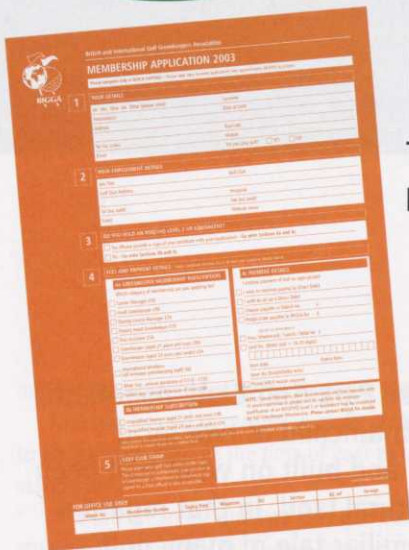


Rachael and Gemma from the Membership Services Department would like to welcome 49 new members to the Association.



New Member Application Forms

The new bright orange application forms have been in circulation for the past few months and replace all existing forms which are now invalid.

The forms incorporate a section on qualifications that are in line with the new changes to the constitution. We would be really grateful if older application forms could be destroyed as they no longer cover all the entry requirements. Existing greenkeepers renewing from June will receive one of these forms in their renewal packs. Please don't throw it away but pass it on to a colleague so that they can benefit from membership of the Association including the section, region and national courses available, the

legal helpline, personal accident insurance and not forgetting the many discounts arranged with various companies on your behalf. Don't forget that if you put your name and membership number in section 8 Membership Introduction on the reverse of the form then you could win a BIGGA Clock/calculator/calendar and alarm. If you require any forms please contact Membership Services on 01347 833800 or email your request to rachael_p@bigga.co.uk

Events Page

Have you lost your section fixture list?

Unsure if there is an event coming up in your area? Why not look up the News and Events Section on the Bigga website at www.bigga.org.uk which is constantly updated and has full listings of all the events in your Section and Region. If you don't have access to the internet then don't forget to check out the Around the Green notes which are located towards the back of Greenkeeper International and have details of forthcoming events in your area.



BIGGA welcomes...

Scottish Region

Keith Burgon, East
Dave Cassidy, West
Stuart Gordon, West
Robert Murray, West
Mark Reynolds, East
Garry Ross, Ayrshire
William Rusk, North
Kenneth Siems, West

South West/South Wales

Paul Bennett, South West
Peter Biggs, Devon & Cornwall
Richard Evans, South Wales
Ian Gerrie, South Coast
Christopher Jones, South West
John Jones, Devon & Cornwall
Christopher McCarthy, Devon & Cornwall
Kevin Potter, South Wales

Northern Region

Mark Davies, North West
John Evans, North Wales
Antony Hunt, North West
Robert Liddle, North East
Robert Lydon, North West
Anthony Payne, Northern
Matthew Pooley, North Wales
John Taylor, Northern

Ireland

Stephen Martin

International

Christopher Johnson, Austria
Simon Gorwill, Germany
Han Groothuizen, Netherlands

Midland Region

Derrick Arnold, BB&O
Robert Bell, Mid Anglia
Steven Cook, BB&O
Steven Stroomer, Mid Anglia

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Pauric McGroary, North West

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Adrian Russell, North West
David Searles, Surrey
Michael Tointon, Sheffield

South East Region

Peter Brooker, Surrey
Bruce Chumley, Surrey
Thomas Clarke, Surrey
Jonathan Douglas, Surrey
Kristopher Durrant, East Anglia
Paul Hamilton, Surrey
Christopher Hartnett, Surrey
Karl Harvey, East Anglia
Adrian Henshaw, Surrey
Nicholas Mileham, Kent
Gavin Wilson, Kent

Message of the Month Winner



Each month the person who has written the best message on the BIGGA Bulletin Board, which is found on the BIGGA website www.bigga.org.uk, receives one of these FM desktop scan radios.

