

The following year Gordon became BIGGA National Chairman and he is still the only man to date to have held the position for two years.

Highlights during that time was the Duke Of York officially opening of BIGGA HOUSE in 1998 and being Captain of the Rest of the World team for the Hayter International Cup in Atlanta, Georgia, that same year.

"I've got so many wonderful memories of my time as Chairman and particularly meeting so many great and wonderful people.

"I remember some superb trips to the American and Canadian Conferences and meeting motivational speakers, Frank Dick and Simon Weston at Harrogate.

"Frank Dick's speech is still the best I've ever heard," said Gordon who continued to be BIGGA's representative on the GTC and the Region's Education Officer for several years after his Chairmanship.

Another one of the coincidences which have followed Gordon through his life occurred when he retired.

"I took over from Jock Millar, at Moor Park and when I retired from

Churston Jock's son, Kelvin, took over from me.

"The families have both been close and I have to say Kelvin has done a wonderful job since he took over.

Since retiring Gordon has had his fair share of health issues and now boasts a new knee in one leg and a new hip in the other while he is a superb advert for a Plymouth-based Scottish heart surgeon from whom his quadruple by-pass represented 286 successful operations in a row.

"I was playing in the final of the Devon Seniors at Yelverton recently when a friend came over and said that a guy wanted to meet me.

"I went over and he looked familiar but I couldn't place him.

"Then he said, 'I'm the guy who saved your life and I've been hearing about your golf so I must have done a good job!'"

Marion had encouraged him to take up golf again and Churston initially gave him a handicap of 12.

It was cut in half by the end of the first season and he is currently standing at 4, with his 80th birthday in May.

"My final golfing ambition was to be playing to single figures when I hit 80 so I think I'm going to make

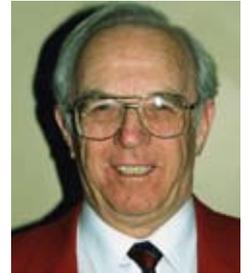
it," said the man who still plays three times a week, often 36 holes in a day, and only on a rare bad day does he fail to beat his age.

"As he prepares to enter his 80s Gordon will have another shot to play with so that achievement will go on for some time to come.

"My final golfing ambition was to be playing to single figures when I hit 80 so I think I'm going to make it," said the man who still plays three times a week, often 36 holes in a day, and only on a rare bad day does he fail to beat his age.
Marion Child

Indeed, the quality of his golf saw him play off +2 in his prime and compete in two Open Championships - the Centenary Open at St Andrews in 1960 and five years later, appropriately at Royal Birkdale.

As he looks back on a life full of enjoyment and achievement is it any wonder that smile is never far away?



Gordon Child

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Focus on Fusarium

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Dr Terry Mabbett takes an indepth look at the most prolific turf disease in the country

Typical circular tan-coloured areas of Fusarium Patch caused by *Microdochium nivale* (Picture courtesy Vitax)

At first sight turf appears to suffer from surprisingly severe foliar disease given the relatively small proportion of grass shoot and leaf displayed on frequently cut and well managed swards.

However, with wider and deeper consideration it is easy to see why a perennial ecosystem perpetually wounded by mowing, stressed in summer from drought and heavy traffic then flushed with fertiliser under moist misty autumn conditions is susceptible to fungal infection and disease spread.

Fungal pathogens are present



year round in thatch and spread by traffic and turf machinery to gain easy entry through cut leaf surfaces and develop more rapidly on physiologically 'under-par' turf grass.

Sports turf in the United Kingdom suffers from around a dozen different foliar diseases but one stands 'head and shoulders' above the rest in spread, severity, damage caused and cost of control. Surveys show how over 90% of all UK greenkeepers expect to deal with Fusarium patch disease in any one calendar year.

More than half of all professional football pitches are affected by

Fusarium on an occasional basis and one fifth of local authority pitches where disease monitoring is generally less.

As much as 80% of all fungicide applications to UK sports turf are targeted at Fusarium although other diseases are managed at the same time especially by broad spectrum fungicides.

That said, new products released onto the market have Fusarium at the top of the fungicide label's target list even though a wider range of diseases will invariably fall within the activity spectrum.

Fusarium is a fast moving disease

and once established can only be eradicated by the use of fast acting curative fungicides.

However, there is still a lot the greenkeeper and groundsman can do to minimise infection and reduce the rate spread and damage caused should Fusarium patch disease appear.

