Arriving at the Bowood Estate, which lies a few miles west of Chippenham in Wiltshire, felt like accidentally stumbling across the set of ‘Downton Abbey’ – and I half expected to be summoned for afternoon tea by the Marquess.

The spectacular 4000 hectare site boasts a famous Rhodo-dendron Walk, a secret garden and an 18th century House. The proprietor is Charles Maurice Petty-Fitzmaurice, the 9th Marquess of Lansdowne – Bowood has been his family’s home for nearly 300 years. But my visit concentrated on the serious work that’s been taking place on the superb golf course.

Brisbane-born Jaey Goodchild is Head Greenkeeper at Bowood Golf and Country Club which covers around 200 acres of the huge site. It’s 18 holes of glorious parkland and a former Challenge Tour venue which measures an intimidating 7,309 yards from the blue tees and 6,878 from the white.

Jaey said: “It’s picture postcard stuff – just what you would expect one of Capability Brown’s works to be. But it’s very much a working Estate - there’s a gamekeeper and a sawmill with on-site carpenters. In fact the wooden posts for our yardage signs have been sourced from seasoned oak felled on site.”

Jaey came to Bowood in 2011, and his immediate aim was to improve the USGA greens which at that time had a high thatch content and high incidence of disease. When the team used to core, the greens suffered major pull-ups due to the lack of surface stability. The sward was weak with minimal root ing and they would spend hours repairing the greens after aeration.

“My first big challenge was convincing the proprietor, committee and members of the importance of curing this and finding a way to fit it in to the schedule. This was difficult in the first year because I started in March when most of the year’s business had already been booked. So year one had to be a real ‘little and often’ approach to keep things ticking over with plenty of fine aeration and light topdressing.

“We schedule two hollow tining operations per year plus multiple micro solid tines and winter slitting. Last year we aerated the greens 14 times and always follow up with a light topdress, brushing and rolling to get the surfaces back on track.

“We’re giving the roots the opportunity to develop, bind the sward together and strengthen it. Now we’ve every confidence we’ll have zero pull-up when we aerate. 

PROFILE
Name: Jaey Goodchild
Born: Brisbane, 5 December 1976
Hobbies: Kayaking, Running
Favourite Sports Team: The Wallabies
after the spacious gardens, arboresque also eight gardeners looking greenkeeping team’s fleet. There Estate as well as maintaining the busy with jobs on the rest of the mechanic – however he’s kept even notice we’ve done it.” Bowood had 940mm rainfall last year, 20% more than average, and the renovated greens stood up well remaining largely firm and dry. But the moisture did lead to more problems with disease. “We had Fusarium in July which you would never expect, quickly followed by Anthracnose, so managing two diseases in such a short space of time made it a tough year. Even this year the Fusarium has been lingering because of the moisture. We've got a hectare and a half of greens, they've been able to focus on management of the long rough. Jaey he explained: "We've got a massive amount of the stuff. We cut and collect annually at the end of every season, and we're gradually scarifying to thin out the heavy play areas."

The greenkeeping team comprises of nine full-time staff in there, little and often, and we haven't tried anything too fancy. We're at a point now where we can aerate, roll and have play that day and golfers don't notice.

We've kept it simple – get the air in there and get the sand in there, return, the Rhododendron visitor centre, adventure play park and the myriad other attractions on site. So how does Jaey ensure that the greenkeeping team’s work is integrated with the rest of this large commercial operation?

"We plan a year in advance. If we want to do renovation work in the spring I book it in the previous August and all our customers are made aware of it in good time. We have a members liaison committee who I address on a regular basis. I always start off with the weather followed by a course report, then I update them on upcoming work on the course and we finish things off with a Q&A. I report to both the Hotel Manager and the Estate Manager, and subsequently to the Marquess, but on a daily basis I work very closely with the Hotel Manager and Head Pro.”