Our congratulations go to June's winner, Lee Bridge from Seaford Head Golf Club whose message was posted on the 5th May under the 'Talking Shop' section.

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BIGGA Website..... www.bigga.org.uk

JUNE'S MEMBERSHIP DRAW WINNER

Just introduce one or more new greenkeeping members to BIGGA and your name will be placed into a draw to win a fantastic BIGGA Clock/calculator/calendar and alarm. Our congratulations go to June's winner, Allan Patterson of The Gleneagles Hotel Golf Club.

Course Feature

All is Well at Cumberwell

Scott MacCallum travelled to the west country to meet Marc Haring, Course Director at Cumberwell Park GC.



Cumberwell Park Golf Club, near Bath, was the brainchild of two local farmers and built on what had been agricultural land. In that regard it is a familiar tale of many golf developments constructed around the mid 90's. What might not be quite so common is the innovative manner in which the club has gone about ensuring that, in tough commercial times, it is still producing healthy profits year on year.

That undoubted success can be put down to several factors, principal among them a modern and flexible approach to club memberships and a "thinking outside the box" approach to the best course management practices.

One man who has had a significant influence in the success of the club is Marc Haring, who joined Cumberwell early in its construction.

Indeed, he welcomed the opportunity to work with the grow-in team but was a little shocked by the arduous nature of the work involved.

"It was early August and on the first day with them I started at 8am, which was like a lie in for me, but then we didn't break for breakfast until 1pm when we had 10 minutes; lunch was at 5pm when we had about 20 minutes and then we went straight through until it was way too dark to see. Then it was down the pub for eight pints of lager and bed ready for the same again the next day and that was 6 days a week."

The club opened with 18 holes in August '94 and attracted quite a few members but it was not until a few years later that the changes were made which have marked Cumberwell out from the norm.

"We had a management restructure and refocused the overall goal of the club to become more commercially aware while at the same time still recognising that to make the place profitable we had to keep the customers happy," said Marc, a former Devon County player.

Prior to the changes the club had been run along more traditional lines, limiting society golf and priority to members.

"The new structure meant we no longer had a Secretary/Manager but a board of management which met once a month comprising the two owners, Adrian and Chris James; a Chairman, and the heads of the respective departments - the clubhouse, accounts, the Golf Director and myself," explained Marc, whose title changed from Course Manager to Course Director.

One of the initial decisions was to review the membership structure which to that point had included Platinum (Full) Membership; Gold (Five Day) Membership and Silver Membership which was £200 a year, plus a small green fee to be paid each time the course was played.

"When we analysed the income per round we were actually making most from the Silver members, even although the club was being run to favour the Platinum.

So we had a rethink and brought in an additional Bronze membership. It took the Silver a stage further and was £100 a year and £10 a round midweek and £12 at weekends. This was hugely successful because it meant people could suddenly join a golf club, have full member rights and the opportunity to get a handicap, for £100 a year," said Marc, who began his greenkeeping career at Stoke Poges and also spent time at Wentworth and Camberley Heath before moving to Cumberwell.

The decision to add the category was inspired and now, four years on, Cumberwell has a membership of over 1,300 of whom 250 are platinum; the five day category has closed and now has less than 100 while the Silver



The team with Marc centre in the dark jumper and Andy Parker on the extreme left

and Bronze account for the other 1,000 between them.

That has helped to maximise profit at the club as has another decision to target the winter as the time of year to maintain high quality playing standards.

"We are on an ex farmland clay golf course so we should, and did, struggle in the winter but we've come to the conclusion that anyone can fill out a golf course if the weather is fine but in the winter it's a different matter. If you are undecided and know that you'd be on 18 temporary greens or are going to get covered in mud you probably wouldn't bother.

So we made a conscious decision to improve the fairways through intensive drainage and gravel banding while at the same time targeting the greens to perform well in the winter.

"We are now open and in good condition 364 days a year (we close on Christmas Day). Last year for example we had two days on temporary greens and we play on even if it is frosty and don't suffer any detrimental effects," he explained.

