

Mycorrhizal structures associated with turf roots

# Intelligent disease control

Harmless to beneficial turf fungi



Fusarium



Dollar Spot

## Still effective against disease

Amazingly, some species of fungus are hugely beneficial to your turf.

Mycorrhizal fungi develop a mutually beneficial relationship with turf roots for effective nutrient exchange, and increased resistance to drought, insect pests and disease.

As a result, turf associated with Mycorrhiza tends to be healthier.

You'll be pleased to hear then, that Rovral Green leaves these 'friendly' fungi completely unharmed.

You'll also be glad to know that Rovral Green is still as effective as ever at controlling the harmful species like Fusarium, Red Thread and Dollar Spot. No wonder it's still the UK's No 1.

Rovral Green - it thinks for itself.





# Education opportunities

With the appointment in 1989 of an Education Officer, BIGGA took an important step forward in its commitment to improving the training and education of greenkeepers in the profession and today offers a wide and varied range of opportunities to its members.

All members have access to the National Education Conference, 'in house' supervisory management courses, short regional based specialist and management courses, careers advice, a lending library, the Master Greenkeeper Certificate Scheme as well as videos, books and education related competitions.



## Education & Development Fund

Closely linked to BIGGA's education policy is the Education & Development Fund which was established in 1992 with the creation of the Golden and Silver Key sponsorship scheme. The sole aim of this Fund is to enable the promotion and financing of specialist educational programmes and training aids for the benefit of the greenkeeping profession.

Between 1992 and 1997 the Fund helped BIGGA produce three training videos (Golf Green Reconstruction, Golf Course Preparation and Golf Course Ecology) and one book (A Practical Guide to the Ecological Management of the Golf Course), plus several field guides including the identification of grasses, the identification of trees and shrubs and the control of mammals. The Education & Development Fund has also been used to help subsidise regional based management courses for the benefit of members.



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For more information about BIGGA's education and training opportunities available to you, contact Ken Richardson, Education and Training Manager, or Sami Collins, Education and Training Assistant on 01347 833800.



**Scott MacCallum visited The Manor House at Castle Combe and found a golf course basking in the magnificent setting...**



The spectacular drop which faces players on the 17th hole

# Lord of the Manor

There are some places in this world which obviously managed to be further up the pecking order when good looks and scenery were handed out.

One such area is undoubtedly the Cotswolds, and more specifically, Castle Combe, a village that could have single handedly inspired the American tourist mantra "Ain't it quaint".

While the village is a star in its own right, acting as it did as backdrop to the film *Dr Doolittle*, the Manor House Hotel and Golf Club at Castle Combe more than adds to the area.

The golf course was designed by Peter Alliss and Clive Clark in the early 90s and is now the responsibility of Course Manager Paul Bishop, who is well aware of how lucky he is to earn his living in such an idyllic part of the world.

"It is a wonderful place to work," he explained, as he sat in the clubhouse following a BIGGA day during which the course had impressed everyone... despite a day-long down-pour which would have been of more use to the Director of Singing in the Rain than *Dr Doolittle*.



# Lord of the Manor

Paul has been at The Manor House for five years having moved from Hever Castle in Kent, and before that East Sussex National.

"When I was at Hever I wrote to a couple of courses to ask if they had any job vacancies and one of those was Mannings Heath in the Sussex Downs. They wrote back to say that they didn't have anything but that their company, Exclusive Hotels and Country Clubs, had just bought a course in the West Country - The Manor House at Castle Combe," explained Paul.

Since then, and despite the obvious distractions that the stunning scenery provides, Paul and his team, have been hard at work both on the general maintenance of the course but also on some elements of course reconstruction to iron out some of the wrinkles implicit in the original design and build.

With the added complication of the course being built on Cotswold Brash, Paul's first task was to try to improve the make up of the greens which had been constructed on pure fine sand

"It packed down causing compaction and drainage problems so they required lots of aeration," explained Paul.

"We did what we could for the first couple of years with soil exchange - taking pure sand out and putting in top dressing - and although we had moderate success we realised that reconstruction was the only way forward."

Having come to that conclusion, a programme was put in place after having identified where the work would be targeted.

