

## GRASS CLIPPINGS - NO 20

### “Spare a thought for me”

Dear Mr Editor

I am a grass plant growing on a bowling green on the Eastern Seaboard of the RSA I am writing this letter to you in desperation because I am now g-tv-l of the attitude of some of these people appointed by the club to look after the green. Surely the members should be more circumspect in making these appointments and insist that the person they appoint knows a bit about us and is aware of the fact that like themselves we are alive and being alive need “food” not only to sustain life but to provide the rate of growth needed on a bowling green if he is going to provide the type of surface the members demand.

We all have our individual requirements and yet many of these people appointed to look after us are only prepared to look on us as a single entity and not as a conglomerate of about 120000 separate grass plants.

My family and I have been on this green ever since it was constructed. I understand that previously one of my ancestors grew freely and independently on the slopes of the mountains in the Western Cape from where he was taken into captivity and planted in a nursery in Cape Town.

After being propagated many times his offspring were sent to various bowling greens, golf courses and cricket pitches all over the RSA.

The reason why we were taken from our natural habitat is because we belong to a very special group of grasses.

It is a sobering thought to realise that of the 7600 species of grasses on this planet of ours less than two dozen of us form a contiguous mat which spreads laterally over the green, and is tolerant of close mowing and traffic.

We belong to the Genus *Cynodon* of which by far the largest specie is the *Cynodon Dactylon* which is found all over the world and known overseas as Bermuda Grass. In the RSA it is commonly called “kweek”

My part of the family is more unique because we belong to the Specie *Cynodon Transvalensis* which is only found in the RSA. Because we have a much finer texture and spread more easily we are eminently suitable to be used by those sporting codes where a grassy surface is required.

My variety is called Bayview and I have four cousins - Skaapplaas, Florida, Harrismith, and Elliot all of whom originated on the highveld.

Unfortunately the Male and female seeds of the *C. Transvalensis* are sterile and we are solely dependant on vegetative propagation.

#### 1.0 My C.V.

Let me tell you a bit more about myself and the characteristics of our specie

##### 1.1 Photosynthesis

Any plant has a mission in life in that while producing food to ensure it's survival it also gives off Oxygen which enables mankind to survive on this planet- the whole process is called “photosynthesis” i.e. water is absorbed by the roots and conveyed to the leaves where Carbon Dioxide has been absorbed from the atmosphere and with the sun shining on the leaves to provide the heat Water and Carbon Dioxide combine to form carbohydrates.(CHO) and Oxygen which is released into the atmosphere

Any grass plant growing freely in the veld will regulate it's photosynthetic activity according to the amount of water and sunlight available.

On a bowling green our ability to produce CHO is not only limited by the amount of water available in the root area but also by the amount of leaf area left by the Green keeper in the preparation and management of the green

##### 1.2 Growth Habit

Our growth habit is aimed at covering the ground and spreading outwards wherever we can

Only 20% of my leaves grow vertically while the other 80% grow and spread laterally. When we have just been planted or covered with top-dressing the first leaves to emerge would be the vertical leaves trying to catch as much sun as possible so that Carbohydrate(CHO) can be produced. Some of this CHO is used up immediately to enable more vertical leaves to emerge. It is only when those wants have been met and enough spare CHO is being produced that lateral runners or Stolons emerge from my primary bud.

Leaves will emerge from these runners at regular intervals. They will lie supine on the ground and the process of photosynthesis will continue because one side is facing the sun..

Obviously at some time or other my runners will meet up with runners coming from my neighbours. If they are of my family we resolve the problem amicably but if they belong to another tribe there might be a bit of tension at the point of contact.

### 1.3 Defence Mechanism

Because of all the damage caused to the leaves by the machines used to prepare the bowling surface and the players walking on me I must have a well-developed defence mechanism.

The compounds which make up the defence mechanism are amino-acids, enzymes, and proteins and their main function is to seal and repair injured parts or replace those which are irreparably damaged.

### 1.4 My Daily Round

I am kept very busy –

- During the daylight hours we spend all our time producing CHO and exporting oxygen into the atmosphere
- Whatever excess CHO has been produced has to be stored in the roots and stems.
- Leaf and root growth has to take place at night.
- Whatever damage has occurred during the day has to be repaired by my defence mechanism at night.

## 2.0 **My Location**

I occupy an area of 125mm.square and am situated about 2.00 metres from the ditch. This is the area where the mat is normally placed.

My area carries the biggest load as far as traffic is concerned and I am, therefore, the most vulnerable. I depend very heavily on the expertise of the GKP to ensure that I am given sufficient time to recover from the damage caused by the players.

Do you realise that in one game a player will step on to the mat, step forward and deliver the bowl, step backwards, and step off the mat 180-190 times at each side of the green on every rink played.