Since making these changes Cumberwell Park has been very profitable throughout the winter months. I am responsible for keeping statistical data on all the rounds played at Cumberwell and present this at the monthly board meetings. When we analysed the data we realised that actually the time when the course is at its most busy is during the month of December. Of course daylight is limited in these months but we can be totally packed with green fee paying punters.

"The tougher the conditions the better it is for Cumberwell because golfers from other clubs visit because they know we will be in good condition when other courses - which operate to other agendas and perhaps target the summer months when competitions are held - are closed or are on temporary greens.

"Amazingly we found that our income from visitors went up substantially during the worst weather conditions."

So how does the course cope under winter conditions? "We have USGA greens and initially we ran with the established practice of feeding aggressively to establish the grass, building up a bit of resistance in the form of thatch to give 100% cover so we could keep the annual meadow grass and weed species off. It's an ok philosophy.

"Where we struggled was that we were getting wear - spike and pitch marks - on the soft growth and we were starting to have problems in the winter which, we started to recognise as a key period."

The solution came by chance and as a result of Marc, and his then team of three, attempting to prove a point.

"We had 220 acres to look after and were putting in 11 hour days in the summer and something had to give. We decided that we wouldn't maintain the putting green other than cutting it twice a week. We had the viewpoint that it would deteriorate because of lack of maintenance and that would prove our value.

"Unfortunately the opposite happened and when we came out of the winter I remember someone walking past as I was cutting the putting green saying that it was the best green on the course," said Marc, from

whom a technical knowledge was acquired through Food and Dairy Technology Diploma he gained before entering greenkeeping.

Marc then sat down with his Deputy and right hand man, Andy Parker, to discuss the issue and concluded that they may have hit upon something which could be transferred to the 18 greens on the course.

"We were both very experienced in all greenkeeping techniques and regularly visited other courses. We felt that we could tailor the traditional greenkeeping approach to our needs and so decided to give it a go. The critical thing was to stop feeding and by lowering nitrogen applications drastically we would create a tougher grass that would resist wear. And that's exactly what happened."

He does admit that there was a pain barrier through which they had to go before seeing the benefits.

"The greens were crying out for feed but because we weren't doing the rest of the maintenance programme such as scarifying and hollow tining we could still maintain a surface. The look of them was deteriorating but the playability was improving so we got away with it," recalls Marc, who now manages a well motivated team of 13, including two part time gardeners and two mechanics.

"Going into the winter there was still a lot of residual thatch which was breaking down and releasing nitrogen and in that first winter we did get a fair amount of disease but we stuck with it. Going into the summer we were in pretty good shape and began tailoring things a little more by doing some simple aerating, slit tining etc. We were cutting tighter because the grass was hardier and, as we weren't verticutting, we still had plenty of leaf material in the form of lateral growth. The grass was healthy and we were still maintaining the root growth."

The following winter the real benefits began to shine through. "We hardly fed at all that year. It was around 15 kilos per hectare, which is St Andrews like feeding, and we had the best putting surfaces you could ever imagine and suddenly the praise started to come in. We knew then that we were fine."

The breakthrough occurred around the time that they began constructing a further nine holes and Marc and the team were happy that they were moving in the right direction and applied the new practices to the new greens.

"We seeded them in August and nine days after the seed - and it wasn't pre-germinated - went down we were mowing. We cut it to 10 mm and it was like mowing a bunker, but we were confident that it would work.

"It has to be said that we fed aggressively but we use organic feed - Sustane which is an ideal product for our philosophy - and we lowered the height of cut by half a millimetre each week down to six mil which took us into the winter at the same height as the other 18 greens.

"When we hit the winter period we stopped feeding and the result was that in eight weeks the greens were totally established and became superb putting surfaces with good root growth, no thatch and a nice balance of bent and fescue. I feel that we have got everything working in harmony now. We never scarify or verticut or hollow tine but if you don't remove



anything you don't have to put much back in the way of fertiliser or additives of any kind."