"There were certain holes on the course which had small greens compounded by the fact that they were also in the



Above right: The 11th green has been enlarged

Below: Course Manager, Paul Bishop



shade - in particular the 2nd, 3rd and 4th - and these caused us real problems.

"Other greens, like the 18th, are quite small and offer up limited pin positions which doesn't help to spread the wear."

The first phase involved the three aforementioned holes and in particular the 4th - a par-3 completely encased by trees.

"Light was always a problem with old established trees which had been there for a long time so we decided that the best option was to move the green turning it into a par-4.

"The tee stayed where it was but the green, which had been at the bottom of a hill was moved to the top."

The work was done pretty much in-house with a team consisting of Paul plus six greenkeepers and a mechanic

but for the addition of Shaper and Constructor, Will Geddes, who had previously worked for Transcontinental Golf.

"I could not have done all this without the hard work and dedication of my deputy, Chris Jack, along with the rest of the greenkeeping team.

I ordered the materials and all the machinery required" explained Paul, who added that the beauty of the plan was that the original par-3 could still be played by the members while the work on the new green was going on.

Having completed the first phase last year the second was undertaken earlier this year, featuring two of the most picturesque holes on the course.

Both par-3s, the 11th and 17th, have greens at the bottom of a valley and you would be just as likely to reach for a camera as a short iron when





standing on the tee. Indeed the 17th, regarded as the the signature hole on the course, drops over 100 feet in the space of 100 yards.

"They were both small greens - the 11th was about 400 square metres - and were in frost pockets," explained Paul.

Both greens were totally rebuilt to full USGA spec. with all materials sent away to the European Turfgrass Laboratories, Stirling, Scotland to ascertain full compatibility. Greens were sown down to providence creeping Bentgrass at 4g/m<sup>2</sup> x 2 directions.

"Providence I believe provides an excellent dense, true putting surface and if managed correctly, does not require excessive maintenance."

The 11th is now around 600 square metres and has been lowered so that people did not have to scramble up

the side to get on it while the 17th now has two greens to utilise.

"We built another green for the 17th so we can spread the wear. As you can imagine tee shots were landing from quite a considerable height and the pitch marks were a problem.

The main green has been pushed back so that we can now have a medal position right by the brook which runs behind the hole," said Paul, while the other green has the brook running in front of it bears loose comparison to Augusta National's 12th on Amen Corner.

In addition to the greens several tees were altered and enlarged including the 9th which is now significantly bigger and offering many more tee positions. This hole has been changed from a par-4 blind tee shot to a par-3, which compensates for the change on

the 4th to keep the course pretty much the same length.

With the first two reconstruction phases now complete Paul and his team can now return to the regular tasks of maintaining the course and enjoying one of the more pleasant work places in the country.

Indeed, fact could quite easily emulate fiction as "talking to the animals" is a distinct possibility with the amount of wildlife on show and the club were the Western winners of the BIGGA Golf Environment Competition in association with Amazone and Rhone Poulenc, two years ago.

"It is a wonderful course for wildlife, we have two pairs of buzzards nesting and regularly see kestrels, woodpeckers, monk jacks and roe deer while there is also evidence of badgers," said Paul, although unlike the good doctor

he didn't admit to having any experience of the rare Pushmepullyou.

"We have got some areas of limestone grassland which is designated SSSI and we manage this in conjunction with the Wiltshire Wildlife Trust.

