

port. Deadwood is a fast diminishing resource in the countryside and one that we should not overlook. Random dead wood lain on the surface will provide connecting habitat for a range of specialist invertebrate species. Standing dead wood too is in extremely short supply and can be better accommodated than it currently is on our golf courses.

Over 450 bird boxes were erected, providing nesting habitat in the absence of standing dead wood and other habitats such as hedgerows.

Grasslands are a main part of any golf course and it was possible under the scheme to create over 1,516,300 m² of new deep rough grassland habitat on a range of different soil types.

Over 30 new areas of wild flower meadow were created.

Our heathland too has benefited from the scheme, this fast diminishing resource is vital for sand lizard and other reptiles and is the chosen habitat of butterflies such as the silver studded blue and birds like the Dartford warbler and nightjar. Over 22 additional hectares of heathland were created.

Ponds and other associated water features are important for a range of wildlife, which can vary massively depending upon how they are looked after.

The EGEAS has improved the quality of more than 100 ponds and has resulted in the creation of 20 new water bodies, thereby increasing the country's habitat resource for a broad spectrum of organisms including great crested newt and natterjack toad.



Testimonials

Many clubs following advice from the STRI Ecologists wrote to outline the positives that came out of the service and the visits and a few are illustrated below

Weymouth Golf Club

...Thank you for nominating Weymouth Golf Club for the certificate which has given our conservation objectives some useful publicity in the local newspaper and The Golfer magazine. Informing both the club members and the local community will I am sure prove to be beneficial to our aims of conserving the local environment. Wild flora mixes have been introduced between the 5th and 9th tees. The vegetation is being managed in accordance with the recommendations provided. The information you provided about yellow rattle seed proved to be extremely useful and we were able to purchase enough seed to conduct a trial in several areas of rough.

Davenport Golf Club

....Since STRI last visited Davenport Golf Club in October 2002 the number of long grass areas has increased from one to seven. Many larger areas under and around young trees/copses are being marked out at present. The grass will be cut less frequently and at a higher height of cut which will provide an intermediate rough. An area for a composting facility has been ear-marked and cleared. Both ponds have been cleared of Canadian and other pondweed and the material is left to drain

for a day or two beside the pond before removal. The beech hedge to the right of the 16th hole has been extended along the 15th to provide a hedgerow corridor. Other work undertaken has included planting marsh marigolds within two wet areas and several significant new tree and scrub plantings.

Eaton Golf Club

...Since your visit in July 2003 we have set up an Environmental Working Group that produced an Environmental Management Plan, a comprehensive Waste Management Plan and held numerous course walks for members. On the practical side, woodland thinning commenced through nine areas; around 300 shrubs, 142 5 ft trees and 90 whips were introduced at different areas around the course; two areas of long rough (each of around 70 m x 30 m) were allowed to develop as ecological corridors for wildlife; three barn owl boxes were erected by the local Barn Owl Group; considerable work has been carried out with regard to the development of the water features including marginal and semi-aquatic planting. We have also benefitted from an article published in the Liverpool Daily Post (Tuesday 6 December 2005) entitled Eaton are chasing birdies with a difference. We have strived to strike a balance between the needs of nature and the needs of the golfer working to get the balance right.

The club found the work rewarding, putting something down for future generations whilst giving so much pleasure to those using the course.



Davenport Golf Club



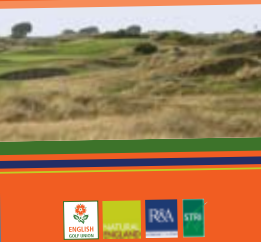
Eaton Golf Club

IN CONCLUSION

A full account of the service, the results obtained, and the comments received from participating golf clubs is contained within a new publication produced by STRI on behalf of the English Golf Union and the sponsors.

STRI and the EGU would like to thank Natural England and The R&A for their continued support throughout.

The English Golf Environmental Advisory Service



Copies of the booklet are available free from The English Golf Union, Tel: 0044 1526 334500 or write to Paul Keeling at The National Golf Centre.