Marc is indebted to agronomist, Robert Laycock, and a lecture which has remained with him that Robert gave at a recent Harrogate on the relationship between nitrogen and calcium in the grass plant.

"Basically if nitrogen is high, calcium is always low and if nitrogen is low, calcium is high. Calcium is the same for grass as it is for us in that it provides structural strength. In our case it is teeth and bones and in the grass plant it is the cell wall and it makes it much more resistant to not only wear but disease as well. Fusarium has to penetrate the cell wall to infect the plant and by creating the stronger cell wall you prevent that infection. We do not have fusarium. It is not a problem. We haven't sprayed in five years and I can't see us ever having to do it."

So what's the downside?

"There is always a compromise in greenkeeping if you

do sometimes you pay for it somewhere else and we tend to suffer a little in March and April. Coming out of winter the greens are very hungry and start sending roots down at the expense to top growth and you tend to get very little grass at all. It means the surfaces are fast but a little bumpy. Also the greens don't always look that great visually and they can get quite firm in the summer but because we have big greens we can get away with it," explained Marc.

"All in all though, the benefits for us far outweigh these minor problems. Ask any greenkeeper and their problem time is the winter but in our case we can deliver the goods whatever the British climate throws at us.

However, he can also appreciate fully why other courses wouldn't follow the same path.

"If greens were predominately annual meadow grass and you put them under severe stress by reducing the nitrogen you'd be left with nothing. Golfers wouldn't tolerate it so I can understand other



Excellent root development



greenkeepers not being in the position to go down that road. In that respect we've been very lucky.

"In fact, I have to say I have been very lucky all round. I've got no greens committees to worry about, a great team to make me look good and I am part of a forward thinking and highly successful golf club which is developing all the time.

As for the future for Cumberwell it includes another nine holes to give four loops of nine and a possible academy course, while the lovely stone built clubhouse is also to be extended.

With innovative thinking and a talented greenkeeping team the success of Cumberwell shows that clubs can thrive in these tough economic times.

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WATER MANAGEMENT

Continue to learn

"CAMS? I've never heard of it."

"What's The Water Bill?"

"I put 10 minutes of water on the greens and seven or eight minutes on the tees."

"The lakes on the course look after themselves."

Ten years ago these statements were common among the greenkeeping and golf club fraternity. Today, they are heard less so, but there is a greater need for Course Managers and Greenkeepers to be aware of all aspects of water management. It is not just about operating irrigation systems, it's about other aspects including managing lakes, watercourses and dealing with sources of water including abstraction licences and water-use monitoring.

The turf management profession is increasing its environmental awareness all the time and has a huge opportunity to demonstrate environmental responsibility while still producing the best playing surfaces. This is particularly relevant to water, both in relation to irrigation practice and to bodies of water on the course. There is a need to ensure that you keep abreast of legislation and water management methods.

This article provides an overview of those aspects of water management that simply have not been sufficiently covered in the general golf course management field, but are important now and will become more important to all Course Managers and Greenkeepers. It is intended to provide background information that will be relevant to the environmental programmes that are increasingly prevalent in golf course management.

CATCHMENT ABSTRACTION MANAGEMENT STRATEGIES OR CAMS

In 1999, the Government published a development document entitled Taking Water Responsibly. This reviewed and recommended modification to the way in which the abstraction of water for all uses was regulated. A key part of the resultant changes was the development by the Environment Agency of Catchment Abstraction Management Strategies or CAMS. It is often claimed that in the wider sphere of water use in the UK, golf course use is insignificant and will be largely ignored. But can we afford to take that view? I believe not. Public perception and ignorance of the crucial part water plays in both the agronomic and commercial success of golf makes the industry a potential soft target. We should take this into consideration and be able to demonstrate a responsible approach.