In common with our recent features on larger courses with budgets to match, Jaey realises he is fortunate to be able to call on the services of a greenkeeping team nudging double figures.

He said: “It's only possible to keep to the 'little and often' plan on this site if you have a decent sized team, and I'm fortunate to be in that position. We've also invested in new machinery which has cut the time it takes to complete these key tasks. "The key piece of kit for me is the Wiedenmann Terra Spike GXI 8. The old machine was only 800mm wide so it took a long time to do the job! The Wiedenmann's speed and versatility make it crucial, and it’s got all the bells and whistles – it does whatever you want it to do. We also use a flail mulch that can bat around a hectare of greens in a couple of hours – that’s vital because we’ve got a hectare and a half of green surface.”

The course itself is undulating, with long rough (almost reminiscent of some links courses) punishing errant drives. It looked picturesque in the summer sun, with a young deer skittering down one of the fairways as we drove round. With the team now in control of the USGA greens, they've been able to focus on management of the long rough.

Jaey he explained: “We’ve got a massive amount of the stuff. We cut and collect annually at the end of every season, and we're gradually scarifying to thin out the heavy play areas.

The hardest part is finding the balance between aesthetics, economics and speed of play. There’s a lot of arguing – sorry, I mean cooperation between myself and the pro Paul McLean on this! We spend a lot of time together every spring on cut lines, watching play and managing it all.”

Jaey first arrived on these shores in December 1997 on a six-month backpacking trip - and has stayed ever since! His first job in the UK was landscaping at Hyde Park for two years. This involved spending many hours with the Park’s fine turf specialist which convinced him that was the path he wanted to follow.

His first golf role was at Chobham in Surrey as an Assistant, before moving up to a Deputy role after only 18 months. Two years later he secured a role at The Richmond as a Deputy. All of his turf education was in the UK. He attended afternoon and evening classes at Merrist Wood to obtain a HNC in HND, before completing his Masters Degree in Sports Surface Technology at Cranfield University.

ABOVE: Harvested rough bailed ready for removal.

SHARP RIGHT: The team at Bowood, Jack Goodchild, Lee Whyte, Zac Broocks, Matt Lumsden, Franzi Iten, Sam Day, Jaey Goodchild.

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“We had Fusarium in July which has been lingering because of the humidity – not so much that you take action but definitely enough to follow. It takes to complete these key tasks. The key piece of kit for me is the Wiedenmann Terra Spike GXi 8. The old machine was only 800mm wide so it took a long time to do the job! The Wiedenmann’s speed and versatility make it crucial, and it’s got all the bells and whistles – it does whatever you want it to do. We also use a Snax multifill that can cut around a hectare of greens in a couple of hours – that’s vital because we’ve got a hectare and a half of green surface.”

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In a disappointing sporting summer for Australia (sorry Jaey, I couldn’t resist…) it’s pleasing to see one Antipodean enjoying success in the UK.

**MACHINERY LIST**

**Greens**
- Jacobsen Eclipse 322
- Tu-fi roller

**Surround mowing**
- Jacobsen GP400
- 2 x Jacobsen Gplex 3
- 2 x Jacobsen LF3800
- Jacobsen AR522
- Ransomes HR6101
- Ransomes 960

**Aeration**
- Wiedenmann GX6
- Verticut 712
- Verticut 305
- Rea multi slit
- Dowdeswell slitter

**Bunker rake**
- Smitco Superstar

**Spraying**
- Hard 6m truck mount
- Hard 12m tractor mount

**Debris clearance**
- Tomado XL380
- Amazone GH5110
- Ryan core collector

**Utility vehicles**
- 3 x Toro HX Workman
- 3 x Kawasaki Mule
- Easi-go

**Topdressing**
- Ultra spreader
- Topdressing

**Bowers**
- 4 x Jacobsen GP400
- 2 x Jacobsen Gplex 3
- 2 x Jacobsen LF3800
- Jacobsen AR522
- Ransomes HR6101
- Ransomes 960

Jaey explains: “We’ve got a massive amount of the stuff. We cut and collect annually at the end of every season, and we’re gradually scarifying to thin out the heavy play areas.”

