We asked four head greenkeepers at random about their irrigation systems and their cutting regimes. This is what they said:

**Our way**

<table>
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<th>The Ridge Golf Club</th>
<th>Harpenden Golf Club</th>
<th>Thorpe Hall Golf Club</th>
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<td><strong>Irrigation system</strong></td>
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<td>The irrigation system used at the Ridge is a computer controlled satellite system. The system that runs the programs is the Cintech system. The controller used is an Amstrad PC 1640 HD20. The sprinklers are all Hunter lite system. The system that runs the irrigation system at Harpenden Golf Club is a Toro 170 series Monitor 2 control system with 650 series gear driven rotary sprinklers on greens (four per green) and 320 series gear driven rotary sprinklers on the tees. Each of the greens heads give a flow rate of 124.5 ltrs per minute while each of the tee heads produce 16.7 ltrs per minute. The system was installed in April 1980 at a total cost, including drinking fountains, of £23,603. The water supply is from the mains with a storage tank capacity of 12,000 gallons.</td>
<td>Harpenden Golf Club celebrates its centenary this year. It is a well established private members club on the outskirts of Harpenden in Hertfordshire. The general soil type is London clay which makes for a very dry course in the summer and a very wet one in winter. Stewart Boyes is the course manager.</td>
<td>Thorpe Hall GC in Thorpe Bay, Southend, is a typical parkland course on Essex clay, although only half a mile on some holes from the Thames estuary. Looking after the 84-acre site is head greenkeeper Douglas Smith.</td>
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| "This system gives me excellent control over the amount of water applied to the course," says Pete. "I like the down-to-earth second timing and the ease of programming. The gear driven sprinklers require very little maintenance and are very reliable. Having the system continuously under pressure during the summer gives instant water to the course if needed. 50 hand watering points enable me to hand water any point of the course. "My only dislike of the system is the fact that it was installed by inexperienced contractors, so I have been left with lots of pipe near the surface and not very well backfilled trenches which have sunk." | "When I joined the club in 1987 it was felt that the system would soon be in need of updating," says Stewart. "The main reason for this was that the wiring system was showing signs of deterioration and many of the sprinkler heads, especially on tees were not working to 100 per cent capacity. However, due to the economic climate at the time it was not possible to finance the required work and we have therefore had to soldier on making any necessary repairs to keep the system operational. "While I have no special likes or dislikes concerning the system I am at present seeking quotes to modernise the control system and complete a re-wiring of the entire system. | "I find the pop-ups, control boxes and pipework easy to use and well documented, so they are easy to trace when trouble occurs, and easy to maintain," says Douglas. "Also the Master II is easy to understand and operate for someone who is not used to computers. I've also found the company very helpful and efficient. The negatives were not enough isolation valves when things went wrong, but we hope to have rectified that with the work just finished."

**Spring cutting regime**

Thorpe Hall use this spring cutting regime:

- **Greens** - 5mm, 2-3 times a week in March building up to 5-6 times per week in the height of the season using Triplex mowers.
- **Tees/aprons** - 10mm, twice per week, sometimes three times per week in a heavy growing period. Again using Triplex mowers.
- **Fairways** - 12mm, three times a week with ride-on fairway mowers.
- **Rough** - 30mm, once a week with gang mowers.

"With the greens I try not to cut them every day as it only encourages compaction around the edges. With the fairway ride-on mowers being out almost every day it has cut down the amount of divot filling required because of the quick re-establishment of grass in the divot," says Douglas.

**The 13th at Thorpe Hall**

**Pictured left: the team at Harpenden**
CASE STUDIES

Castle Royle Golf and Country Club

Construction of the Neil Coles-designed Castle Royle Golf and Country Club, Knowl Hill, Reading, began in the spring of 1992. It is 6,828 yards long and covers an area of 180 acres. The site was flat agricultural grade 3 land with virtually no mature trees. Coles' design required moving 300,000 tonnes of soil and the formation of six lakes. All the holes are galleryed style with mounding and long American-style bunkers shaping the holes. Allan Collis is the course manager.

Irrigation system

"When I took up my position in April 1993," says Allan, "one of my initial tasks was the purchase of an irrigation system. With the greens and tees of a sand-based design, a weekly precipitation of 25mm was needed for the greens and 20mm for the tees with 18mm for the aprons. Because of the exposed nature of the site the majority of the greens needed five heads and the smaller greens four heads. Regarding fairway irrigation, it was decided that the cost of automatic fairway irrigation would be too much and that we would irrigate fairways using two to three mobile irrigators such as the Micro 44, as I had used the system at my previous club with great success. To operate these irrigators we required manual take off points half down the side of 14 fairways with a flow rate of 100gpm.

"The most important factor to take into account was the water supply. We had applied to the NRA for an abstraction licence on the basis that it would be for a limited amount during the summer and the bulk in winter. We would therefore use the six lakes as one large reservoir. The only natural water coming in the lakes were via two storm water ditches into two of them. So a pipework system was installed connecting all of the lakes and two transfer pumps installed to enable moving water around the lakes and down to the main irrigation lake."

Comments about the system

"After consultation with several companies the decision was made to purchase a Water-mation system. I liked the fact that the majority of the components are British made and the fact that they are a local company with a good service back-up. The remote controller has been very useful in the growing in period, this device enables the operator to action any station in the system and is very useful for correcting any dry areas or identifying any problems while out on the course. The water supply is drawn from the main lake and pumped around the system with two Grunofos CR16-60 and one CR9-80 jockey pump. The ring main starts in a "4" pipe then reducing to 3" and 2有人说 possibly the fact that we are still in the growing in period my mowing regime will be slightly different to an established course," says Allan. "We are due to open at the end of June, with this in mind my main priorities are to achieve full cover on the greens, tees and aprons, having already achieved a good surface on the fairways and roughs in 1993 season. We also want to get to a reasonable playing height of cut by the opening date. The greens having been sown with a traditional mix of fescues and bent with addition of smooth stalked meadow grass in the tees.

"Throughout the winter we have been mowing at 10mm. I expect to carry on mowing at this height through March and April. Then hopefully with the advent of some warmer weather reduce the mowing height through April and by the end of May be mowing at 5mm on the greens. Tees have been cut at 25mm through winter as have the fairways. By opening the tees will be at 10mm and the fairways at 15–20mm."

Pictured: the team at Castle Royle

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