Royal Birkdale bounces back

by CHRIS BOILING
The £300,000 green rebuilding programme at Royal Birkdale is now complete. Greenkeeper International went along to have a look and to talk to head greenkeeper Tom O'Brien who's preparing for his retirement after 16 years at the club.

Royal Birkdale is on course to host the 1998 British Open. All the greens, heavily criticised during the '91 Open, have been dug up and remodelled. Five of them – 1, 2, 10, 15 and 17 – opened to much acclaim from members last year and the other 13 are due to come into play this spring.

Interviews for a new head greenkeeper are due to take place later this month. The new man will replace Tom O'Brien when he retires in October. Tom was the one unfairly blamed for the poor state of the greens in 1991. The flak still haunts him...

After spending the afternoon with Tom O'Brien, my mind drifted back to the entertainment at this year's BTME and in particular a line from a Les Miserables tune sung at the banquet dinner by the group West End Nights: "There's a grief that can't be spoken, there's a pain goes on and on..."

Tom O'Brien knows that pain. It's been hurting him since the '91 Open when several top golfers (but, interestingly, not the winner) publicly lambasted him for the state of his greens.

Normally, if you've got a pain you see a doctor. But, for Tom, there's no relief for his suffering. "I've never got over it. I try to put it at the back of my mind but I don't think there's a day that goes by that I don't think on it," he told me.

Tom knows that on a world scale the fact that the greens weren't right for one competition isn't that important. But it doesn't ease the pain. "If you look at what's going on in the world today with the war in Yugoslavia – last night I saw a young girl whose arms had been blown off – and old ladies not feeling safe in their own homes, it doesn't matter. I know..."
you should put things in perspective, but it still doesn't stop me thinking about it. It's still with me, it won't go away.

"The next Open I think I'll want to go away on holiday because it'll come up again, they'll show some photos on the television and they'll repeat all the criticism and bring it all back. I find it difficult to watch golf on telly because I wanted mine to be so nice, to be so good. And I worked damn hard too.

"When you put the effort in and see the results, that's fine. But when the effort goes in and you don't see the results... We all worked hard to get it right and it was a big disappointment to us all."

Tom has been at the Southport course for 16 years and a head greenkeeper since he was 23. He joined the profession 49 years ago when he went to his local club for a job. He stayed at Glasgow's Mount Ellen course for 17 years working his way up to head greenkeeper. Spells in France, Menorca and other courses in his native Scotland followed.

He knew things weren't going right at Birkdale as the '91 season unfolded. Various agronomists came in to advise him, including Jim Arthur and David Stansfield. He says he followed their advice "to the letter". And, at first, he thought they were right. "In the beginning the impression I formed was that if I tined, tined, tined, tined and cut down on the fertiliser that I would win the greens round. No way! When we dug them up we realised that was the only answer."

Now he is disillusioned with agronomists, except Jeff Perris, the STRI's advisor on the new greens.

"One agronomist came and said 'the greens need tining' - the green he was standing on had been vertidrained nine times. One says don't mention lime, another says put it on. One says sand causes root break, the other says it doesn't." But he followed what they said.

"All this advice, all those agronomists, people considered authorities, but when it all goes wrong it's the greenkeeper's fault 110 percent."

Main picture: the 5th green, with rootzone layer
Left: the stage before - digging it up
Below: how it looks today, with the green finished and bunkers remodelled
ROYAL BIRKDALE started by replacing what Jeff Perris of the STRI calls "the most troublesome and the worst examples of an inhospitable and most inappropriate growing medium in which the grass was expected to thrive and present a good playing surface."

"This inhospitable growing medium comprised a very organic, moisture-retentive, fine, sandy medium which was reluctant to support a good quality, well-rooted sward."

So the decision was made to reconstruct the greens, replacing the inhospitable rootzone with a better material and at the same time taking the opportunity to redesign and contour the greens where it was felt appropriate.

Work on the first five greens started in September 1992 and was completed by late October. These greens opened for play last spring. The reconstruction work and redesign was considered so successful that the club decided quite quickly that the remaining greens and the practice putting green should be done in 1993. Work started in late August and finished a few days before Christmas. The weather will dictate when they open in spring.

The same team has been involved in the work from the outset: Martin Hawtree (assisted by Ken Moodie) did the redesign while the technicalities were sorted out by the Sports Turf Research Institute (whose principal agronomists involved were Jeff Perris and James Westwood); John Greasley Ltd was the golf course contractor.