**ABOVE:** Harvested rough looked prime for renovation.

**BELOW RIGHT:** The team at Bowood: Jack Summers, Lee Whyte, Zac Broocks, Matt Law, Franzi Iten, Sam Day, Jaey Goodchild, Zac Broocks, Matt Law, Franzi Iten, Sam Day, Jaey Goodchild.

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In June 2006, The R&A employed the STRI to undertake a project which ran for six years with the purpose of following the impact of a maintenance package aimed at producing firmer, healthier greens at five golf clubs in England.

The selected courses, which could all be considered to fall within the parkland designation, volunteered to take part in this project and STRI agronomists made their first visits later that year. The programme concluded at the end of 2012 with a final agronomic visit. In the interim, STRI agronomists visited each course twice a year and gave advice with a view to producing healthier turf and drier, firmer putting surfaces, thus developing an environment which favours the desirable brownroot bent and fine fescue grasses. Objective tools were used to assess progress in terms of putting green firmness, true-ness, smoothness, speed and soil moisture content. Though this was restricted to the last three years of the project as the STRI Programme was not available before then.

After six years, all clubs noted their greens had improved. Smoothness has improved markedly, with this measure and true-ness now hitting the ‘Routine Target’ range. At the start of the project, annual meadow-grass was very much the dominant grass on the greens (averaging 66%). Bent grass is now on a par or present to an even higher level than annual meadow-grass, with greens averaging 56% bent content.

At Knowle, a private members club, all greens are now within the target range for hardness whereas they were soft at the start of the project. Smoothness has improved significantly, with this measure and true-ness now hitting the ‘Routine Target’ range. At the start of the project, annual meadow-grass was very much the dominant grass on the greens (averaging 66%). Bent grass is now on a par or present to an even higher level than annual meadow-grass, with greens averaging 56% bent content.

David Croxton, Course Manager at Cold Ashby, made the salient point that his involvement in the project had been “a successful exercise that required a great deal of commitment on all sides.” He added: “It would have been easy to give up after three years but, in retrospect, that would have been a mistake.”

“Due to the general economic climate, these are difficult times for members’ golf clubs such as Knowle. It is not easy to correlate the link between the condition of greens and our membership levels, where of course we derive the vast majority of our income. It’s fair to say we’re not losing members to other golf clubs and a significant number of those joining us are established golfers from other clubs.”

For the par 3 7th hole at Leek, a private members club, sits under a row of tall Leylandii which protect the car park from balls flying to the left of the green. At the start of the project, the green was soft, wavy and dominated by disease-prone annual meadow-grass.

Thanks to the installation of drainage and a thatch dilution programme it is now a firmer (from the membership. “Due to the general economic climate, these are difficult times for members’ golf clubs such as Knowle. It is not easy to correlate the link between the condition of greens and our membership levels, where of course we derive the vast majority of our income. It’s fair to say we’re not losing members to other golf clubs and a significant number of those joining us are established golfers from other clubs.”

Greens have received many plaudits from the membership.

Cold Ashby Golf Club, Northamptonshire

A proprietary club, Cold Ashby achieved a 33% reduction in nitrogen input, from 175kg per hectare to 115kg per hectare per year, with healthier greens as a consequence. Bent content increased by around 10%.

Their greens dipped in and out of the objective assessment target range, suggesting organic matter content well above the desired level, averaging at 16.9% in the top 0-20 mm as opposed to the target range of 4-6%, remains an impediment to consistent surface performance.

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Leek Golf Club, Staffordshire

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A better environment ... the key to better greens

In June 2006, The R&A employed the STRI to undertake a project which ran for six years with the purpose of following the impact of a maintenance package aimed at five golf clubs in England.

