

GRASS CLIPPINGS '19 " (LEVELS)

Preamble

1 When we, as inspectors, assess a green our first concern is the health of the green and, from that assessment decide whether the Green Keeper's (GKP) management programme poses a threat to the green as a whole and / or whether his management programme will bring the greens to peak condition for a tournament. We then turn our attention to the draw and speed and try to establish whether there are any inconsistencies which might make the draw unpredictable. In doing so we have to use some of the information obtained while investigating the health of the green eg Levels, run-off, Patches of foreign grass to indicate possible inconsistencies in the draw and weight.

2 When a player walks on to a strange green his sole concern is the consistency of the draw and weight and the speed of the green..

After a few ends he would have a fair idea of the speed of the green and the width of the draw on that rink. If, after that, he is called upon to play a shot where the jack has moved sideways he expects to use the knowledge he already has to work out the width of the draw and the weight. If the bowl does not behave as expected he will not be happy and be prepared to condemn the whole green as being a "cabbage patch"

Inconsistencies in the draw and weight allowing the bowl to deviate from its expected course can be attributed to -

- A discrepancy in the levels
- A bump or hole in the green
- A variation in the texture of the grass mat brought about by a patch of different grass- a Heinz Green.

The most common of the abovementioned situations would be variations in the levels. A sloping surface would either accentuate or diminish the width of the draw

LEVELS

For some time now the word "levels" has been bandied about much more than "in the old days"

The reason for this is that your Greens Standing Committee of Bowls SA (GSC) has been forced to intervene in something which is essentially a club matter.

The problem facing the GSC is the fact that fewer and fewer clubs have taken the trouble to level their greens regularly – a fact which is making the selection of suitable greens for SA Championships more difficult

Historical

Inland

Most of the major Municipalities on the highveld were responsible for renovating the bowling greens annually – this included levelling the greens with rails.

The result was that these greens were always level. When the municipalities decided to withdraw this assistance it left a large hiatus not only in the fact that the greens were not being levelled but the expertise which went with the levelling was no longer available to the clubs. In the end only a few clubs took it on themselves to purchase the necessary equipment and develop the expertise to level their greens.

Coast

Along the coast there was never any municipal assistance of this nature and the clubs have always had to fend for themselves

A number of clubs acquired a set of rails and undertook their own levelling while others assumed that their greens were level and made no attempt to establish the truth by engaging a competent person to do a level profile.

A Level Profile - A Level Profile is a chart of levels taken at 2.5 m centres – which normally coincides with the rinks on the bowling green

Method

1 The Green keeper (GKP) can string the green North/South every 2.5 m and East / West every 2.5 m and take a reading where the strings cross.

2 Lay the green out for 7 X 5.0 m rinks - then take a piece of string (about 38m long) and sew a piece of coloured wool every 2.5 m . Starting with the first peg draw the string tightly between the pegs and take a reading at every piece of

wool.. Now move the string to the first number and repeat the process until all the readings have been completed.

This method uses less string and by keeping the numbers and pegs in situ he can from his profile, immediately, identify the position of any irregularities

Note The width of the base of the staff used when taking the readings must be larger than the ordinary staff used by surveyors – a narrow base can find it's way into a small hole or depression on the green and give a false reading. A piece of wood about 2-300mm square attached to the bottom of the staff would suffice.

Having completed the profile the GKP is now in a position to plot the highs and lows on a chart – a computer chart would also colour in the different layers.

Reading the Profile

1 Identify the highest and lowest points - note the difference between the two and establish the mean (In this respect one could discard abnormally high or low readings on the edge of the green).

2 Determine whether most of the green is above or below the mean.

3 From the readings identify large hollows and raised areas and small sharp depressions or "hills"

4 Start looking for instances where adjacent readings differ by 4.00 mm or more and mark them.

From the above investigations it will be possible for the GKP to establish a pattern and decide what course of action would be necessary to level the green.

LEVELLING A GREEN

There are a number of factors which have to be considered before any arrangements can be made to level a green.

1 A bowling green can be levelled upwards or downwards –

- Upwards by adding soil and eliminating the hollows

- Downwards by removing soil from the "high" spots.

Upwards - Usually done with levelling rails or wires or the Laser Levelling Machine.

There is obviously a limit as to how much soil you can safely put on to grass and expect it to come through and, even then, some grasses are more tolerant than others eg. Bayview will come through 10 mm of

sand while Silverton Blue will not survive more than 5.0 mm of sand.

If, therefore, you have a differential of more than 10 mm you might have to do it all in more than one stage. The members will not be pleased because the green will be out of commission for that much longer

The next consideration would be the fact that having raised the level of the green over a certain area there is always the possibility of subsidence and/or the fact that new sand is rather loose and will take some time to consolidate and be as hard as the neighbouring area.

Here, again, the members will not be happy because, in spite of the green being level, there are now "heavy" spots where the run of the bowl is slower.

Laser Levelling A Laser Levelling machine is now available in Cape Town and Johannesburg. This machine will level a bowling green by adding soil to the low spots until the whole green is level. Even with this machine the limitations on how much soil can be added to existing grass, still exist.

Downwards – A Jackson Scarifier or Sod Cutter would have to be used.

Removing the high spots is the method of choice as long as the equipment is available

Depending on the depth of the root system up to 50 mm can be removed safely (Except for the Durban area our root systems are normally more than 75 mm deep)

Note .The ordinary club scarifier is not suitable for this kind of procedure.

Apart from the fact that up to 50 mm of soil can be removed where this procedure is employed there is also the advantage that the base is always hard and there will not be any "heavy" areas.