Championship
conditions,
come rain
or shine



How irrigation is helping keep Celtic Manor Resort and St Andrews links in perfect playing condition for this year's top tournaments, writes Jenny Hughes



No sooner has Louis Oosthuizen lifted the Open Championship Claret Jug 2010 at the Old Course than the golfing world switches its gaze to Celtic Manor Resort and the Ryder Cup...

But, weather-wise, preparations at the Usk Valley resort in south Wales couldn't be in starker contrast to the recent hard work carried out at The Home of Golf. While St Andrews Links Director of Greenkeeping, Gordon Moir, and crew were battling heavy downpours in the run-up to the tournament, Celtic Manor Director of Golf Courses and Estate Management, Jim McKenzie, is currently dealing with the effects of a three-month drought.

Come rain or shine, however, both courses rely on Toro Irrigation products to keep their surfaces in championship condition. And, boy, is it shining at Celtic Manor at the moment, making irrigation a crucial part of Jim's preparations!

"We've recently experienced an unprecedented period of drought," he revealed.

"April, May and June have been very dry, so irrigation has been

really important. The Twenty Ten course that will host the Ryder Cup uses a hybrid irrigation system, but basically everything above ground is Toro in terms of sprinklers and solenoids. The sprinklers on the fairways have served us particularly well as they're coping with some strong winds at present, plus we've been impressed with the minimal maintenance that has been required."

The Twenty Ten and the Montgomerie course feature a mixture of 835S, 810G and 725 Series sprinklers as part of the hybrid systems.

Moreover, Celtic Manor Resort's original course, the Roman Road, uses a system controlled by its SitePro central control system – one of the most widely used systems in the golf course industry.

"The full system on The Roman Road course works really well and has seen us through some major events too, like the Celtic Manor Wales Open 2005, 2006 and 2007 and the 2005 and 2006 All Star Cup celebrity tournament," Jim adds.

And, while the St Andrews Links greenkeeping team enjoyed a brief moment's respite and a well-earned beer after the 150th anniversary

Open Championship on The Old Course, the hard work never stops at this most prestigious of courses – least of all for the Irrigation system now the weather is on the up.

At St Andrews Links, the five Course Managers responsible for the seven courses – including the Old Course – have been working

"The full system on The Roman Road course works really well and has seen us through some major events too, like the Celtic Manor Wales Open 2005, 2006"
Jim McKenzie

with the Toro SitePro system for 10 years.

Says Gordon of the system: "Our Course Managers find the SitePro controller very straightforward to use, plus it offers huge flexibility with regards quantities of water being applied to different areas within various time windows."

On six of the seven courses, the pipework is actually linked together

as one unit, yet through SitePro each of the four Course Managers has complete control of his system – something Gordon says is particularly useful.

“Each Course Manager can determine their exact requirement irrespective of what the other three are planning. We can even access it and make alterations to a programme through our home computers, so if weather conditions should change after we have left for the day, we can make adjustments accordingly.”

Features like the remote control operations using the handheld radios are also popular with the team.

“This is great for washing-in products after application to a specific area or checking out a sprinkler that you suspect may not be getting an electronic signal. Other great features are station testing, the weather station and T.Map, which is a handy tool to use in other situations such as producing a plan of a specific area for staff or committees.”

Opened in June 2008, The Castle Course also benefits from a recently introduced 855S Series sprinklers with TruJectory adjustable trajectory.

“These have proved very efficient in the wind, which is a constant presence on the courses and so, since 2008, we have replaced a number of sprinklers on our other courses with the 855S Series ones to help overcome the challenges the wind presents us with.”

In conclusion, Gordon states: “The versatility and control the Toro system gives you, together with the ease with which you can customise your programmes to suit every situation, is ideal for us.

“It can also have a positive effect in conserving water – something we feel is important from an environmental point-of-view as well as helping us maintain the courses with the correct grass species and fast, firm surfaces we aim for.”



TORO



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Wild about heather

Mike Beardall visits an East Sussex golf club where bio-diversity is taken seriously on the heathland course



Heather regeneration and bio-diversity have been passions for Head Greenkeeper John Shepherd since he first encountered Piltdown GC's heathland golf course in 1981.

That was his first job and, after several years at the RAC Golf Club, Epsom (becoming Head Greenkeeper on one of the two courses), and a brief spell at the Sussex National while it was under construction in 1988, he returned to Piltdown, in East Sussex.