All this happens while the rest of the players are standing between the mat area and the ditch - and then there are those who have one foot in the ditch and “vroetel” in their bags on the bank.

Once the game is over my repair mechanism has to work flat out to repair the damaged leaves before the next game.

My problems are exacerbated if there were one or two “twisters” who twist their feet just after delivery or if they have illegal ribbed shoes.

If the GKP is lazy – and I have had one or two of them – and he does not move the rinks before he sees signs of wear we really are in trouble and sometimes that part of the green has to be taken out of circulation to recover.

The one GKP was a real idiot. He did not move the rinks regularly and large weak and even bare areas developed on the perimeter of the green. Many of my brothers died because of his intransigence. It was very hard to see my brothers starve to death.

With the same part of the green being damaged every time our defence mechanism could not repair the damaged leaves and stems before the players played on the same spot again and again. The damaged leaves could not produce sufficient CHO and a vicious circle developed. The GKP made no effort to nurse that area with the result that every time the vertical leaves emerged and before they could even produce any CHO his mower cut off the tip that would have produced the CHO – after some time all

the reserve CHO had been used up and there was not enough left to push the vertical leaves upwards. My brothers starved to death.

That GKP did not stay long after that effort

One of the most important things a GKP should realise is that unlike Human beings where you can drop in on your neighbour and borrow a cup of sugar if you run short the grass plant cannot do so. He is completely dependent on the CHO he produces himself and if the GKP does not recognise this and does not give him some t.l.c. when he is under stress the grass plant will suffer.

Luckily Bayview has probably got the best defence mechanism and can recover quickly after injury.

The GKP who recognizes all this will carefully monitor the leaf area on the perimeter by raising the mowing height over the outer 2.5 m of the green or not mowing it as frequently. He might, also, irrigate that area where the mat was placed on the previous day with a little additional water.

Talking about defense mechanism the manner in which the GKP looks after and adjusts his mowers can have a significant bearing on my health

Every time he mows the green he is lopping off the tips of my vertical leaves.

If he has set the mower correctly the tips of the leaves will be removed cleanly and the wound will seal up quickly – if the leading edge of the reel does not approximate with the bottom blade and results in the vertical leaves being slashed, torn, and bruised we are left with much more extensive trauma which leaves a long open wound on the leaf which will ooze fluids for some time. This is the obvious haven for bacteria and fungi to invade me and for the wound to become septic.

Such a wound will take much longer to heal and use up much more energy (CHO) in the process.

One of the most important aspects of good greens management is for the GKP to be able to “distribute the load” in such a way that by the time he has to return to the spot where he started the grass has completely recovered.

### **3.0 Heinz Greens**

I am lucky because all the grasses on this green are my brothers or sisters and there are no other grasses to compete with us.

I understand that this is very rare and that more than 95 % of the greens in the RSA have more than one variety of grass. It is very difficult to have a foreign neighbour apart from the fact that we fight over our boundary we ,also, do not require the same management – he might belong to one of the “kweek” varieties which has a thicker mat which makes it difficult for the GKP to decide how many of the horizontal leaves he can safely remove.

### **4.0 My Keepers**

In my time I have had various GKP's - some good, some mediocre, and some “goggas”.

Some of these GKP's are slave drivers and regard us as expendable. With others we are partners – both committed to producing and maintaining na bowling green fit for champions.

Having taken me away from my natural habitat the GKP is completely in charge of my destiny and it is up to him to ensure that if I am to perform well for him he must keep me healthy.

I am very exposed to the whims and fancies of the GKP

If he is obsessed with producing a fast green he will reduce the leaf area to a level where the remaining leaves cannot produce sufficient CHO for us to maintain the required growth rate or even to stay alive

Our present GKP is good - he obviously cares for the grass and in spite of the demands for speed he will never reduce my leaf area to a level where I might be under stress and unable to produce enough CHO to keep me alive and still have some in reserve

In spite of the fact that he has to cope with a large number of players / week he still manages to distribute the load in such a way that we can easily deal with the wear and tear.

If he has to prepare for heavy traffic over a few days or weeks he increases the leaf area before the event and enables us to

build up sufficient reserves to cope with the extra load.

He is a supporter of Integrated Pest Management (IPM) where he has committed himself to avoiding the excessive use of Fungicides and Herbicides by keeping the grass so healthy that we are never under stress and are able to counter any invasive fungi. In the autumn he increases our CHO reserves to enable us to sail through the winter when the grass plant is normally at it's lowest ebb and more exposed to foreign weeds..

If it should happen that a weak area develops on the green he will immediately stop all work over that area and allow the vertical leaves to emerge and produce CHO. He will not allow a mower on that area until he sees runners or stolons branching out over the green.

I know this wonderful state of affairs won't last and that at some time or other we will get another "gogga" but I hope that by that time he has read GC20 and will spare a thought for us.