CAMS will be inextricably linked with the new Water Bill in changing the ways in which water is made available. It covers drinking water supplies, industry, agriculture, horticulture and turf management and will have some effect on many golf courses.

CAMS are water allocation processes based upon consultation and greater public information on, and involvement in, managing water resources within catchment areas. It is intended to provide a consistent approach to local water resource management. A strategy is developed via a five-stage process for each catchment area. These are: a pre-consultation, a resources assessment, a sustainability appraisal, the creation of a consultation document, and finally the implementation of the strategy.

The strategy is then in place for six years, whereupon it will be reviewed and updated.

So what does this mean for the golf manager? It will change the abstraction licencing process. Water abstraction licences have historically been granted in perpetuity. However, CAMS and The Water Bill bring time-limited licencing linked into the six-year cycle of any CAMS area. At the end of each period, users will need to reapply and new licences will be granted based upon environmental sustainability, ongoing need and efficient use.

The first criterion is largely outside our influence, but ongoing need and



efficient use are aspects we can control. Good irrigation management techniques such as scheduling, preferably based upon ET (evapotranspiration) demand and accountable and sound agronomic practice, will be important in securing the required water quantities. Reliable, accurate and comprehensive control systems with the ability to demonstrate and record operational irrigation strategy and water use will also allow a stronger case to be put forward at the time of renewal. In addition to new licences, a programme of converting existing permanent licences to time-limited status over a 15-year transition period will create a requirement for production of a well founded and justifiable renewal application.

CAMS have a direct effect on courses using boreholes or drawing water from lakes or watercourses. Those using potable water supplies may find The Water Bill of greater significance. www.environment-agency.gov.uk

THE WATER BILL

The Water Bill was introduced in the House of Lords in February. While it will affect England and Wales, the current less regulated position in Scotland will change and Course Managers and Greenkeepers in Scotland should continue to update their knowledge of local water source provision.

Statements have been made as to the practical effects this legislation would have on the golf industry, particularly when discussing irrigation system provision, but it is fair to say that until it becomes law and the full implications of its implementation are understood the impact is difficult to gauge.

This Bill is described as taking... "to a new level the Government's commitment to the sustainable management and use of water resources. It will update the framework for abstraction licencing, promote greater water conservation and planning for the future by water companies."

It appears that this emphasis on the water companies as opposed to end-users is important. Indeed, a legal duty for all licensed abstractions to use water efficiently does not appear to be included in the Bill. The companies will be obliged to develop plans for more effective drought and water resource management and for better water conservation. The investment required to achieve these objectives could well be reflected in more inspection and regulation and potentially in price reviews.

By Graeme Francis, Sales Manager,
Toro Irrigation Products, UK

TORO Count on it.

The Bill will also lead to deregulation for small abstractors. If you take less than 20 cubic metres or 4400 gallons per day then there will be no licence control. The Environment Agency, however, has the power to raise or lower this threshold based upon local CAMS demands. As an industry, we should have, at the very least, an awareness of The Water Bill and the need for the creation and implementation of water conservation programmes. www.defra.gov.uk

EFFICIENT WATER USE

Water use efficiency has many facets and all are becoming of more significance as we see tighter regulatory and financial control on water use.

Course Managers simply must have the right tools to do the job and in irrigation terms this means a system that has been correctly designed using accepted principles relating to areas such as location and spacing of sprinklers, pipe and cable-sizing and control methodology.

Even today too many inferior systems are installed and efficiency is compromised in the shortsighted quest for lower initial capital expenditure. Control systems, particularly, need to be utilised to allow accurate scheduling while providing an easy way in which to create new irrigation programmes and modify existing ones. This, in combination with comprehensive system performance monitoring, will bring effective water conservation. It is possible to reduce water use by as much as 25 per cent by using the right control system and it can be the case that the initial outlay of a PC-based control system can be recouped over a reasonable period by the resulting reduction in water supply costs.