He began serious heather regeneration about 12 years ago, and it has been a long hard struggle for his team and the supportive club officials. "Biodiversity was hardly talked about in the early days," says John, 45.

"But I knew that we had to reintroduce heather if we were to attract

birds, butterflies and insects.

"The heather had been wiped out, but the seed lies just under the soil waiting to flourish, which it cannot do without help.

"We had to remove a good number of silver birches, which we regard as the enemy, before taking off the topsoil and laying down heather bracken, obtained from Ashdown Forest, with their permission.

"This encourages the seed to germinate and gives the young plants protection. It takes from four to five years for heather to get established so this is not a short-term project."

This magnificent course has brought back vast swathes of heather, through much effort from his team of five and, in recent years, the work of Speedcut Contractors, who have also been carrying out work on new tees and greens.

There are no bunkers at the 18-hole Piltdown club, but the tree layouts and newly-established wild areas of heather, gorse and flowers make this a challenging course for players.

Being on silty clay the course suffers from extremes, either very wet or very dry – as it has been during the summer months.

A Watermation TW2 system of pop-ups keeps greens in pristine condition.

"It's hard work finding the balance between managing heathland and traditional greenkeeping practices," says John. "We don't aim for the sharp, neat and tidy look and the dramatic green stripes – we are used to areas looking dry, and the members appreciate what we are trying to achieve.

"It's very much a team effort



ABOVE: John Shepherd, Course Manager





“When heather reaches about 150mm we tend to cut it back to encourage fresh growth. The results are well worth it and bio-diversity is no longer just a phrase, but a reality” John Scott

all round because the director of greens, Philip Russell-Vick, is very supportive being a landscape architect himself. He, myself, a former greens chairman and the club secretary all meet regularly and agree tactics as a team, so we all know what we want to achieve.”

The golf course was the subject of a thorough survey by European Golf Design about six years ago and their final report included the comments: “Piltdown is not a modern corporate golf machine. There are no plans to host major regional, national or international tournaments. It’s members’ golf, it’s companionship, it’s comfortable, it’s familiar and it’s really rather good.”

The greenkeeping team, BIGGA members, agree completely. John heads a very loyal group – youngest being Josh Bevan, 19, who is

working on his level 2 sports turf management qualification at Plumpton College.

Tony Woolley, who has been at the club since the late 90s and is first assistant, and went to America with the Bernhard-sponsored BIGGA delegation to the States about six years ago.

Assistant Head Greenkeeper David Welfare and greenkeeper Peter Millin have been at the club since the early 2000s and longest-serving member is greenkeeper and mechanic John Scott who has been at Piltdown since 1970.

“We have a very happy team,” says John. “We all work hard to maintain standards and the development of the course is constantly under review, with plans for several new tees and greens in the future.”

Speedcut Contractors, under contracts manager Barry Pace, have carried out a lot of work in the last two years, including building a new ladies tee at the 18th and a new green, plus recontouring around the men’s tee and a new winter tee at the 9th, plus building five other new tees.

Mowing at Piltdown is carried out by Toro ride-ons and other equipment includes Cushman utility vehicles, a Hardi 400-litre sprayer for the Cushmans, a Greensward Multi-slitler, a Cushman top-

dresser and two compact tractors – a Kubota and Kioti.

Spraying is kept to a minimum, to fit in with John’s naturalistic plan and to reduce any threat to wildlife.

The number of trees on the course mean that John and his team are constantly keeping growth monitored and during the long winter snow they carried out a good deal of thinning with chainsaws.

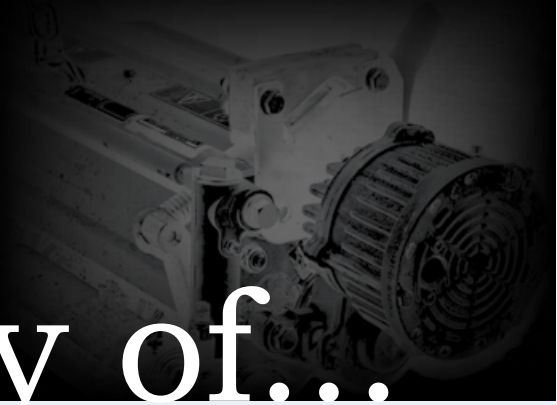
Trees are not just a feature, but also seen as a threat if they get out of control.