Success lies in deep knowledge of the pathogen and the disease and by establishing through the seasons and over the years those management practices which minimise infection and subsequent spread and development.

This scenic golf course was carved out of natural forest but excessive shading of greens could encourage Fusarium



Microdochium nivale

Fusarium patch is caused by a fungus now called *Microdochium nivale* after mycologists changed the name from *Fusarium nivale* some years ago. The disease is additionally called pink snow mould because symptoms may appear as a distinct pink colouration after periods of prolonged snow cover. There was talk of changing the common name to *Microdochium Patch* (as in North America) but everyone in the UK knows the disease as *Fusarium Patch* and that is the way it should stay.

Pink snow mould is still appropriate because it reminds Managers in areas with regular snow cover that turf is particularly susceptible to *M. nivale* at this time. Closely related pathogens including *Fusarium culmorum* and *Fusarium avenaceum* which are sometimes found in infective association with *M. nivale* on grasses maintain the *Fusarium* name.

Microdochium nivale success is multi-fold. First and foremost the fungus is present in turf year round on the thatch in saprophytic

(feeding on dead decaying organic matter) or weakly parasitic mode. Secondly the pathogenic fungus is active over the wide range of temperature typically found in cool temperate climates during the calendar year being capable of growing at temperatures as low as 21 °F (-6 °C) and up to about 86 °F (30 °C).

Thirdly the fungus is not too fussy about the type of turf grass attacked and is found infecting all mainstream turf grasses including *Agrostis*, *Festuca*, *Poa* and *Lolium* species. Equally important is pathogen preference for fertile soil, especially where excess nitrogen has been applied in autumn during inappropriate attempts to boost grass growth and green up turf after summer drought and heavy wear and tear.

The fungus grows over a wide range of temperature but other conditions are required before it can move into top parasitic gear. Prolonged periods of high humidity and surface wetness coinciding with cool temperatures make *Fusarium* a high risk disease for spring as well as autumn, especially after over-done nitrogen fertiliser application.

Symptoms of Fusarium patch

General descriptions of plant disease are largely subjective and in the eye of the beholder and that documented for *Fusarium Patch* is no exception.

General consensus has *Fusarium* down as circular patches on the turf, first appearing as water-soaked spots less than two inches (5 cm) in width, then quickly changing in colour from orange brown to dark reddish brown and eventually to tan or straw colouration.

If the disease goes unchecked small sized reddish brown spots may start to appear in lines where spores (conidia) have been spread by mowers. Ring-like patches may appear on low cut turf.

Under suitable conditions small spots of *Fusarium* infection will quickly enlarge and coalesce to form extensive patches of disease on the turf.

Under snow cover and other saturated conditions thin and fluffy coverings of white mycelium are seen on matted grass leaves, and as the snow melts the affected areas appear as straw coloured patches



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with a pink tinge intensifying in sunlight.

Under the microscope *M. nivale* has septate (cross walled) hyphae (mycelium) and produces pink or white sporodochia (fruiting bodies) with spores, particularly in cool weather conditions.

The tiny asexual spores (conidia) are lunate (new moon shaped) with cross walls and width x length dimensions of 2.5-5.0 x 10-30 microns (μm); 1 micron (μm) is one thousandth of a millimetre.

Survival in thatch and subsequent spread

Microdochium nivale has no trouble in surviving unfavourable conditions, including hot dry summers, because it 'rests up' on grass debris provided by thatch.

When conditions become favourable the pathogen infects the leaves of living grass plants through fungal hyphae growing up from the thatch or via germinating conidia.

The disease may grow and spread slowly at first with some weeks passing before detection, but under wet and overcast conditions and within a wide range of temperature [freezing point to 60 °F (16 °C)] will start to spread rapidly.

Huge numbers of conidia produced at this time are readily and rapidly spread along and around the green on wheeled equipment (mowers, spreaders and sprayers), on boots and the feet of animals.

The pathogen slows down and becomes inactive during periods of warm sunny weather which cause the grass canopy to dry out.

Slow growing turf with deep thatch provides the ideal substrate for *M. nivale*. Such situations exist during cool wet conditions (32 to 46 °F [0 – 8°C]) and when turf grass is covered with snow.

Specific conditions that encourage spread of the fungus include drizzle, fog, frost occurring night after night and alternating thawing and snow cover.

Poor drainage favours Fusarium Patch as does long uncut grass leaves becoming matted down to creating a humid microclimate within the canopy.