The selected courses, which could all be considered to fall within the parkland designation, volunteered to take part in this project to help them improve the quality of their greens in the face of climatic stress, disease incidence and the need to control organic matter content. For many years they had been trying to achieve a better year-round putting green environment.

Some problems with this project were that many of the clubs involved had different histories and were already at different starting points. The project had to be restricted to the last three years of the programme. It was not possible to go back in time to measure organic matter in the rootzone or to measure disease incidence. The measurements were taken at a series of fixed dates, which limited the amount of data collected from the rootzone. Despite this limitation, some interesting results emerged.

In the interim, STRI agronomists visited each course twice a year and were able to make recommendations about the environment which favours the desirable brown bent and fine fescue grasses. Objective tools were used to assess progress in terms of putting green firmness, trueness, smoothness, speed and soil moisture content. The following results are based on the last three years of the project as the STRI Programme was not available before then.

After six years, all clubs noted improvements in year-round putting surface performance and, especially, winter play. Collected data showed the development of firmer, more consistent surfaces with enhanced drainage which were not as prone to wet and dominated by disease-prone annual meadow-grass. The results were not consistent in the top 0-20 mm as opposed to the targeted level, averaging at 16.9% in the top 0-20 mm as opposed to the targeted range of 4-6%, remains an impediment to consistent surface performance.

David Coynon, Course Manager at Cold Ashby, made the salient point that his involvement in the project had been “a successful exercise that required a great deal of commitment on all sides.” He added: “It would have been easy to give up after three years but, in retrospect, that would have been a mistake.”

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Eventually, improvement in the rootzone was noted, as was an increase in the rootzone of organic matter content. The results firm up attitudes to green management.

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Knowle Golf Club, Bristol

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Smoothness has improved markedly, with this measure and trueness now hitting the ‘Routine Target’ range.

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in hardness from below their target range to above this range over the course of the project. This represents an improvement of 43%, and could well be a result of their 10-15% reduction in volumetric soil water content. By the end of the project, Leek had hit or was much closer to target ranges for hardness, soil moisture content, organic matter content at 40-60 mm, smoothness and green speed. The result was the production of greens that were firm throughout last year’s very wet summer and last winter. Leek kept play on the greens throughout this period, except for when there was an overnight frost or snow cover.

Head Greenkeeper John Turner reflected: “From Leek Golf Club’s point of view, participating in the project was a huge success. The Clegg Hammer and the Moisture Meter are very useful tools for monitoring the greens’ firmness and soil moisture content, but collecting the data was something of a challenge at times. With a small staff and me as a working greenkeeper, I had to rely on the goodwill of our Greens Chairman to get the majority of the data recording.

“The readings showed up some interesting results which went a long way to resolve certain issues and highlight others. Leek’s involvement in this project was crucial for me to confirm to the club that the actions I had put in place on taking over here were the correct way to push sustainability and its objectives forward to what, I am happy to say, has proven itself in terms of all year round good playability.”

STRI Agronomist, Paul Woodham, added: “Leek Golf Club has reaped the rewards of their hard work and desire to improve the performance of the greens which are now amongst the very best I see. Their ambitions and objectives are now to move forward from a position of strength, progressing in a sustainable manner which is the envy of many other courses”.

The South Buckinghamshire, Stoke Poges

This council run municipal course has seen nitrogen inputs reduce by 20% and hardness has increased so that figures now fall within the target range. Green speed has improved and is close to the target range, whilst height of cut has not gone lower than 4mm. Although still at a relatively low level (10-26%), bentgrass content has risen from starting values of 1-6%.

Paul Frost, Head Greenkeeper, commented: “Being part of the trial has been a great opportunity for the staff, council and golf course alike. “The greens have improved greatly and this is backed by customer satisfaction surveys and retention of returning golfers. We will never know how much influence this has on revenue but I feel that the condition of the greens does play a major part in golfer satisfaction here.