“Management of a heathland course is rewarding, even though the results are sometimes only seen long-term,” says John. “We have signs on patches that look dead but they are actually young heather plants developing.

“When heather reaches about 150mm we tend to cut it back to encourage fresh growth. The results are well worth it and bio-diversity is no longer just a phrase, but a reality.”

Nearby courses using similar practices include the Royal Ashdown, Surrey Heath and the West Sussex Golf Club at Pulborough.

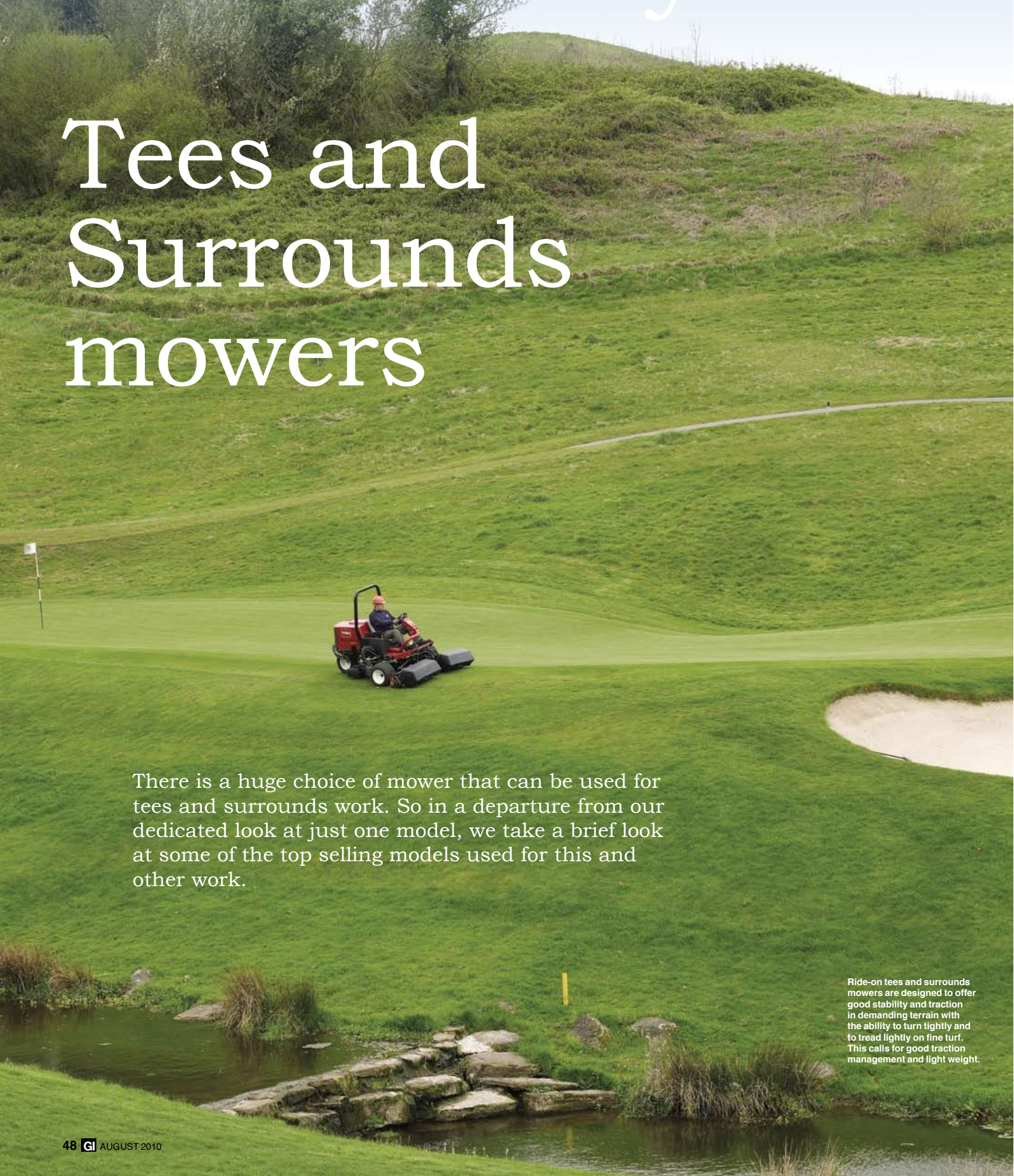
“We get a lot of positive feedback from club members and the committee and the greenkeeping staff are really encouraged by the praise we get,” said John.