Which turf grass?

Most cool climate turf grass species are susceptible to Fusarium Patch disease although there are some marked differences which can be exploited.

Annual meadow grass (*Poa annua*) is particularly susceptible to Fusarium especially in the autumn



when cool and moist environmental conditions bearing down on summer-stressed turf are ideal for disease development.

Poa annua is not a resilient grass, being highly susceptible to heat stress and drought stress and prone to cold injury, all of which clearly contribute to high disease susceptibility through autumn and into winter.

Agrostis species including *Agrostis stolonifera* (creeping bentgrass) are very susceptible to Fusarium Patch. Browntop bent (*Agrostis castellana* Highland) is more prone than cultivars of *Agrostis capillaris*. *Lolium perenne* (perennial rye grass), *Poa pratensis* (smooth stalked meadow grass) and *Festuca* species are somewhat less susceptible.

They have a low to medium thatching tendency compared with *Poa annua* and *Agrostis* species which is medium to high.

There appears to be positive correlation between high thatching tendency and frequency of foliar disease including Fusarium Patch.

High nitrogen availability which generates soft succulent growth increases turf susceptibility to Fusarium Patch, while high available soil potassium has the reverse effect.

Factors pre-disposing to Fusarium Patch

Pre-disposing factors related to

climate, weather, soil conditions and management practice provide ideal conditions for infection by *M. nivale* and its subsequent development and spread. They include:

- Humid atmosphere, shade and surface wetness especially when accompanied by cool temperature conditions
- Inadequate circulation of air above the grass sward
- Rapid, forced, soft and succulent growth especially in autumn from late application of fertiliser especially nitrogen
- Soil pH in the neutral to alkaline range (pH 7+) and inappropriate use of lime that raises pH to alkaline levels.
- Overambitious use of fertiliser especially if poorly balanced
- Damaged turf grass due to high

ABOVE AND LEFT: Trees are an essential integral part of a well laid out and managed golf course but not so near as to permanently shade the greens

BELOW: High moss infestation indicative of wet turf and higher risk of Fusarium patch



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wear or irregular cutting which may cause 'shaving', too low cuts resulting in 'scalping' and insufficiently sharp blades that tear rather than cut and therefore cause leaves to have cut jagged edges which are more prone to infection.

Best practice

Many good management practices minimise opportunities for *M. nivale* to infect grass plants and spread across the turf. Examples of good practice are:

- Remove early morning dew and other surface water by sweeping or swishing and improve air circulation above the sward by good pruning and management of adjacent hedges and overhanging trees. Maintain good air circulation within the turf and ground by regular aeration. Minimise shade but where shade is unavoidable adjust (reduce) fertiliser levels accordingly.

- Maintain thatch at optimum height and density for the particular sports surface situation. Box off and remove grass clippings and do not smother turf when applying top dressing by making sure it is well worked into the turf.

- Establish a regular programme of mowing with correctly set and adjusted blades for height of cut and self-sharpening.

- Appraise seed mixtures and turf composition for maximum resistance to Fusarium Patch disease and minimise annual meadow grass content.

- Maintain surface acidity using applications of sulphate of iron to toughen and green up grass for autumn and winter and to additionally deter casting earthworms and control moss.

- Take care to balance soil fertility and increase the proportion of potassium relative to nitrogen when going into high risk autumn situations.

Apply nitrogen early enough in the late summer/early autumn period so that grass can harden off sufficiently before winter.

Do not allow grass to go into winter too high and ensure drainage is adequate.

Fall back on fungicides

The foregoing management practices may not completely avoid Fusarium patch but will decrease incidence and severity should it appear.

Fungicides are required to completely eradicate Fusarium patch but adherence to best management

practice should reduce the required frequency and intensity of use.

There is a bewildering range of fungicides for Fusarium control carrying increasingly sophisticated claims by manufacturers on activity and action. However, there are several salient points greenkeepers can use as markers to assess whether a fungicide product will deliver.

Fungicides are essentially protectant or curative in action. Protectant fungicides remain on the leaf surface and protect the grass plant against infection and as such deposits must be on the leaf surface before infection is attempted by the pathogen.

Curative fungicides can move into the grass plant to eradicate established infections. Fungicides may enter the plant through the leaves, the roots or both, and move around the entire plant in which case they are said to be truly systemic.

