that a putting touch is hard to maintain and that players have to spend many minutes examining the grass before they putt? There is even justification for walking ahead to see what the grass looks like before an approach is made. That slows up play.

Many things might be said about the skill needed to properly judge how hard to hit a putt and much might be said to justify wide variations in the speed of different greens. It is my feeling, however, that the most enjoyable courses to play are those with greens which have a minimum variation in speed owing to the direction which the grass grows, has been cut, or rolled. The less I need to look at the grass, the better I like it.

It also seems desirable that major tournaments be played under more or less uniform conditions as far as the speed of the greens are concerned. Certainly the unusual conditions which prevailed at Oakmont did not add to the pleasure of the play or to the selection of the most skilled golfer, according to the ordinary standards.

With a unit of measurement and a means of measuring the speed of greens well within the cost of every club there is no reason why the better courses cannot work toward a standard ideal speed for their greens. It is of course true that greens grow slower and dry out faster during the day but with some attention to their care the variations which now exist could be greatly reduced. To the greenkeeper who is harassed by two groups of members, half of whom want the greens faster and half of whom want them slower, it would be some comfort to know that he was maintaining the standard conditions as measured by the Stimp Meter and as determined by the USGA.

Is Meter Illegal for Play

For the player, there is some doubt about the legality of using the Stimp Meter to determine the speed of a green before putting. Even if legal, this is an undesirable practice to start because it would slow up play. The player can gain much valuable information from the Stimp Meter, however, by making measurements of various kinds of grasses under different conditions. It is not unlikely that many players would improve their games by a few demonstrations of the tremendous influence a relatively small slope will have on how far the ball will roll. On many moderate slopes the ball will roll 4 feet downhill and only 1 foot up with the same start.

I have already been generously rewarded for my time by way of many pleasant talks with pros and greenkeepers and by a better understanding of putting greens.