It is not just the original design that is important, however, as installation, operation and maintenance are all crucial. Looking at the day-to-day use of irrigation Course Managers and Greenkeepers need to have an understanding of the methods of calculating precipitation rates and application times and relating those to water consumption. Knowing the rate at which a system applies water in relation to the infiltration rates of soil types and construction profiles allows irrigation scheduling to be adapted to prevent runoff, puddling and rootzone leaching. These calculations are simple mathematics using performance data.

As accountability and the need to prepare justifiable claims and applications for water become more important the ability to explain how water usage figures have been produced is essential. It is fair to say that this aspect of golf course management has not been given the necessary attention. More education on irrigation scheduling and its implications on course management is required as the need for efficient water use increases. www.btlia.org.uk

LAKE AND POND MANAGEMENT

This aspect of water management has been highlighted before. Water quality issues in lakes, whether they are due to high occurrences of algae, low oxygen, excessive weed growth or sediment build-up, do need to be addressed. Every lake is a unique ecosystem and a process of identifying the causes of lake and pond water quality problems should be the first step to better management. All too often, it is the symptoms that are treated while the underlying causes are not understood. A lake should have an environmental balance and any curative actions need to take this into consideration.

All lakes and ponds go through an ageing process that takes them from a state of low nutrient level with little or no algal or macrophytic growth to the eventual creation of a swamp or bog. Where a lake or pond is created it is often subject to an exponentially accelerated ageing process. The reasons for this include erosion, shallowness in construction and high sediment and nutrient loads often deposited from incoming watercourses.

There are a variety of mechanical, chemical and cultural ways in which to solve lake water quality management issues, but the underlying fact remains that without the necessary levels of oxygen and circulation through the water the problems will reoccur. In some cases certain treatments, while producing immediate and short-term results are actually adding to the issues, particularly if organic matter is being added to the nutrient base and depleting oxygen levels in its decomposition.

Methods that are employed include good basin design particularly in relation to depth, a minimum of three metres is recommended. The creation of peripheral wetlands and buffer zones using reedbeds and vascular plants can also assist with lake and pond water management. In some instances the adoption of "no chemical zones" around lakes can also help. Other methods that are used include the introduction of barley straw and voracious weed eating carp but more often than not the environmental balance within the water itself is the key to success and the only real method of quality control.

The four key water quality factors are sunlight, temperature, nutrients and oxygen. Too much of the first three and not enough of the last will create an imbalance and water quality issues will proliferate. In a natural lake transfer from the atmosphere provides enough oxygen by wave and wind action, surface diffusion and rainfall. In man-made lakes it is usually the case that these natural methods are not able to provide sufficient oxygen and therefore mechanical oxygenation and circulation is required.

The use of aeration systems is becoming widespread in commercial landscape and public parks and there are a growing number of examples in golf course lakes. When looking at an aerator for a lake it is important that oxygen transfer rates are available for evaluation. These must be produced by an acknowledged independent testing facility and should be derived from operation of the aerator within accepted electrical parameters.

Aerator design principles dictate that high flows with lower pressures create the best oxygenation and circulation. There may be a fountain-type effect, but the production of a spray pattern is of secondary importance. Fountains generally work the opposite way using low flow with high pressure to produce the spray effect. Aerators provide the best long term and proactive way in which to maintain good water quality in lakes and ponds. Initial capital expenditure may appear high, but what will be the cost of not acting?

This article can only touch on each of these areas of water management. It may appear that some of them may have little relevance to your own course, but it should be seen as part of every Course Manager and Greenkeeper's role to have both an awareness of them and to implement management regimes that are relevant to the course now and for the future.

Ignore water management – whether for irrigation or lakes and ponds – at your peril.



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From Horses for Courses...

Roland Taylor looks at the development of the fairways and tees mower from the early days of animal driven maintenance



While cleaning out a drawer recently, I discovered some old leaflets, magazines and newsletters that gave an insight into what greenkeeping, especially the cutting of fairways, was like back in the early part of the 1900's.



