



**“The greens are fescue bent,  
and we’ve got dwarf ryegrass  
on the tees and fairways to  
make them hard-wearing”**

10th green courtesy of Mar Hall



As it turned out, it would take a huge effort from Kerr and his crew to see the project through. "I remember we had seeded the first nine greens, but the wind really got up one evening so I was here at 11pm watering the greens to try and stop the seed blowing away. I'm sure some guys who've done this sort of thing before don't think it's a big deal, but to me it was because I was doing it for the first time.

"By June 2009 the greens and tees were all seeded and grown in by ourselves.

The greens are fescue bent and we've got dwarf ryegrass on the tees and fairways to make them hard-wearing which seems to have worked very well."

This left just the fairways to be seeded, but as so often is the case in the West of Scotland, the weather intervened. With a short window between July and September of 2009 to get the seed down, Gordon said the task grew increasingly demanding with each passing day.

"From July onwards it never stopped raining and the pressure was on to get the seed down. Even on sunny days the ground conditions just weren't dry enough, and we didn't want to compromise on quality."

Luckily, with ten good days of

weather forecast around mid-September, and with the contractors on standby, it was suddenly all systems go. Fairways and rough were ploughed, harrowed, and stone buried before the seed could finally be drilled in. Though the elements had conspired against them, Kerr says the job was achieved with long hours, good weather and a few fish suppers along the way.

"We were working shifts between 6am and 9pm. Looking back it was an amazing feat."

Mar Hall opened in May 2010 and, since then, the 6,507-yard course has steadily been gaining popularity among a mixture of members, pay-and-play visitors and hotel guests.

"We now have over 100 members, but we need to ensure we accommodate everyone who wants to play here."

The first chance to show off his and his team's hard work to a wider audience came one week last August.

"We applied to hold the Mar Hall, com Scottish Classic PGA EuroPro Tour event because we wanted to put Mar Hall on the map, and we were confident it was up to the standard required," he says. "Everyone was very proud when we were awarded it. It was probably the best week of weather all year. It was brilliant.

ABOVE: PGA EuroPro Tour, Scottish Classic, courtesy of the PGA



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"Obviously the course is still young and you always want to improve, so I'm delighted to say the EuroPro will be returning this August. This time around we want it to be better still."

Reflecting on the experience as a whole, Gordon is delighted at the achievement of bringing a course to championship standards from a piece of paper.

"It's been a great adrenaline rush. At times, of course it was stressful but it's still been a dream for me to see a course through from an architect's drawings to a major televised tournament."





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# Beetles, bacteria and Acute Oak Decline

Hot on the heels of his exclusive article focusing on chalara ash dieback, Dr Terry Mabbett returns warning of another threat, this time to the UK's oak trees

**Great Britain lacks an official national tree emblem. Moves are afoot to adopt *Pinus sylvestris* (Scots pine) as Scotland's 'national tree', while our two native oaks (*Quercus robur* and *Quercus petraea*) are obvious choices for England and Wales as 'English Oak' and 'Welsh Oak'.**

Over the years a number of leading figures have intimated that Britain should have a 'National Tree'. The Mayor of London Boris Johnson chose an English oak. But don't get too carried away because a fast moving lethal syndrome dubbed 'Acute Oak Decline' (AOD) could wipe these iconic native oak trees from our landscape.

First reaction from many green-keepers might well be "what's AOD?". Sadly it's been killing trees in the UK for at least seven years but the problem has received relatively little publicity. There are several reasons for this. Initially AOD was regional and largely confined to Norfolk, Suffolk and Essex. It's now epidemic throughout East Anglia and spreading rapidly across the Midlands and into southern England. Affected trees are being found in Wales and as far north as Nottinghamshire.