A Third Consideration – Re-planting a Green

If the levels are so extreme that the "normal" methods of levelling are excluded the club might have to resort to - killing off the existing grass - levelling the green and then re-planting with a suitable grass. Obviously if there are other considerations which point to the advisability of re-planting the green eg Wrong grass on the green, Heinz Greens

then the club must seriously consider this as an alternative.

Quo Vadis Having evaluated the Level Profile it is now up to the Club to decide how serious the variations (if any) are and what can be done about it bearing in mind the fact that a major rectification would require that the green be out of commission for about 3 months and, accepting that, when would be the ideal time to undertake the whole operation.

Possible Scenarios

1 The maximum variation is less than 10 mm,

- The “lows “ are fewer than the “highs” – Fill in the lows with a Laser machine or use rails or wires.
- The “highs” are fewer than the “lows” – Reduce the high spots by using a sod-cutter or a Jackson Scarifier.

2 The Maximum variation is more than 10 mm but less than 30 mm .

- Filling in the low spots will take up to 3 such dressings and the green will be out of commission for a longer period (In this respect the GKP could fill in about 10 mm - let the grass come through and allow play for the rest of the year before filling in again during the next season.)
- Consider removing the high spots with a sod cutter or a Jackson Scarifier. The recovery of the green would be that much quicker/

3 The maximum variation is more than 30 mm.

- Reduce the height as mentioned above .
- Re-plant the green

Wires and Rails While many GKP’s are conversant with the use of rails to level a green very few have seen wires being used to level a green

My personal belief is that unless a Club possess a set of rail wires are easier to handle and less expensive,

The principle involved is somewhat similar to that applied to rails where the rails are laid down across the green and

levelled to the nearest 2.0 mm. Soil is placed on the green and a screed resting on the rails is pulled along the length of the rails

The surface inside the rails should be level
Wires Using high tensile steel wire the wires are laid across the green about 2,00m apart.

At one end of the green the wire is fixed to a steel plate or iron standard in the ditch

At the other end the wire is passed through a devise which will enable the GKP to tighten the wire when needed.

The wires are strung and below the wires wooden pegs are knocked into the green and levelled so that all the pegs are the height you have decided on. Note When deciding on a height remember that the wire is 2.00 mm thick and the screed will run on the wires – therefore allow 2.00mm when deciding on the height of the pegs..

The GKP can either put in a peg every 1.00 m or put in a peg every 3.00 m – then – when he tightens the wire he must insert spacers every 1.00m between the wire and the surface of the green . These spacers must support the wire.

Soil is thrown between the wires. A light Aluminium screed resting on the wires is then gently pulled backwards and forwards gradually levelling out the soil between the wires until there is no soil above the level of the wires.

Most GKP’s string the whole green at the same time while others only string a portion. Whichever method they use the wires must be loosened at night and only tightened when the GKP is levelling that portion of the green.

The advantage this method has is that the GKP is continuously walking on the green and brings up the green to it’s required height in stages.

USING THE PROFILE TO EVALUATE A GREEN

When we inspect and evaluate a green we have to assess the consistency of the draw and weight – not an easy task and we have to use whatever information we have to assist us.

In this respect the level profile will give us useful information/ by showing up the “hills and the valleys” on the green

It is obvious that at some stage or other a bowl will respond to a slope by - -

- Accentuating the draw
- Lessening the draw
- Slowing down the bowl – if going uphill
- Running more freely.

There can be no hard and fast rule because on a fast green the response will be greater than on a slow green

Be that as it may a number of countries and the I.B.B. have established their own limits on what variations can be tolerated.

Australia Do not have limits but they insist that a green will not be considered for a State Tournament unless the Club produces proof that the green was Laser Levelled during the previous renovation

Australia Artificial Greens They accept up to 3.00 mm over 2.00m

New Zealand Accept 5 mm over 2.5 m

South Africa Accept up to 4.00 mm over 2.5 m

I.B.B. Accept up to 2,5 mm over 2.5 m

It is strange that the New Zealanders with their very fast greens accept a higher variation than we or the IBB do.

It is obvious from the above that nobody really knows how bad the variation must be before it influences the draw.

Recently we have been able to use the stimpmeter in assessing the draw to determine the response of the bowl to certain variations in the levels

In many cases we have been able to confirm a slope indicated on the Level Profile is affecting the draw by running bowls from a stimpmeter across that area – and yet we are sometimes non-plussed - A few days ago I watched a game involving a number of District players and some good club players on a Paspalum green running at 14.5 secs over 32 m . The draw over 32 m on both sides was 2.7 m at it's widest part. All the players were ecstatic about the accuracy and consistency of the draw for any position of the Jack – yet- the level profile showed two areas with a variation of 6.0 mm over 2.5 m. The stimpmeter readings for that rink showed less than 200mm variation in the width of the draw on either side, - Was the survey at fault ???– interesting. Purely on the basis of the Level Profile I would have subtracted quite a few marks for those variations on that rink

None of the above has in any weakened my conviction that Level Profiles are the way to go.

OBTAINING A LEVEL PROFILE

Your Greens Standing Committee is aware of the difficulties some clubs might experience in obtaining a Level Profile of their green and have applied for funds to assist clubs in this respect.

We hope that approval for this project will be forthcoming soon.

Afterthought Spare a thought for the newly – appointed Green keeper who has "inherited" a Multi-strain Heinz Green - about a 95 % chance - plus a variation of more than 50 mm in the levels – about a 85 % chance at the coast.

There is no way that he will convince his members that the green should be re-planted.