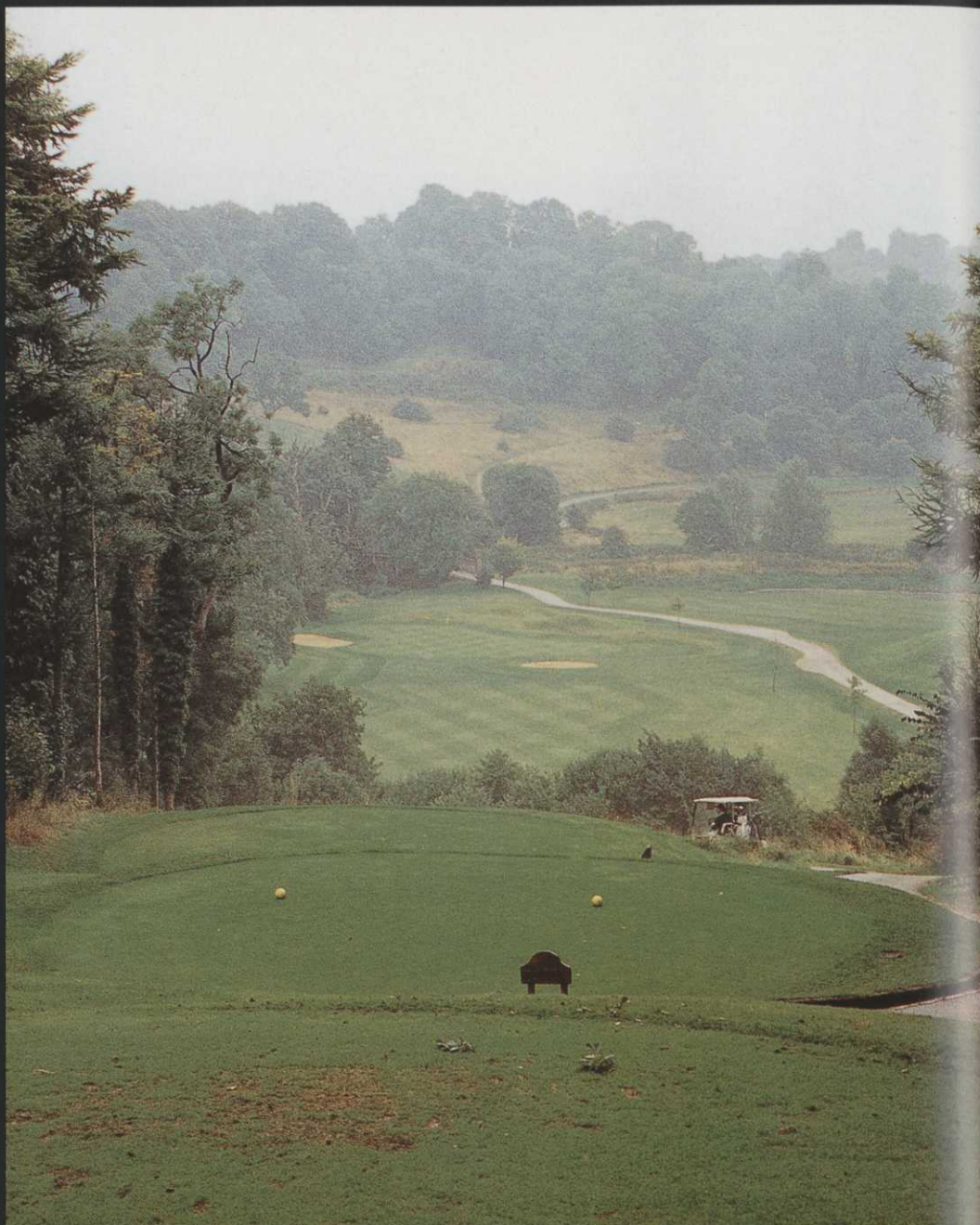
"We have a complete management strategy and one of the things we do is never spread grass clippings in the rough - we've got specific grass dumping piles to ensure that it does not go into the woods etc. We also have a list of weed killers and pesticides which have been approved by the Trust"

The course is extremely hilly and the majority of golfers use buggies - in fact during the South West and South Wales BIGGA Day when I visited only one team ventured out on on foot - congratulations to Jeff Mills and his colleagues from Taunton and Pickeridge.

"I know cart paths are much criti-



# Lord of the Manor



The undulating course makes a buggy a very good idea

cised but they are a great help to us, particularly in the winter when we can get round the course on machinery when otherwise we would be stuck. We can get jobs like changing holes done without marking the course at all."

"I would like to take this opportunity to say that if you manage predominately established POA greens that you should actively encourage it!

In my near 20 years in the business I do not know anyone who has com-

pletely succeeded in transforming POA greens to Fescue/Bent but I know many that have nearly lost their jobs trying to achieve it. With many young and upcoming greenkeepers this does concern me because above all whatever grass plant you have on your greens it should be strong and healthy not starved of essential nutrients. I also expect to see in the not too distant future new greens being sown down to a variety/mixture of POA

reptens. I know this is a very controversial subject, but at least there will be plenty of letters next month!