Mr Glass, the then Head Greenkeeper of Thorpe Hall GC in Essex, wrote in 1963 that he had been working on golf courses for over 40 years. His first job back in 1923 was mowing fairways with a 24" horse drawn roller mower, this plus a 36" version and a flock of 300 sheep kept the grass short. The work was slow and tedious and he was only able to cut two fairways a day. Later a triple gang horse drawn unit was purchased which did speed up the operation. Animals had been used to keep the fairway grass short as far back as the middle of the 1600's and rabbits were being farmed on courses for their meat. The records show that by the beginning of the 1800's, on one particular course, players were complaining about the amount of damage these four-legged mowers were doing to the fairways, and as a consequence to their game. In this instance, a long, costly legal action, which eventually finished up in the House of Lords, was necessary to rid the course of what had become a nuisance. There are probably still a few golf courses, where local farmers have grazing rights. It is surprising that a flock of sheep was still being used for maintaining grass, 80 years after Budding had invented the cylinder mower.

In his article Mr Glass goes on to say the big day arrived when the club purchased a Fordson tractor plus a five-gang mower. The Horse went into retirement and the sheep went to market, much to the relief of the players and all the fairways were cut in two days.

Further insight into what it was like to work on a golf course in the 1920's is gained from some essays, which were published in 1929 as part of a greenkeepers' competition. Most of the mowing of greens was being done by hand and one entrant wrote that he would not have an engine powered unit on his hallowed turf because they could not be trusted. Reading between the lines he had probably had a nasty experience with a petrol mower. He says that they were apt to leak oil and petrol onto the greens and that his men were inclined to drive them too fast which caused scuffing on the turns.

Advertisements of the time show that there were plenty of courses using motor mowers. Dennis Bros of Guildford were offering 24" (£72), 30" (£85) and 34" (£100) models, plus a trailer seat that would fit any of these at £6.10 shillings (50p). They claimed to have supplied a number of golf clubs with their machines including, Royal St George's, Richmond Park and Woodhall Spa.

Another advertisement illustrated a horse drawn set of Shanks 'Triumph' Triple gang mowers, these were available in 7ft to 16ft widths. They also displayed a 16" Wizard motor mower, complete with grass box for £37.10 shillings.

Over the next four decades tractor towed gang mowers became the normal method of cutting fairways. The ground wheels drove the cylinders and the performance was very much reliant on the operator. The travel speed was critical to the quality of finish, too fast and the result would be very poor. There was tendency for units bouncing at high speeds which results in an uneven cut and turning too sharply could produce scalping and scuffing.

The first innovation to gang mowers, was the introduction of triple units driven off the tractors PTO. This meant the cutting cylinder speed was no longer reliant on the forward motion of the unit, so it was constant, regardless of other outside factors. This introduction heralded the beginning of a more controlled quality of cut.

At about this time hydraulics were also being introduced. These were run off the tractor's system and were for lifting the units in and out of work, which meant the mowing width, could be reduced when working in confined areas or around obstacles.

The next milestone was the hydraulic motor. Now each cutting unit had its own power supply and because of the flexibility of the hoses, used to deliver the oil to each motor, it could be floating to follow the ground contours closely or fixed for level surfaces. Cylinder speed remained constant and its spinning directions could be altered at the flip of a switch. Another major advantage the hydraulic units had over trailed gang mowers was the ability to disconnect the cylinders when travelling between sites and to be able to lift them in and out of work, all from the tractor seat. Trailed gang mowers and hydraulic units are still readily available. But the machinery for maintaining fairways has moved on.

For the last two decades the development of all golf course machinery has mainly been lead from across the pond, in the USA. This saw the introduction of ride-on fairway mowers with a choice of cutting width and cylinder units. The hydraulic systems have been extended to give two and four wheeled drive versions and power steering. The other big change was the advent of small compact diesel engines.





From Horses for Courses...