James de Havilland turns his attention to the tees and surrounds mower...

The anatomy of...

Tees and Surrounds mowers

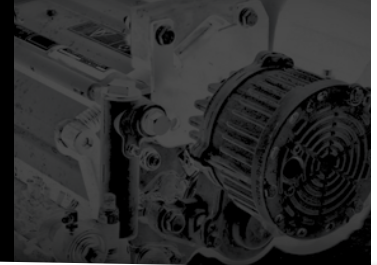


There is a huge choice of mower that can be used for tees and surrounds work. So in a departure from our dedicated look at just one model, we take a brief look at some of the top selling models used for this and other work.

Ride-on tees and surrounds mowers are designed to offer good stability and traction in demanding terrain with the ability to turn tightly and to tread lightly on fine turf. This calls for good traction management and light weight.

Step-by-step Analysis...

Tees and Surrounds Mowers



The Jacobsen rotary deck AR3 and cylinder TR3 utilise the same three-wheel hydrostatic three-wheel tractor unit.



An interesting point is that the cylinder cutting units of these mowers are increasingly designed to not just offer an improved finish but to also be easier to set up and maintain. Where the clippings are not being boxed off, the ability to reduce clumping has also been improved as the cutting units evolve.

To suggest these models are the only ride-on models to consider for tees and surrounds work is of course not the point. There are a whole host of mowers that can, and do, offer the required combination of abilities to do a great job. These models, however, are among the most popular when it comes to new sales. The biggest surprise is that despite their similarities they all have their own points of difference.

Jacobsen AR3 / TR3 – choice of rotary or cylinder units

The Jacobsen AR3 and TR3 family of tees and surrounds mowers provide greenkeepers with a choice of either rotary decks or cutting cylinders for maintaining tees, approaches and bunker surrounds.

The 1.83m working width AR3 has three articulated rotary decks with Jacobsen's TrimTek system which is claimed to keep the clippings suspended for longer to help provide a finer mulched finish, particularly when using a high lift blade. The latter blade type suits heavier swards. The rotary decks can convert to rear discharge for longer grass mowing, increasing the versatility of the mower.

The front units of the AR3 are offset to the left by 175 mm. This is to make it easier to work close to an edge such as presented by a bunker. Power comes from a 32 hp turbo-charged Kubota diesel engine, the

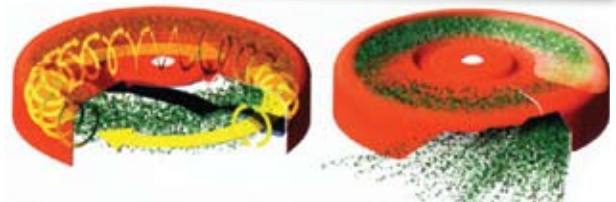
hydrostatic transmission delivering power to all three wheels. A design feature is electro-hydraulic weight transfer that is aimed at improving traction is difficult terrain.

The Jacobsen TR3 utilises the same tractor unit as the AR3 and is offered with a choice of with a choice of 5, 7 or 11 blade cutting cylinders. Offering the same 1.83 cut width as the AR3, the TR3 also features the same offset to provide an overhang for trimming bunker edges. The units can be switched between front or rear discharge by adjusting the concaves that direct the flow of the clippings. A popular feature is the unit's rear roller brushes. These help improve the finish, particularly in damp conditions.