The reconstruction programme to the new designs went like this:

1. The turf was cut thinly and removed and stored on adjacent areas to the green and surrounds.
2. The layer of inhospitable, undesirable organic soil which often prevailed to a depth of about 5in was removed and disposed of.
3. The underlying 4in or so of more suitable sandy soil was removed and stockpiled.
4. The exposed underlying pure sand was then reshaped. Where additional material was needed a local Southport sand was imported (very similar to the natural Birkdale sand).
5. The stockpiled sandy soil taken from the green was then mixed with a specific imported medium-fine sand (often in the ratio of equal amounts by volume) and the resultant mixture replaced on the greens to provide the actual rootzone.
6. A proper turf bed was prepared and any necessary fertilising undertaken prior to replacement of the original turf. The STRI hopes that the more suitable growing medium on the greens will eventually improve the original quality of the annual meadow grass Birkdale turf to eventually include some bentgrass and maybe even fescue.

During the 1993 growing season the management of the first five greens took a little getting used to, according to Jeff Perris, the much sandier and freer rootzone clearly needs a little more fertilising and irrigation. "Hopefully, with the experience of 1993 behind us, it will prove possible to make significant improvements to the greens this year and in the coming years. It will, however, take some time to amend the turf from annual meadow grass to one containing more of the desirable bents and maybe fescue grasses. Even so, there were encouraging signs in 1993 that the better and finer grasses were beginning to establish.

"From the technical viewpoint, the club has been fully justified in remaking the greens and replacing the inhospitable, inappropriate black organic rootzone with a medium-fine sandy soil that most connoisseurs of true links courses would recognise as the ideal material. Whilst there was some slight variation in the sandy soil preserved from each green for further mixing with imported sand, the resultant mix shows a remarkable consistency."
comes just a little too late

He would probably have got away with the greens being soft and slow, except for one big mistake...

"I had been called to the office about the greens dropping in pace from 9 to 6 and they asked 'What can you do about it?' Well, what can you do about it when a tournament starts?

"They asked 'What can you do to increase the pace?' I couldn't put the machines down because the greens were soft. I knew that. I said the only thing I can do is put the grimmers down a 1/16th and it might increase the speed. All the lads knew I'd been called to the office, they knew what had been discussed. They knew the greens were slow, they knew we were going to put the grimmers down, so I think they went out and thought this is... right, this is what he wants. But, of course, it wasn't.

Instead of 1/16th, the grimmers had been put down to a 1/4.

"The words I used were '1/16th, just a 1/16th, just enough to kiss the grass'. The words are etched on his mind, along with the thought: 'If only I'd looked, if only I'd checked.'

But, with everything going on, with meetings about scaffolding and TV towers to attend, he never did get around to checking the machines. An oversight that has devastated him.

"I'm the head greenkeeper, I must take the blame," he says.

The severe drop in mowing height killed much of the annual meadow grass which dominates this 105-year-old course's greens so - sin of all sins - they didn't look good on TV. "Imagine the armchair viewer listening to all the criticism. If he sees them looking nice and green and striped, he says 'I don't know what they're moaning about.' But if he sees them all discoloured, he says 'Well, they're right enough, something's wrong there'."

Although Tom accepts responsibility for not checking the grimmers, this was not the problem, it just highlighted it. As Tom says: "They didn't spend a lot of money digging up 18 greens because I cut them too short.

"Immediately after the Open I'd have looked quite smart if I'd stood up and said 'It wasn't my fault, we adjusted the machines wrong' or something. But that wasn't the issue. That let the agronomists off the hook.

What was really the issue was the greens were too soft. I know that, they were too soft. But I also came in for a lot of criticism that wasn't justified. I thought at the time the severe drop in mowing height killed much of the annual meadow grass which dominates this 105-year-old course's greens so - sin of all sins - they didn't look good on TV. 'Imagine the armchair viewer listening to all the criticism. If he sees them looking nice and green and striped, he says 'I don't know what they're moaning about.' But if he sees them all discoloured, he says 'Well, they're right enough, something's wrong there'."