As well as looking after the golf course Paul and his team look after the Hotel grounds including the croquet lawn.

"The future for the whole place is extremely rosy. The hotel is superb, unusual and incredibly tranquil and the golf course will go from strength to strength" said Paul.

## Machinery Inventory

6 John Deere 220 Hand Mowers  
2 John Deere 2243 Greens Triples with vertidrain units  
1 Jacobsen Greens King IV Tees Mower  
1 Set of True Surface Rollers  
1 John Deere 3235 Fairways Mower with lightweight heads  
1 Toro 5100-D Fairway Mower  
1 Jacobsen Tri-King 1672D  
1 Jacobsen Tri-King 11900D

1 Ransomes T51D Backwing  
1 Kubota F2400 Outfront  
1 John Deere Gator 6x4 Utility Vehicle  
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1 Kubota ST30 Compact Tractor  
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1 HO532 Sisis Fairway Slitter  
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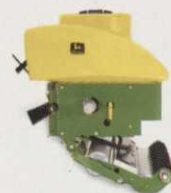
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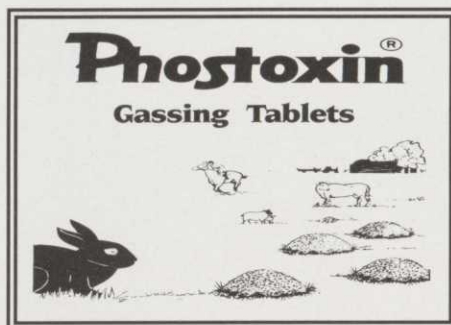
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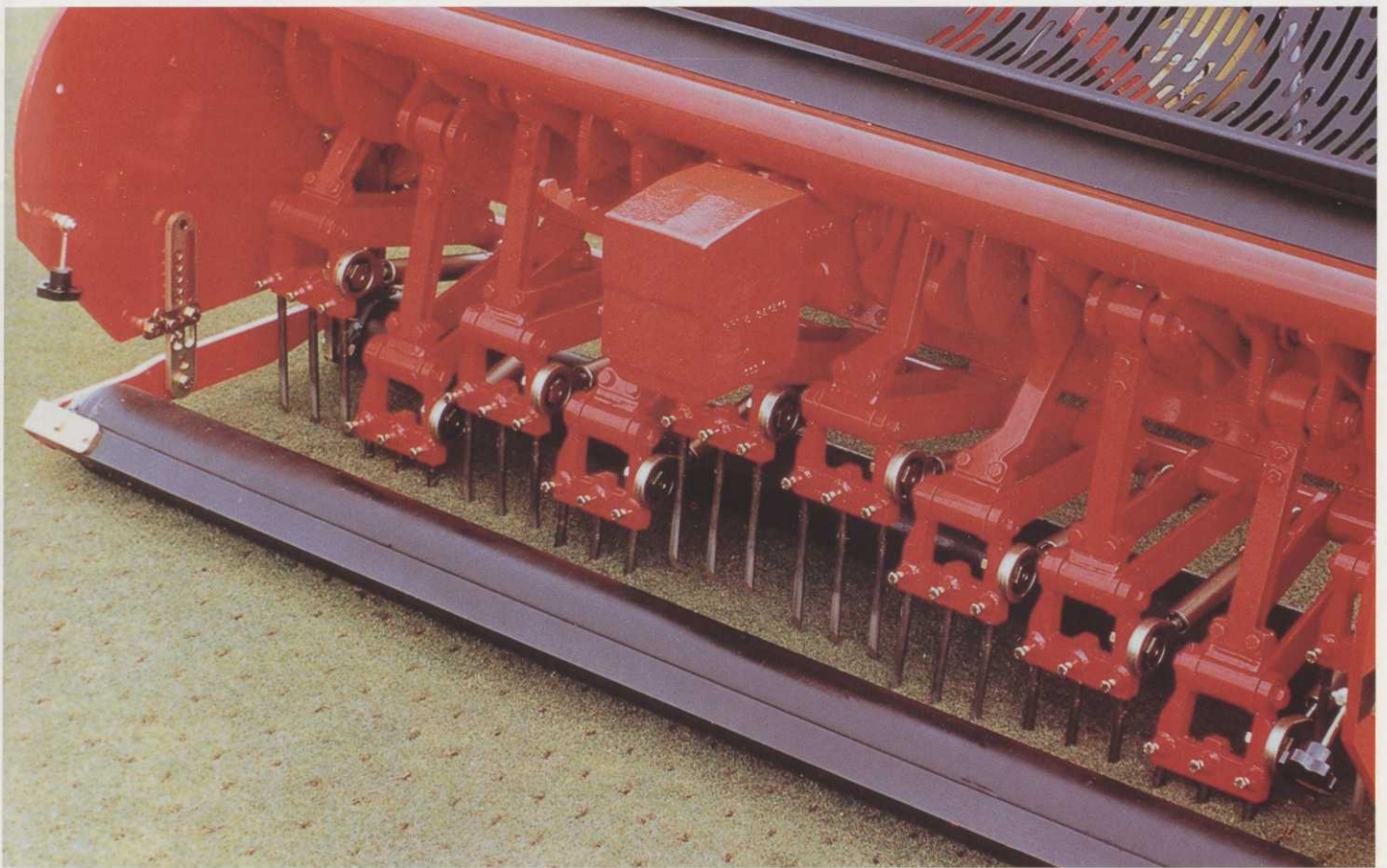
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Roland Taylor looks back at the development of aeration and how machines have improved to tackle the task.