"Our approaches and semi-rough need to be presented in pristine condition", says Avon Bridges, head greenkeeper at Luton Hoo Golf & Spa. "We use an AR3. Although a rotary mower, the fully floating decks have a rear roller so they can add a striped definition to the finely shaped contours of these areas. The seating position on the AR3 is excellent as it allows good visibility of the front decks and the traction control is very good. For the tees and surrounds we wanted a cylinder mower that was capable of tight turns without marking. The TR3 is superb and we have purchased two. The added bonus is that they use the same tractor unit as the AR3, so that helps keep spares to a minimum."

John Deere 2653B – durable performer with quality cut

The John Deere 2653B three-wheel drive triplex mower is designed to cope with more difficult areas of grass on golf courses and other amenity turf areas, including slopes and rough terrain. It can be used equally well on golf courses for tees,



The Jacobsen TrimTek decks suspend the clippings to produce a finer mulch which is claimed to give an improved finish. The decks can also be opened up, the opening allowing a three-tiered discharge that is designed to promote an even dispersal of clippings.



Although John Deere offer a wide range of alternatives to its 2653B, it is this model that is its biggest seller for tees and surrounds work

surrounds and fairways leading up to the greens, or for cricket outfields and other sports turf areas.

The hydraulically driven QA7 quick adjust 7 inch cutting units can operate in fixed or float settings as necessary, the front rollers coming with a choice of a smooth or grooved finish. Optional equipment includes a smooth or grooved roller scraper and grass boxes.

A choice of five- or eight-blade cylinders, each with a choice of 66 or 76cm (26 or 30in) wide cut are available with micro-lap backlapping is standard. Mowing height can be adjusted in 3mm steps, from 9.5 to 76mm, and overall cutting width is 1.8m (72in).

Power comes from a 20hp, three-cylinder diesel with a traction system that is designed to offer good stability on wet or hilly terrain provided by a hydrostatic system that sends oil flow away from any tyre that slips and directs it to the tyres with more grip. This allows the

mower to maintain good traction in demanding conditions.

Fairway tender conditioner, or 'recycler', and rear brushes can now also be fitted to 26 in width cutting units. The key advantage is that this offers a much reduced need to box of grass when mowing tees. This can save time and costs.

Toro Reelmaster 3100-D SERIES – now with DPA units

Toro Reelmaster 3100-D trim and surround mowers are designed to be versatile and manoeuvrable, the 3100-D Sidewinder version offering the ability to offset the triple cutting units 610mm to the left or right. The Sidewinder option is well worth looking into for mowing close to vulnerable bunker edges or when mowing under overhanging shrubbery.

More recently, Toro has fitted Dual Precision Adjustment , DPA, cutting units to the 3100 series.

This makes setting the cylinder to bottom blade clearance easier, with the claim it makes it more straightforward maintain a consistent quality of cut. DPA units are designed to hold a sharp edge for longer too.

Part of the DPA system is the use of a honeycomb die-cast aluminium frame. According to Toro the cast frame is less liable to distort in service, with strength up by 30% with much improved



Where the Sidewinder option is specified, all three cutting units can be offset to work 610mm to the left or right. This allows mowing close to vulnerable bunker edges or to be used to alter wheelings around surrounds.

rigidity when compared to fabricated designs. The bottom blade can be quickly removed, replaced and reset with the claim that this speeds.

Apart from its more obvious advantages, the Sidewinder gives operators the ability to shift all three units left or right on-the-move. This can be used to vary the position of the tyre tracks, a useful feature when working in a fixed mowing pattern across a tee. Toro suggest its Sidewinder system should not be compared to competitive designs that only shift the two outer units, the central unit remaining.

Power comes from a three-cylinder 21.5hp Kubota diesel with operating width choices of 1.8m to 2.16m. Height of cut can be set from 63mm to 510mm in the standard float position or 380mm to 640mm in the fixed position. Verti-cut units and rear roller brushes are further options that are now available since the introduction of DPA units.



The Toro 3100 operator platform is simple and clutter free. Note the simple inclinometer.



The cast alloy Toro DPA units are now well established, their fitting to the 3100 series extending the range of cutting units options available.



The operator platform is simple and service access straightforward.



Although the engine sits ahead of the operator, the view to the front units is good, a feature that is often mentioned by operators. On slopes, the layout of the mower is claimed to aid both stability and traction, reduced wheelslip helping to reduce marking when mowing damp turf.