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Taking control

There is now a plethora of irrigation controllers on the market utilising either conventional electrical control or electronic encoder/decoder systems. Whereas a little more than ten years ago virtually all controllers were of US origin from the major sprinkler manufacturers, and provided similar functions; today's range is much greater, the major sprinkler manufacturers have significantly increased their range and types of control systems on offer, added to which there are a number of manufacturers in the European Community who may, or may not, have other interests in the irrigation market.

Although the traditional type of controller still has its place in the market for the smaller landscape type systems, for the most part those controllers employed in golf have, to a greater or lesser extent, incorporated electronics with varying degrees of flexibility and sophistication.

Nowadays most of the controllers are electronic and operate the solenoids by sending an encoded signal to decoders located at the valves, this system enables the entire scheme to be controlled from one cable with 2 or 3 cores whereas the older electro-mechanical controller requires a minimum of a common wire to all valves and one cable to each valve.

The simplest form of controller is a single zone unit controlling a number of stations in sequence for operator set times, these can only be used where the total operating time to apply the required amount of water at each location is within the period of time allocated to complete the cycle, normally 10 hours, typically therefore being utilised where only 18 greens and tees require irrigation.

These single zone units will have varying degrees of flexibility, eg 24 hour, 7 or 14 day time clocks, with 4 or more start times per day, station timing will be typically from 0-30 minutes (or more) in small or large increments, some will incorporate the provision to operate alternative pre-selected programmes eg greens only, tees only or greens and tees.

If the scope of the irrigation system is larger, either incorporating additional areas, or maybe 27 or 36 holes, then, as there will be insufficient time to accomplish the irrigation programme, the number of zones will require to be increased in order that two or more stations can be operated independently but concurrently. The range of controllers in the market widens considerably with...
Taking control

multi-zone controllers. Most manufacturers are offering them and they have proportionately more in-built or optional features, all are of the electronic encoder/decoder type and the price varies significantly.

At the top end of the multiple zone range are control systems which although functioning in the same way (through the use of interface units) are commanded by operator-entered computer programmes with a PC as the controller. These controllers have a place in the market for multiple course complexes and where fairway irrigation is required in climates where irrigation is discretionary rather than a necessity.

In the latter case (and for complex projects) the central/satellite concept is still the preferred solution. These range in sophistication from electro-mechanical systems easily understood and maintained through to computer run systems linked to a weather station with electronic satellites which can be programmed from the central, or in the field, and with two way communication and many optional features.

It is important to understand the way the UK market (and some EC countries) is structured, contractors being allied to one particular manufacturer's product line may not be able to offer the right controller for the project; similarly the trade is reluctant to incorporate one manufacturer's sprinklers and valves with another's controller, although technically this can be done, and is in some cases.

Generally, sprinklers from reputable manufacturers with a properly designed and installed system will provide the accurate irrigation coverage required by today's management, therefore the choice of control system must take greater priority in evaluating the requirements of the project.

The cost of a controller should not be a prime consideration as it is only one relatively small but very important component of the entire system, what it must do is offer the independent designer and the operator flexible and easy programming with the features necessary for the technical aspects of the project at the appropriate management levels.

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What do you do when you need a new watering system but the club says it can't afford it? That was the problem facing 29-year-old Alastair Cale when he joined Ifield Golf and Country Club last year as head greenkeeper after five years as assistant at another Sussex course, Ham Manor.

When I arrived here, it was clear that the watering system had been causing problems for some time. It was based on a triangular system of three pop-ups per green and the coverage they were giving was very poor. Also, the pump wasn't producing the right pressure. There was almost no tee watering - what there was had been cannibalised to keep the greens going - and no approach watering either.

As the season unrolled, the watering system was giving me more and more problems, so it was obvious that something needed to be done. What had happened in the past, according to the committee, was that they'd only ever been given quotes for a brand new system. Now it doesn't take a genius to work out what a club with very tight financial restraints will say when told that they need to spend £65,000-£70,000 on a complete new watering system. The quotes basically went to the committee who said they can't afford it and the idea went out the window.

I took the experience I gained at Ham Manor where we had the same sort of problems with an inadequate watering system, but what we did there was put a proposal forward to phase in the system over a number of years with the main priority being the greens.

So I set about doing my own report, which the committee seemed quite receptive to. One of the greens committee members is an engineer, so he understood the principles of hydraulics, pumping and pressure. So the two of us set about writing a report on our watering system and the route we should take in upgrading it - but very much based on the idea of phasing it in over a period of time.