Some which do not move out of the leaf they pass into are termed trans-laminar. Curative fungicides may also deliver significant protection depending on how long they remain on the leaf surface before moving into the plant.

Protectant fungicides and systemic fungicides that only enter through the leaves are essentially lost once they drip off (or are washed off) the leaves and into the soil. Those which can additionally enter via the roots may be taken up and used to good effect.

There may be a grey area for some essentially protectant fungicides that migrate a short distance into the leaf and therefore provide some marginal curative action.

Products which contain two or more different active fungicides may deliver protectant and curative action depending on the nature of the individual active fungicides they contain.

Greenkeepers (and groundsmen) are in a unique situation with regard to fungicide application and foliar disease control.

Every time turf is mowed grass plants are 'wounded' thus facilitating easy pathogen entry through the cut surfaces of leaves.

At the same time mowing is removing any fungicide that is on or inside the excised portion of leaf.

Microdochium nivale is ever present on the thatch component of turf, ready and waiting for the right physical conditions (temperature, humidity, leaf wetness) and biological conditions (inherently susceptible and physiologically stressed turfgrass plants) to move into full parasitic disease mode.



ABOVE: Fusarium patch and fallen leaves invariably occur at the same time – in autumn

BELOW: Best turf management practice is the key to minimising incidence, spread and severity of Fusarium patch (Picture courtesy Vitax)

BOTTOM: Fungicide spraying is needed to eradicate established infections but sound turf management practice will minimise the frequency and intensity of application required.







Hitting the ground running

Scott MacCallum find out what makes BIGGA's new Chairman, Andrew Mellon, tick

Some people like to ease themselves into new situations while others are great at hitting the ground running. It is perhaps fortunate that Andrew Mellon, BIGGA's 2011 Chairman, is of the latter persuasion.

Throughout his career Andy has shown himself to be someone who doesn't shirk a challenge and, with much to do in the first few weeks of his Chairmanship, easing himself in was never going to be an option.

"We are entering a period of change as John Pemberton, our long-standing CEO, is retiring and it is crucial that we recruit the right person to take the Association forward and continue to manage our resources as effectively as possible," said Andy, as we chatted in his office in the grounds of Elmwood College Golf Course.

"We have appointed a company to carry out the recruitment process and getting the right person is top of the agenda. We could be looking at having someone in place as early as April, depending upon the notice period the successful person has to give, but we will take the time to ensure we get the best person" he revealed.

A relative late-comer to the profession, 43 year-old Andy has made up for any lost time with a commitment to hard work and a

will to learn which has seen him recently promoted to Golf Operations Manager at Elmwood Golf Course and rise through the ranks of BIGGA with indecent haste.

"It has been a rapid learning process while Vice Chairman because I hadn't been involved in the main Board prior to that, so it has been a year of learning how the Association operates – what goes on at BIGGA HOUSE and how it interacts with the members through the Regions and Sections etc"

"I do believe that BIGGA is a very strong, established Association and that its great strength is its membership. We are only as strong as our membership and the Association could not have been successful in getting to where it is today without that commitment from its members"
Andrew Mellon

What he has always known, however, and it is a view which has hardened over the last 12 months, is just what a superb organisation it is that he'll be chairing.

"I do believe that BIGGA is a very strong, established Association

and think that its great strength is its membership. We are only as strong as our membership and the Association could not have been successful in getting to where it is today without that commitment from its members," he said.

Andy is well aware of the issues facing the Association, and the industry as a whole, as we look to the future.

"We are in a more financially challenging situation than we have ever been and, of course, we are not alone in that. It means that we must ensure that we make the most effective use of our resources and, more than that, increase collaboration with like minded bodies, which can add benefit to our members."

Andy was born in Glasgow but spent the first six years of his life in Kenya, the family having moved

to Africa through his fathers work.

"I have vivid and fond memories of Kenya. It was a very relaxed lifestyle and a wonderful climate"

Another clear recollection was of his return to Scotland.

"I was in the car on the way back

from the airport and I'd never seen weather like it. It was terrible and I can still remember wiping the steamed up windows, probably wondering why we had left Africa" said Andy, who lived initially with his grandmother and aunts in Twechar, a small mining village near Kirkintilloch.

It was then that he displayed a rare ability to fit into his new surroundings.

"Living in Kenya I'd picked up quite a posh accent but within two weeks I was speaking like a true Glaswegian. My parents said they had never heard anyone change so quickly! – Kids have a strong ability to adapt"

On leaving school Andy went to Strathclyde University to study Civil Engineering, but his desire to earn a living was never far away and he took a job in the summer holidays selling photocopiers and also joined the University's Officer Training Corp. This saw him out on exercises most weekends.