“Winter play has improved hugely due to the greens’ ability to be in play much sooner than previously after heavy rain. This used to close the course sometimes for a day or two, but now we can get the greens playable in a fraction of the time.”

Putting the resources available to him into context, Paul added: “There are only seven staff, including myself, looking after three facilities; the golf course, a golf academy and a large multi-sports ground. This, and the weather over the summers of 2011 and 2012, has impacted on the amount of aeration, top dressing, etc, delivered to the greens. With more resources the greens may have been much more advanced than they already are.”

There are encouraging signs for the future with a major investment in infrastructure at The South Buckinghamshire. A new £350,000 maintenance building has opened, and a £1.65 million clubhouse which will be able to host non-golf related functions. With more resources the greens may have been much more advanced than they already are.”

There is also much greater confidence in their ability to host non-golf related functions. With more resources the greens may have been much more advanced than they already are.”

The Wilmalow Golf Club, Cheshire

Spring smoothness was an issue at this private members club, as for most UK courses with a mixed sward.

Over the course of the project this has improved to all greens, and is now almost within the target range. There is also much greater consistency in performance between greens. Micro-managing has led to improved consistency.

Trueness and green speed measurements at Wilmalow are mostly now in the ‘Tournament Target’ range. It is very likely that this is a consequence of Leek’s low organic matter content figures recorded on the greens, plus improved drainage, and should suggest to other clubs on the course that they need to get down towards the STRI target range for organic matter (4-6%) in the top 0-20mm of a soil profile and less than 4% lower down in order to attain such a performance standard.

Over the course of the project, i.e. reduced inputs and maintenance set to hit target ranges. All of the clubs involved have expressed their intention to carry on with the programme that has been devised over the duration of the project, i.e. reduced inputs and maintenance set to hit target ranges for organic matter content, soil moisture content, hardness, smoothness and trueness.

Summary

Golf clubs have facing increasing pressure during the economic downturn. Making savings through a more sustainable approach to greenkeeping is only attractive if it also brings better playing surfaces for more of the year and the chance to increase revenue, thereby giving them more of a chance to at least retain members and visiting golfers.

“Winter play has improved hugely due to the greens’ ability to be in play much sooner than previously after heavy rain. This used to close the course sometimes for a day or two, but now we can get the greens playable in a fraction of the time.”
in hardness from below their target range to above this range over the course of the project. This represents an improvement of 43%, and could well be a result of their 10-15% reduction in volumetric soil water content. By the end of the project, Leek had hit or was much closer to target ranges for hardness, soil moisture content, organic matter content at 40-60 mm, smoothness and green speed. The result was the production of greens that were firm throughout last year’s very wet summer and last winter. Leek kept play on the greens throughout this period, except for when there was an overnight frost or snow cover. Head Greenkeeper John Turner reflected: “From Leek Golf Club’s point of view, participating in the project was a huge success. The Clegg Hammer and the Moisture Meter are very useful tools for monitoring the greens’ firmness and soil moisture content, but collecting the data was something of a challenge at times. With a small staff and me at times. With a small staff and me doing most of the work and desire to improve the performance of the greens which are now amongst the very best I see. Their ambitions and objectives are now to move forward from a position of strength, progressing in a sustainable manner which is the envy of many other courses”.

The South Buckinghamshire, Stoke Poges

This council run municipal course has seen nitrogen inputs reduce by 20% and hardness has increased so that figures now fall within the target range. Green speed has improved and is close to the target range, whilst height of cut has not gone lower than 4mm. Although still at a relatively low level (10-26%), bentgrass content has risen from starting values of 1-6%. Paul Frost, Head Greenkeeper, commented: “Being part of the trial has been a great opportunity for the staff, council and golf course alike. “The greens have improved greatly and this is backed by customer satisfaction surveys and retention of returning golfers. We will never know how much influence this has on revenue but I feel that the condition of the greens does play a major part in golfer satisfaction here.

The Wilmshaw Golf Club, Cheshire

Spring smoothness was an issue at this private members club, as for most UK courses with a mixed sward.