Secondly AOD is not a classic disease (like Chalara ash dieback) and therefore not caused by just one plant pathogen in its own right. Acute oak decline appears to be

**MAIN LEFT:** Close up on trunk bleeds that strongly suggest acute oak decline

**RIGHT:** Profuse bleeding of dark coloured fluid from between the bark plates is one of the two classic symptoms of acute oak decline

(Both pictures are courtesy of Forestry Commission)



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caused by the interacting activities of a bark boring beetle (*Agrilus biguttatus*) and at least one bacterium. Many of the bacteria associated with AOD are completely new to science. *Agrilus biguttatus* has been known in the UK since the nineteenth century but until now as a relatively rare insect associated with dead or naturally declining oaks. This complicated association is why AOD is classified as a 'decline' rather than a disease. The word decline usually infers gradual but there is nothing gradual about AOD which can kill a mature oak in less than five years.

Two eye-catching external symptoms of AOD are profuse bleeding of dark coloured fluid from between the bark plates and tell-tale 'D' shaped exit holes on the trunk left by adult beetles after hatching from the pupae inside the tree.

Internal symptoms are tissue necrosis (thought to be caused by the pathogenic bacteria) and extended galleries near the necrosis and created by beetle larvae tunnelling in and around the phloem (food conducting tissue) and cambium. Cambium is the lateral meristem composed of dividing cells and responsible for growth in girth of the tree. This is the damage which

appears to deliver the death blow to AOD affected oak trees.

AOD is particularly cruel because it only appears in oak trees over 50 years old. Government scientists at Forest Research appear to be a long way away from unravelling the exact mechanics of AOD and until they do there is no hope of any control measures.

An added problem not yet widely appreciated is the interacting effect of oak processionary moth (OPM), a serious insect pest of oak trees featured by Greenkeeper International (Beware of OPM on the Golf Course) in January 2012. Experience in Germany, where the insect pest (OPM) is rife, shows infested oaks with additional extensive damage caused by *Agrilus biguttatus*.

OPM is currently confined to London with a small satellite infestation in Berkshire and yet to spread into areas of the UK where oak trees are suffering from acute oak decline.

Indications are that if these two separate problems (OPM and AOD) came together on a wide scale the combined implications for oak trees in damage and death could far outweigh what they are capable of individually.

about the author



Dr Terry Mabbett

Dr Terry Mabbett is a disease, pest and weed control specialist with forty years international experience covering research, advisory and journalism. His current fields of focus are professional turf and alien insect pests and pathogens of Britain's native and naturalised trees.

ABOVE: Characteristic 'D' shaped exit holes of the adult *Agrilus biguttatus* beetle which invariably accompany bleeding from the bark

BELOW: Larvae of *Agrilus biguttatus* excavate long galleries in and around the phloem and cambium tissue (Picture courtesy of Forestry Commission)

BOTTOM: Adult *Agrilus biguttatus* beetle (Picture courtesy of Forestry Commission)



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**JACOBSEN**

### English oaks on the golf course

English oaks are not widely planted on golf courses, especially near to greens, and for good reason. The English oak tree's root system is far reaching and able to undermine greens from a distance, and therefore years of investment in professional sports turf. Nevertheless mature English oaks are common features on many golf courses, mostly as 'relics' from farmland, woodland and country estates on which the courses were built – and also due to their sheer longevity.

Many courses have oak trees of 100 to 200 years old and it is not uncommon to find some with specimens of 400 to 500 years

at Forest Research is completely overwhelmed. The vast majority of sites on the Forestry Commission's AOD Distribution Map are reported by landowners and will not have been visited by Forest Research Scientists or had samples taken for testing and confirmation.

Despite the seriousness of AOD at this very moment the government has provided relatively little funding for research.

This has been left to the goodwill and generosity of charities like Woodland Heritage.

