

GRASS CLIPPINGS 31

“LAWN BOWLS GREENS MANAGEMENT”

At last ! After 6 years of “Blood Sweat and Toil” the book has been completed and will soon be available.

It is essentially a reference book which covers all the procedures normally associated with greens management and deals with most of the possible problems a Green keeper might encounter during his term of office.

Although the cover shows that I was the author the book it would not have seen the light of day had it not been for the contribution from all the clubs I visited to inspect their greens over a period of 25 years (at one time I visited 130-140 clubs every year)

Every time one visits a club the greens, or even the club members, leave a message which one must take note of and add to your store of knowledge.

You do not only learn from the good greens but also realise how easy it is to make mistakes which, eventually, harm the green.

I would, also, like to express my gratitude to Bowls SA for having given me the opportunity to do all these inspections which culminated in my being in the position to translate my experiences into this book, and, hopefully make it possible for the new Green keeper to start his career with access to the basic requirements of Bowls Greens Management.

The only reward I expect in return is that I survive long enough to see a tangible improvement in the standard of greens management in the RSA.

WEAK AND BARE AREAS

Having inspected greens for many years the commonest problem has been the appearance of weak and bare areas on the greens plus the apparent inability of the Green keeper (GKP) to realise how they had developed and how to deal with them.

Cause

External Agencies

Infections - Fungal, Bacterial

Infestations – Insects – Shoot or Root Feeding

Weeds – Eg Dichondra

Internal

Management Practices

Mowing Too Short - quest for Speed

Mat Wear – Not moving Rinks

Mower Wear – Always turning at same spot

Scalping – Mowing repeatedly over a small hump in the green and not giving the grass the opportunity to recover.

Chemical Burn

Spillage of Fertilisers, Chemicals ,or Pesticides

Recognition and Management

Infections - Fungal / Insects.

When a human being becomes ill there are certain symptoms which indicate that something is wrong and the person can initiate measures, timeously, to prevent damage.

When the grass on a green becomes ill the first indication that something is wrong is when the GKP sees a weak patch on the green – i.e. the damage is already there.

In both human beings and the grass plant the ability to prevent or contain the entry of an infective organism depends on the efficacy of the defence mechanism. To fight an infection the defence mechanism will call on the Carbohydrate (CHO) reserves. If there are insufficient reserves the infective organism will gain entry and the plant might die.

Green Keepers Actions

Weak areas developing as a result of GKP actions will usually be found in specific areas.

Mat wear would occur about 2 metres from the back ditch and opposite where the rink number had been left for some time.

Weak areas, as a result of the operator of the mower always turning the mower in the same area are usually found on the edge of the green.

The most obvious example of grass being damaged and unable to recover occurs every year at Wimbledon where on the first day the courts are completely covered with a thin mat of grass.

Within a few days weak areas become obvious in the vicinity of the base line where most of the play takes place.

The grass plants in that area are unable to repair the damage overnight and as play continues so the damaged areas become larger.

Moving the rink numbers regularly and monitoring the position where the Greens assistant turns the mower are simple strategies which any prudent GKP should apply

Weak areas developing because, in his quest for speed, the GKP reduces the mower height to a dangerous level can occur anywhere on the green but most likely where the grass is under stress or on a Heinz green where there are stronger and weaker strains.

A Heinz green has a high potential for the formation of weak areas. There will always be at least one variety of grass which has a thinner mat than the rest of the grasses. In his efforts to produce a green with an even mat one or more parts of the green could be under stress because in trying to reduce the thick mat, where the growth is vigorous, to manageable proportions the weaker areas might be too thin.

Mowing over a Hump

Small humps of soil can occur after uneven top-dressing. When mown that part will be scalped and unless the GKP recognises it immediately a bare area will eventually develop there.

Chemical Burn

Chemical Burn from concentrated fertiliser, pesticide (especially Herbicides), or petrol must be dealt with immediately and the affected part drenched with water. **A GKP should always be present whenever possible toxic substances are applied to the green.**

General Treatment

The management and restoration of a weak or bare area is a complex process and requires an intimate knowledge of how the grass plant attempts to cope with trauma.

The moment the GKP perceives that something is wrong he must –

1 Attempt to arrive at a diagnosis and remove the cause

2 Cease all activity – What starts as a weak area will eventually become a bare area if the GKP does not, at an early stage, recognise the fact that there is a problem. Once there is some trauma the grass plant will again use up a considerable amount of energy (Carbohydrate CHO) to repair the damage. The GKP must, therefore, stop any other activity which might use the reserves of CHO in that area.

In the same way as a human being would be given intravenous glucose to bolster the CHO reserves so the GKP could resort to making some CHO (eg Molasses, Kelp) available in the root area .

3 Replace the grass where permanent damage has occurred.

Removing the cause of the weak area is the first priority. The first step would be to distinguish between a weak area which has arisen as a result of GKP actions or whether there was an

intrusion by an infective organism or a spill from a toxic substance - the last being the easiest to confirm.