Over the course of the project this has improved to all greens, and is now almost within the target range. There is also much greater consistency in performance between greens. Micro-managing has led to improved consistency.

Trueness and green speed measurements at Wilmshaw are mostly now in the Tournament Target range. It is very likely that this is a consequence of the low organic matter content figures recorded on the greens, plus improved drainage, and should suggest to other clubs across the country that they need to get down towards the STRI target range for organic matter (4-6%) in the top 0-20mm of a soil profile and less than 4% lower down in order to attain such a performance standard.

The 14th green started out as a shaded, wet green, dominated by a weak annual meadow grass sward. Removal of trees and the installation of drainage resulted in a much narrower green area. Bandon has seen a notable improvement of 20mm bent (8% more). Andy Flick, a Member of the Green Committee, reported that “There has been a notable improvement in winter playing quality and consistency between greens.”

Presures were noted to green quality during the difficult earlier spring period and further advice was instrumental in being able to deliver stronger earlier growth as the season commences with the use of different inputs and fertilisers. The clear message that came from our involvement was that it is essential to correctly identify the main limiting factors to progress growth such as shade, poor or failing drainage, on a given to green basis and within separate areas on each green.

The regime of data collection and analysis enabled us to make informed decisions from what is fundamentally an early warning system.”

The future

All of the clubs involved have expressed their intention to carry on with the programme that has been devised over the duration of the project, i.e. reduced inputs and maintenance set to hit target ranges for organic matter content, soil moisture content, hardness, smoothness and trueness.

Summary

Golf clubs have facing increasing pressure during the economic downturn. Making savings through a more sustainable approach to greenkeeping is only attractive if it also brings better playing surfaces for more of the year and the chance to increase revenue, thereby giving them more of a chance to at least retain members and visiting golfers.
Changing face of anthracnose

Lengthening shadows and falling leaves were the traditional signals for anthracnose as a dark coloured basal rot on Poa annua caused by a thatch-residing Colletotrichum fungus.

Anthracnose on turf was originally assigned to Colletotrichum graminicola but scientists more recently named Colletotrichum cereale as the main culprit on turf. The change is minor compared to the overall changing face of anthracnose on UK turf since the 1990’s. Radical new dimensions encompass a wider range of turf grasses, different disease symptoms and a new time frame.

New disease dimension

Anthracnose now appears as a foliar blight in summer on a much wider range of species. North America has a long history of foliar blight during spells of high humidity with temperatures over 22°C, especially on seasonally stressed turf struggling to grow over a dry root zone. Annual meadow grass (Poa annua) and creeping bent-grass (Agrostis stolonifera) are the prime targets, but smooth stalked meadow grass (Poa pratensis) and creeping red fescue (Festuca rubra) are also affected.

Summer showers and irrigation is repelled by the dry compacted surface of the root zone. Accumulating surface moisture has nowhere to go but into the thatch. Moistened within an envelope of high humidity the conditions are now set for fungal growth, spore production, infection and the rapid onset of foliar blight.

A remarkably similar pattern has evolved in the UK with anthracnose appearing as a foliar blight on turf stressed out by heavy traffic and lack of moisture to cause dry compacted root zones and visibly stressed out grass plants.

Overall, annual meadow grass is the most susceptible species but as Dr Simon Watson of Syngenta told Greenkeeper International, “the foliar form of the disease affects most turf grass species, including bentgrass and fescue.”

Foliar blight is the downside of good summers. “Anthracnose appears to have been quite a widespread problem this year”, says Joe Kinder, Technical Manager at Sherriff Amenity. “It’s likely this reflects the harsher growing conditions associated with good summer weather.”

Traditional autumn anthracnose only posed problems for greens with a high proportion of Poa. As a thatch residing fungus responding to classical autumn conditions of cool temperatures, morning mists and dew, basal rot anthracnose tended to occur alongside Fusarium Patch.