# •The times they are a changing



Ever since man began creating and caring for natural playing surfaces aeration of the underlying soil has been an important issue. Unfortunately in the past, greens committees and players have been more concerned with what happened on the surface than problems underneath. They wanted nothing to hold up their play. This must have left many greenkeepers in a no-win situation. Only limited aeration, if any, was carried out, turf deteriorated and the golfers whinged.



Another down side was that there were only limited funds available to buy equipment. One very small "plus" was that courses were not played at anything like the same level as today, so compaction was less, but it was still prevalent.

Unlike his predecessor, the modern greenkeeper is faced with a far greater problem. Keeping playing surfaces in top condition is becoming increasingly difficult. Changes in climatic conditions have led to excessive rain followed by scorching heat. Heavy use of the course and equipment plays havoc with the soil structure. To maintain some normality under the surface requires a great deal of skilful management.

To understand the problems of compaction it is necessary to look at the soil's structure.

It is made up of varying proportions depending on the location of some or all of the following; gravel, sands, silts, clays. Each of these constituents has a particle size and this is significant in respect of the air space. For

example, clay is very small at 0002mm - this is so fine that the air space is minute and virtually impenetrable. Not only is the size important but the shape also plays a part - a perfect sphere is the ultimate. Large round particles make big spaces through which air and water can flow freely. In this ideal environment a thriving community of macro and micro organisms will happily beaver away breaking down organic matter so it becomes readily available to the plants. Roots can freely spread out to produce strong healthy leaf growth.

Unfortunately, all things in nature are not constant and the balance can quickly change. Pressure from above changes the particle shapes and compresses them against each other. The air spaces are drastically reduced and the flow of water slows down or even stops. Pools of stagnant water can form and the soil turns sour. Root growth is restricted and the absorption of nutrients virtually ceases. The plants fail to develop properly and become weak. Disease, weeds and

unwanted grass species appear on the scene.

From this scenario it can be seen that keeping an open soil is vital to the well-being of all turf.

It basically consists of particles and the spaces between them. It is the latter that is important to plant growth because through these the water, air and nutrients travel. In addition they allow the roots to spread out. If these are restricted in any way the plants become weak and susceptible to all types of attack. Not a pretty picture.

Aeration will help to alleviate this problem and the first form of this treatment was carried out by hand-forking was carried with immediate results. Tines specifically for the task were introduced at the beginning of this century. These were solid, and even then it was recognised they had a disadvantage. The soil was displaced laterally and roots' development restricted. On clay soils the holes produced were liable to fill up with water.

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