Unfortunately both GKP actions and infections are most likely to occur where the grass is under the most stress – the perimeter of the green.

Infections by fungi or an invasion by insects are fairly easy to diagnose although it might be more difficult to determine the causative organism. A small pale patch with a well defined edge could be attributed to insects destroying the roots while a diffuse edge could mean the gradual destruction of the leaves by a fungus leaving the centre bare and some traces of grass surviving around the edges.

The areas affected by an insect would, if untreated, gradually coalesce to form larger patches

The GKP does not have to be too specific about the diagnosis as long as he can differentiate between a fungal infection and insect infestation.

The pesticides are fairly broad spectrum and would deal with most conditions in their group as long as the pesticide has been administered correctly.

If the GKP is certain that he has applied the correct pesticide and that it will act in the appropriate area (on the surface or in the root zone) he should not be too hasty to condemn the treatment if there is not an instant response

Whatever the causative organism it will take some time to eliminate it and still longer for the GKP to see tangible recovery in the grass.

Patience is a virtue!!

The GKP must understand that all weak areas develop when the grass plant is starving because there are insufficient leaves to produce the “food” the grass plant needs to maintain growth.

The production of Carbo-hydrates

On a bowling green there would be millions of individual grass plants each covering a small area of the green. Each plant is responsible for its own food (Carbohydrate). This CHO is produced in its leaves through the process of photosynthesis and any reduction in the leaf area available to produce this “food” will automatically result in a reduction in the amount of CHO available to maintain normal growth in that plant.

Leaf area comes from two sources –

1 The vertical leaves protruding out of the mat – these are cut regularly by the horizontal mower.

2 The leaves lying horizontally in the mat and are exposed to the sun.- these will be reduced when the GKP thins out the mat.

Unfortunately the thickness of the leaves in the mat and the length of the vertical leaves will influence the speed of the green and the GKP would be tempted to respond to the entreaties from his members to produce a fast green.

By mowing too short or by thinning out the mat too vigorously, or both, the ability of the remaining leaves to produce sufficient CHO might be compromised and the plant has to rely on its stored reserves to compensate for the lack of CHO.

Once the stored reserves are depleted new leaf production will cease and as the older leaves become less active and drop off weak areas of sparse growth will appear on the green.

No two greens are exactly the same and each GKP will have to learn from experience how much leaf area is safe for his green.

A prudent GKP would always ensure that he has some leaf area in reserve to maintain a higher level of CHO reserves in case an unforeseen incident puts a strain on the amount of CHO needed by the grass plant.

This is more likely to occur where the grass is exposed to more wear and tear than in other parts – the perimeter of the green. The repair mechanism of the grass plant does not have the “fuel” it requires to maintain new growth at the same rate that it is being broken down.

Recovery

In the same way that a human being, after trauma, is given intravenous CHO to supply the energy needed to initiate repair of the damaged tissue so the grass plant needs CHO to restore the grassy mat.

Apart from making some CHO in the form of molasses or Kelp available in the root zone the grass plant has to produce its own CHO and this is only possible through the leaves.

As with any living creature the first reaction when threatened is self-preservation.

When the cause has been removed and all activity, except irrigation, has been discontinued in that area the little grass plant will now use the opportunity to “push out” new leaves in an attempt to start producing CHO.

These leaves will be vertical leaves and the energy required for their growth must come from whatever CHO is still held in the roots or stems.

Assuming there are still CHO reserves the vertical leaf will grow, and, when it reaches a certain length, will start producing CHO.

The CHO produced will enable the grass plant to send out another vertical leaf.

Assuming the GKP does not mow these leaves they will soon start producing sufficient CHO to allow lateral runners to emerge from the primary bud.

It is only when the GKP can see these runners emerging that he will have proof that the plant is indeed alive and will, in time, restore the mat of grass

over what had previously been a weak area.

Most weak areas will recover as long as the GKP follows the rules. It is when he becomes impatient and mows the emerging vertical leaves, before there is evidence of lateral runners that the plant struggles. It will only go on “pushing up” the vertical leaves while there are still reserves of CHO. Once these are depleted the plant will die.

The real problem is when the GKP ignores the warning posed by the appearance of weak areas and there are already bare areas before he wakes up.

The GKP must, now, decide whether there are still viable roots, or, that all the CHO reserves have become so depleted that any growth from these roots is not possible.

He will have no alternative but to follow the same course as above and wait for at least 10 days to see if there is any response in the form of emerging leaves.

If there is either no response or only partial response the GKP will have to consider re-planting or resodding the “dead area”. This will take time.

The GKP should not prevaricate for too long as it will take, at least, 10 weeks before that part of the green is playable again.

The moral of the story is “watchful expectancy”

Constant vigilance and the need to patrol the green regularly are an essential part of good greens management

An experienced GKP would probably even pick up the fact that the grass has lost its sheen – the first sign of stress.

Nowhere is the saying “a stitch in time saves nine” more applicable.