"I enjoyed the challenging outdoor, military lifestyle, so much so that I joined Glasgow's Royal Marines Reserve Corp, and was seriously considering a full time military career."

After having studied for two years Andy decided to take a year out and worked on a self employed basis for an insurance brokerage. He was still serving in the Reserve Corp, but having met his future wife, Jane, the prospect of a full time military career and being away from home for long periods became less attractive and the demands of self employed Insurance Sales required his full time commitment. Having progressed to the position of Training Manager he explored setting up his own company.

"I was actually in the process of setting up my own brokerage when Standard Life offered me a job and I worked for them in Glasgow for two years," said Andy.

"I took full advantage of the superb Standard Life's Customer service and Sales training programme, which has served me well ever since"

"It was a fairly intense job and the money was good but there was something missing"

The opportunity to make a change came when his wife was offered a job in the Western Isles.

"Jane had worked in the area before and had a lot of friends up there so I said let's just go. I decided that I would go to college and study Business Admin and just see what happened."

As it turned out, one of his lec-

tures also ran a local insurance brokerage and offered Andy a job so he found himself working in the same industry as the one he'd left behind in Glasgow.

"We settled in Stornoway for seven years and two of our children were born there. We had a fantastic house, looking out over a bay, and a great lifestyle, although it was difficult being so far away from family,"

Over the years Andy turned his hand to several jobs, seeking something which he would feel happy in. He played golf regularly and a chance encounter with the Greens Convenor made him aware of a vacancy as a six month labourer.

"I filled out an application form and one interview later I had the job. I can still remember my first day walking around the course with Alistair MacLeod, the Head Greenkeeper. The sun was coming

with Elmwood College.

"I decided to study distance learning but soon realised I would have to move to move to fulfil my career ambitions."

"I decided to take on a full time HNC course at Elmwood which was a real sacrifice as initially I'd be leaving my wife and children in Stornoway. I did so with a view to eventually getting a job in Fife. I reasoned that there were over 50 courses in Fife and that if I couldn't get a job after doing my HNC there would be something wrong!"

He was right, but that job came quicker than he could ever have imagined.

"Within a month of starting there was an advert for a Greenkeeper/ Instructor on Elmwood's course. I applied for it, got it, continued my HNC and began working under John Quinn MG. Being apart was difficult and six months later my wife managed to find a good position in Cupar, and the family was back together"

Within a year he'd been appointed as Head Greenkeeper and another year on, when John left to set up his own business, he was appointed Course Manager.

"I like to think that I was working hard and applying myself but opportunities came along at the right time and I was able to take advantage of them. Elmwood College was a very supportive employer, allowing me to fulfil my desire for further education. Carol Borthwick, my Director, encouraged me to develop my knowledge and skills, for which I'm grateful, and I took full advantage."

Before long the Course was to undergo a massive project reconstructing eight of its holes, building a superb new driving range and training academy and a state-of-the-art maintenance facility.

"I remember applying for planning permission and being desperate to get it but when it came through, all of a sudden, thinking 'Oh dear. How are we going to do all of this?'"

It was a fair question because, although Andy had Howard Swan to provide the design and planning, all of the work was done in-house and, over the five years the work was being carried out, hundreds of students, at various stages of their education, worked on it with Andy operating as Project Manager.

"I learned a great deal from Howard and his team, and was

"I filled out an application form and one interview later I had the job. I can still remember my first day walking around the course with Alistair MacLeod, the Head Greenkeeper. The sun was coming up and I thought – I'm getting paid to do this. This is the life and what I want to do"
Andrew Mellon

up and I thought – I'm getting paid to do this. This is the life and what I want to do."

The job was only meant to be temporary but Andy threw himself into it making himself as indispensable as possible. He serviced machines, saving the club money, and never missed an opportunity to learn more about his new vocation, using holidays to visit other clubs on the mainland and learn more about the job.

"Working in a small dedicated team, I learnt a lot from Alistair, and my desire to progress grew. The network available through BIGGA membership, and Greenkeeper International enabled me to make contact with many more experienced Course Managers, who were always willing to give advice, and I owe them a great debt." After the six month contract was over the committee asked him to stay on.

His voracious appetite for knowledge was soon to put him in touch