

GRASS CLIPPINGS No. 32

“BACK TO BASICS”

-GRASS-

A few years ago, a friend of mine (Jack) phoned me to say that he had retired to a coastal resort and was very much involved with the local Bowls Club. He had attended the AGM of the club and while sitting at the back he heard the President of the Club mention that they had to appoint a new Greenkeeper (GKP). Someone at the meeting mentioned that because Jack had been a farmer he should know something about grass and suggested that he take over as GKP of the Club. Jack, not one for hiding his light under a bushel, accepted the appointment. He soon found out that there was more to greens management than met the eye and decided to phone me for advice. This was the first of many calls.

1 Initially I pointed out to him that most of the info I could give him could be found in the Book “Lawn Bowls Greens Management” and that I would at times be referring to that book.

I advised him never to lose sight of his ultimate objective i.e. of providing the members with a bowls playing surface that meets the requirements for a game of bowls – a surface which will allow the bowl to run smoothly at a reasonable speed and have a predictable draw to any position of the jack on that rink.

One of the basic requirements for such a green is that, at all times, the whole green must be covered by a mat of healthy grass. **At no stage should his actions compromise the health of the grass.**

2 Call No 2 - *When I took over the green it was running fairly well but now the grass seems to be growing faster than I can cope and the members are complaining.*

Answer – There are many procedures on the green which you as a GKP can afford to postpone for a day or two but never postpone dealing with the growth of the grass.

In an attempt to ensure that the green is covered by a layer or “mat” of grass the grasses we select for planting on a bowling green are so selected because of their tendency to spread laterally by means of “runners” or stolons across a green and form a contiguous mat – most of them have at least 70 % lateral growth and only 30% vertical.

Therefore – in order to control the growth of the grass we must employ mowers which will control the vertical growth as well as the lateral growth – horizontal and vertical mowers.

- The standard Horizontal Mower which has a revolving reel which pinches and cuts the vertical leaves against a fixed bottom plate.
- Vertical mowers to control the lateral growth by either removing or just raising the horizontal leaves so that the horizontal mower can cut them – these devices are called vertical mowers.

From the above it is obvious that by using the horizontal mower regularly Jack could easily control the vertical growth but the real test of his expertise would lie in his ability to control the lateral growth while still maintaining a mat which completely covered the whole green.

Horizontal Mowing - The adjustments of the mower and mowing technique will be discussed at a later date.

Vertical Mowing Equipment - (Page 125 of the Book) The mere fact that there are a number of machines devised to curb the proliferation of the mat is evidence that no single machine has, as yet, been discovered to perform this function.

- a Teasing Comb
Attached behind the front roller of the horizontal mower but in front of the cutting reel. – steel pins or brush. The tines or brush will raise the horizontal leaves lying in the mat to allow them to be cut by the reel.
- b Brush
On a separate reel with its own motor to remove all loose material lying in the mat and raise horizontal leaves lying in the mat.
- c Verticut
The verticutter has vertically rotating plates which cut into the turf. There are usually 47 plates. Each plate has two sharpened points – i.e. In one revolution a sharpened point will touch the green 94 times.
The verticut can be used in two ways -
 - By using a shallow setting the sharpened points just brush the surface of the green and cut the stolons. (See 3.3.1. Chapter Two) so that new nodes will form where the stolon was cut.
 - By setting the verticut slightly deeper the points will lift and remove some live horizontal leaves lying in the mat
 The revolving points will also pick up some of the loose material lying in the mat.
- d Groomer
The “groomer” consists of a number of circular plates on a shaft. The edges of the plates are scalloped so that there are 13 cutting tips per plate. The revolving blade just brushes through the mat and picks up any loose material like dead leaves and stems. It will also “loosen” the mat by raising the horizontal leaves. There are usually 13 points of contact per plate; with 61 plates, there will be 793 points of contact with each revolution.
- e Scarifier
A scarifier consists of a revolving drum with steel pins or nails fixed to the circumference. The steel pins tear the grass out of the ground causing a considerable amount of damage. The GKP normally uses a scarifier during annual renovation when it is his intention to remove all the growth on the green, leaving only the roots. In expert hands, it can also function in the same way as a verticutter with the steel nails just brushing the mat.