Chalara ash dieback was the result of an alien plant pathogen allowed to enter the UK despite years of unheeded warnings and corresponding negligence by the UK plant health authorities. As such

**“AOD has not received the level of attention and investment afforded to chalara ash dieback but that could change anytime now with AOD spreading quickly throughout the country”**

or more. As such they are large sentinel trees occupying prime positions and in this context are essentially irreplaceable. Indeed a nationwide survey would almost certainly show UK golf courses to be important custodians of ancient and veteran trees and English oak in particular.

Not only the mature English oaks on the golf course add to the landscape, because oak trees in the woodlands, hedgerows, meadows and parklands contiguous with golf courses play an important part too.

More than any other deciduous tree the English oak adds extended colour to a golf course. Leaves in their attractive tan coloured autumn condition remain on trees right through November and well into December.

Once down on the ground English oak leaves with their high tannin content (tannin is a natural preservative) stay crisp and dry causing few problems for turf grasses beneath and are relatively easy to clear up and remove.

Greenkeepers who suspect 'acute oak decline' on their courses are advised to report their suspicions to the UK plant health authorities\* but should not expect a lot of support or even a visit to confirm the report.

This is because the small team of scientists working on AOD

it has become a political pathogen with government now throwing everything at the problem to avoid further embarrassment.

The agents causing acute oak decline are entirely different. *Agrius biguttatus* is a native 'buprestid' (metallic glossy bark boring) beetle. The associated bacteria - though new to science - were probably present in the UK all along, but simply not identified.

This difference has meant AOD not receiving the level of attention and investment afforded to chalara ash dieback but that could change anytime now with AOD spreading quickly throughout the country and causing increasingly widespread and heavy lethal damage in the UK's native oak tree population.

In the not too distant future the UK government will be faced with what looks likely to be a forlorn attempt to save our two most important native trees, English oak and common ash. UK golf courses will be much the poorer if they disappear. If we did lose English oak the country could end up like Mauritius which displays the 'Dodo' on the country's coat of arms.



**BOTH IMAGES: UK golf courses are the custodians of many ancient and veteran English oak trees. This has its roots in farmland over which this south of England course was laid out in 1923.**

**Tree Health Diagnostic Advisory Service. E-mail: [ddas.ah@forestry.gsi.gov.uk](mailto:ddas.ah@forestry.gsi.gov.uk). Tel: 01420 23000**





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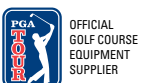
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# The trip of a lifetime



**Ten BIGGA Delegates - who we profiled in January's Greenkeeper International - travelled to San Diego just after BTME for the trip of a lifetime, in association with Bernhard & Company.**

The trip began with the them jetting from Heathrow to San Diego, and after a Golf Day at Encinitas Ranch Golf Course they enjoyed two superb course walks. The first was at La Costa Resort & Spa.

Their first educational seminar held at San Diego Convention Centre was 'Greens Aerification and Water Management by Numbers', and over the next two days they alternately explored the Golf Industry Show and joined BIGGA's Learning and Development Manager Sami Strutt on the BIGGA Stand. Another seminar - 'Sure Ways to Increase Plant Health' followed by the famous Torrey Pines course - a PGA Tour venue.

**Here's a selection of their comments and photographs from what proved to be an unforgettable week...**



Torrey Pines

"It was fascinating to see how the industry is run over there, and they're just as passionate as we are. Some of the differences were surprising. One of the courses we visited had a Superintendent who'd come to the club straight from university and he had a team mostly of labourers rather than turf professionals, so that was interesting.

"The GIS was on such a large scale it took two days for me to take it all in! Some of the education took place within the main halls of the exhibition which I also thought was a good idea.

"The delegation were a really good range of ages, jobs and courses. My room mate was Derrick Johnstone from the Wentworth Club, and it was a great opportunity for us to compare the similarities and differences between his club and mine.

"I can't imagine why you wouldn't apply to be part of this. It was my first visit to America and it was superb - I'd urge you to apply for next year's delegation."

**Asa English, Deputy Course Manager, Rothley Park Golf Club**



Rhett Evans, CEO of GCSAA, during the education programme