To compile the report we got a couple of the leading irrigation companies to come and give us their opinions of our watering system and to brief the committee member about irrigation systems in general. We also went down to Ham Manor, so I could show the committee member what we'd done and he talked to the secretary. I also asked a lot of greenkeepers I knew in the area what sort of pop-ups they were using (impact or gear driven?). I got demonstrations on different types of pop-ups and over a period of about three months we began to form the basis of the report.

The report contains:

1. An introduction
2. Observations on the current system, pointing out the poor coverage, poor pumping, the fact that our water storage tank, although it has a few small leaks and should ideally be larger, should cope for the foreseeable future. The control system was very old and the wires kept breaking down and this gave me a lot of grief during the summer - it got to the stage where I had to go out every night and turn it on manually because I couldn't trust it to come on on its own. It highlighted the poor piping round the greens and the spurs and it basically set out what was right and wrong with our system. One point was: "The greens staff have spent 100 hours between March and August repairing faults in the irrigation system. This time would be better spent on other jobs around the course."

3. Ideal system objectives. This looked at the pumping capacity we'd need, the amount of pop-ups we'd need around the greens, the ideal ring main size, and said that tees and approaches should be incorporated.

4. Proposed approach. We looked at our pumping system. We had a spare pump and we found we could install that in parallel with our existing pump. We had the pump serviced and installed to increase the flow rate as well as the pressure. Then we looked at the control system. A new control system would need a complete new cabling network. This was a priority so it came in in phase 1. Also proposed for phase 1 were the eight first priority greens. More greens would be done in phase 2 while phase 3 included...
the rest of the greens, approaches and tees. It was decided that a new ring main was not urgent.

We got one of the main companies to give us a rough breakdown of prices so we could put approximate costs alongside these jobs.

5. Suggested programme of implementation. This showed clearly how the system would be phased in over three years and how much it would cost each year.

6/7. The easy-to-read report also had some interesting facts about watering systems and a proposed priority of greens.

8. There was also a table showing the current spacing of the pop-ups around greens. This varied from 17 to 26 yards (the recommended maximum being 18).

We presented the ten-page report to the committee and it went through without any problems because we'd gone about it in a way that the club could afford. I knew from the start the club couldn't afford a complete new system and if I kept pushing for that I would not get a thing.

It was decided we would do 12 greens this year, the remainder and a few tees next year, and the following year we'd finish off the tees and do the approaches. We'd do the cabling this year; we've already put our pump in so we've got the pressure and the flow rate to cope with the extra sprinklers on the greens. We've also decided to split-value the greens, so two of the four pop-ups come up at a time (we're restricted by a 2in ring main).

**Spending the money**

Once I'd got the money approved, I had to decide what to spend it on. The main choice was whether I went impact drive or gear driven for the greens. There's a big debate raging about that. I was a confirmed impact man but I decided I must look at everything from an objective point of view. So I got demonstrations of both, I asked around - both greenkeepers and installation companies. And here gear-driven models had the edge.

I still hadn't made up my mind when I went on holiday to South Africa where I played a lot of golf. They'd all got gear-driven systems. And a company I'd only heard about over here recently - Hunter - I saw in action at the Royal Cape Golf Club. I had a long chat with the course manager and he told me they gave a full five-year warranty, which began to sway me because one of my initial concerns about gear-driven systems was that some people had said the gears wore out after a couple of years. Well, perhaps the early ones did.

I came back from my holiday and did a bit more research on the Hunters, on the warranties they give and so on, and this is the route I went down.

The other big debate was controllers. I decided to get four of the leading companies in - Toro, Wright Rain, Watermation, and Prime Watermen and a small local installer, Flanderblade, who was recommended by an ex-head greenkeeper. I got them to quote for roughly the same thing, but I asked them to go out on the course and send me a report and diagrams. I said I was looking at Hunter sprinklers, but I'd also like a quote on the impacts as well.

So, apart from Toro, they were all quoting for both. When the reports came in they were all completely different. Some were recommending 1 1/4in pipe round the greens, some were recommending 1/2in. Some were recommending five sprinklers on one green, some were recommending four. Obviously they all recommended their own controllers, except for the independent guy who said he would install whatever I wanted.

So I asked other greenkeepers what they had and set out my own spec and got the companies whose specs differed to re-quote. So now everyone was quoting on the same thing. But there was a difference in price of nearly £6,000 - from £19,000 from one of the 'big' companies to around 

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