Fusarium was easily the number one disease of UK turf so fungicide sprays were almost entirely targeted at the causal fungus Microdochium nivale.

Rarely did anthracnose appear on fungicide labels for managed turf although everybody from chemical companies to greenkeepers knew most products with Fusarium on the label would ‘do for’ anthracnose at the same time.

According to Peter Corbett, Chemical Specialist at Rigby Taylor, the absence of anthracnose on labels was due to a combination of factors related to logistics and economics. The sporadic, localised nature of anthracnose meant it was difficult to find suitable trials sites and for the same reasons essentially uneconomic to conduct them, for anthracnose as a ‘stand-alone’ disease.

Greenkeepers striving for Poa-free greens actually welcomed a disease that would selectively clear out annual meadow grass. They saw basal rot not as a destructive disease, but as a useful biological control agent, a naturally occurring and operating mycoherbicide helping to maintain Poa-free swards.

“When I started in the industry over twenty years ago it was generally called ‘annual meadow grass dieback and was regarded by some as the greenkeeper’s friend” says Henry Bechelet, Technical Sales
Changing face of anthracnose

Dr Terry Mabbett speaks to various industry experts to analyse how anthracnose has changed, how to deal with it and how it can be one of the downsides of good summers.

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AnTHRACnOSE

Manager at Everris.

“These days anthracnose is an altogether different proposition and can cause significant damage if left unchecked. It seems that the increased pressure of ever more intensive management, coupled with greater demands for play and combined with ever more extremes of weather are creating conditions for the disease to flourish and strike harder and harder.”

New order management

A new disease dimension calls for a new order of disease management with a more integrated consideration of the causes and the control of anthracnose. More emphasis is given to summer stress facilitating easier and quicker leaf infection and disease development, and environmental conditions that push a sedentary saprophytic thatch residing fungus into full parasitic mode.

Rising temperatures over compacted turf with dry patch symptoms is a ‘flag up’ for anthracnose. Moisture from summer showers or irrigation with nowhere to go except into the thatch will create and maintain surface wetness and high humidity, the ideal conditions for pathogen activity and anthracnose disease.

Wetting agents to improve soil permeability and water holding capacity, to avoid dry patch and maintain stress-free turf in summer, clearly have an important part to play in anthracnose management. Discussing the advantages of their Tricure range of wetting agents in last month’s Greenkeeper International, Headland Amenity specifically cited the need “to get water into the root zone and keep it there to reduce the stress associated with turf diseases such as anthracnose.”

Dry compacted soil also impacts on fertility because applied nutrients can only enter the root zone and be accessed by roots when in solution. Other fertility concerns related to anthracnose revolve around contemporary trends in overall fertiliser use.

Abrasive aspects of anthracnose

Aeration and scarification employed to avoid and alleviate stress can actually aggravate anthracnose especially when used during high risk periods. Anthracnose is also aggravated by traditional summer practices such as low cutting heights and frequent application of top dressings to reduce stress, as well as occasional rolling for tournaments.

The key and common factor is damage to grass leaves and stems however subtle that may be. I’m reminded of a comment made by David Senior at Vitax describing anthracnose “as tiny discrete yellow patches of infection corresponding to pitch marks left by golf balls and causing sufficient abrasion for fungal entry.”

The abrasive effect of tiny silica (sand) particles in top dressings on grass plant surfaces is sufficient to open up grass foliage for anthracnose infection, especially if the dressings are well worked in.

Measures to alleviate stress should be carried out when anthracnose risk is low says Dr Watson, adding how greenkeepers can consult Syngenta’s Greencast Website where anthracnose risk is plotted throughout the season on easy to read graphs.

Greenkeepers can use risk forecasts to time proactive fungicide applications more effectively to get the best results, and for tailoring fertiliser applications and synchronising other turf management as low cutting heights and frequent application of top dressings to reduce stress, as well as occasional rolling for tournaments.