3 *Call No 3 - I have been using both the horizontal and vertical mowers as you advised me. A lot of grass has been removed but now there are small patches where the growth is very sparse. What have I done wrong?*

Answer I suspect that you have overdone the thinning out and starved the grass – so much so that there are not sufficient leaves to supply the “food” the plant needs. It is very important that you need to understand **photosynthesis** - the process by which the plant produces its own food.

The grass plant is alive and growing all the time and like anything else that is alive it uses up energy and, therefore, has to obtain energy from “food”.

Unlike any animal where the energy it requires to stay alive is derived from the food it eats the grass plant has to produce its own food – this process is called **photosynthesis**.

The Process - Water is absorbed by the roots and conveyed to the leaves where, in the presence of sunlight, Carbon dioxide is absorbed from the atmosphere and in combination with the water oxygen and carbo-hydrate is produced

The oxygen is given off into the atmosphere while the carbo-hydrate provides the energy to keep the grass plant alive.

This “factory” is situated in the leaves of the grass plant which means that any excessive reduction in the number of leaves will inhibit the ability of the grass plant to maintain the required level of growth.

So, Jack, while you as a GKP are trying to control the thickness of the mat to allow the green to run at a reasonable speed you are, also, reducing the number of leaves available for photosynthesis. You must preserve sufficient leaves to be able to provide the energy to keep the grass plant alive and healthy.

There is no standard prescription for how much you can afford to remove every week each green could be different. You are not only controlling the growth but must also take note of how much damage you have to contend with on your green especially the “mat areas” which are exposed to a lot of wear. It is up to you to ensure that the level of growth in that area is more than the attrition rate.

Considering your level of expertise, you should err on the conservative side until you have gained enough experience to maintain sufficient “leaf area” to provide a steady supply of “food” for the grass.

A really healthy mat would consist of a high proportion of young leaves because young leaves are much more efficient than older leaves. It, therefore, pays you to encourage growth with fertilisers and growth stimulants while, at the same time, using the brush and verticut regularly to remove the older leaves.

Always remember that you must never reduce your mowing height or reduce the leaf area by more than 33% at any one time – do it in stages. At the same time remember that reducing your mowing height by 1.00 mm requires three times the expertise.

4 Call No 4 *It would seem as if I was over-enthusiastic when I thinned out the green – I won't do it again but now, how do I get the grass to grow again in the weak area I mentioned?*

Answer Remember that it takes a long time for grass to recover after a setback like the one you described.

By reducing the leaf area, you reduced the amount of “food” the grass plant could produce. The growth became sparse. You went on mowing that area with the result that any new growth was cut off before it had an opportunity to produce “food”.

The plant was now beginning to live off it's stored reserves of carbo-hydrate (food)

You must now give the plant an opportunity to recover and get to the stage where it is able to produce its own “food” again. i.e. whatever new leaves emerge from the soil must be given the chance to develop fully – therefore – you must cease all activity over that area – no mowing and no traffic if possible until the new leaves have developed and you can see runners spreading sideways over the green.

You must be patient about this – any premature interference might result in the grass plant running out of it's carbo-hydrate reserves and a completely bare area developing which might entail you having to re-sod or re-plant that area.

Summary Whilst there are many procedures on the green which the GKP can postpone he cannot ignore the fact that the grass is growing vertically and laterally all the time.

If he does nothing about it to-day the grass will be longer and the mat thicker by tomorrow and the members will soon remind him.

The most important aspect of good greens management is that the GKP should be able to maintain the covering of the green at the same level throughout the growing season and not fall into the trap experienced by my friend Jack when he sacrificed the health of the green for a temporary boost in the speed of the green.

SUMMARY

This series of Grass Clippings will deal with the experiences of Jack who had just been appointed Greenkeeper of the club and was obliged to seek help as different situations developed on his greens.

His initial “disasters” emphasised the need to be aware of certain basic rules related to good green management and the need to control the growth of the grass.

When one learns to ride a bicycle the first requirement is to learn to stay up and not fall off. It is only when you have mastered the basics that you are in a position to try various tricks and manoeuvres.

Bowls greens management in South Africa does not give the new GKP the opportunity to experiment – he could easily be faced by an involved procedure before he has even learnt the basics.

This series will cover all the basic knowledge the GKP needs to keep the surface at a given level of excellence.