TEES

The general consensus is that these should be cut with a cylinder mower and the clippings collected. Having said this, it was recently reported that some roller propelled rotary mowers with grass collection were being used in the USA.

No doubt there are some readers who use this type of mower here in the UK. An advantage of using a rotary is that leaves and any other debris will also be collected, whether the finish is acceptable is a point of discussion.

A ride-on triple mower, with a collecting facility, is also an alternative method of mowing tees, especially if they are large enough. Where they have a shallow banking the hover type of mower can be used.

For bank cutting an alternative is the brush cutter. This machine should not be confused with a trimmer, which has a relatively small engine and is mainly designed for domestic grass cutting.

The commercial brush cutter is a far better proposition, they are designed for heavy use and are now available with wide choice of powerful engines. Nylon line trimmer heads are part of the package, so they can cut short grass on banking. The main reason for suggesting this type of machine is its versatility as it can be used for other jobs around the course such as cutting down undergrowth or weeds on ditch sides. Another possibility is the recent introduction of brush cutter type power units which have a range of quick and easy to fit interchangeable attachments including nylon line grass trimmer, hedge cutter and rotary broom.

The style of cutting has also undergone a metamorphosis and to some extent this has been influenced by television coverage, which is now big business. How the course appears on the small screen has become an important factor. Long sweeping fairways that look immaculate are the norm. This has, to some extent, influenced players in this country, who also expect their course to look similar.

A majority of courses now use ride-on machines for mowing the fairways and there are plenty to choose from, often with similar specifications, that cater for the need.



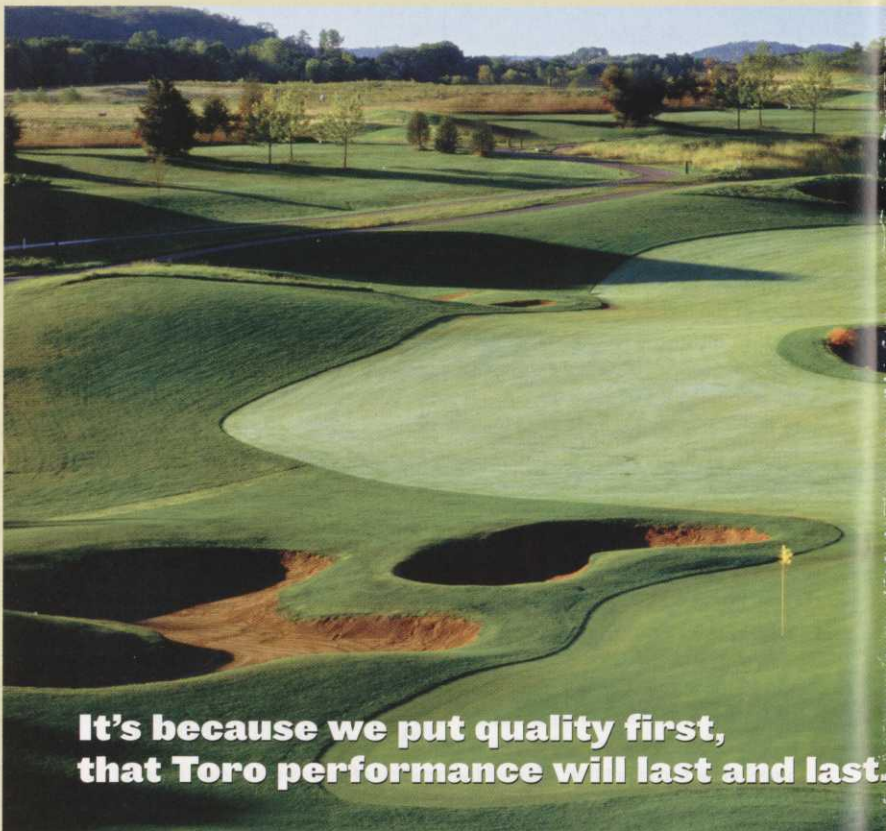
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