



Managing greens performance

Sid Arrowsmith MG (left) enjoyed a visit from Laurence Pithie, of Turf Master One Ltd, at Frilford Heath GC in Oxfordshire. The challenges faced and the work involved in implementing a measured greens improvement program, were on the agenda



Frilford Heath GC, formed in 1908 lies seven miles south of Oxford and is one of a handful of clubs to offer three courses of genuine championship quality.

The site encompasses an area of some 500 acres (about 75% of which is designated SSSI) and is an oasis of light sandy soil overlying sandstone in an area surrounded by Oxfordshire clay.

Land that was deemed of little use for agriculture over a century ago was found to be ideal in the pursuit of golf by Frilford's founding generation.

The original Red course was laid out by JH Taylor. Soon after the end of WW2, the Green course was added, first as 9 holes then eventually 18 by JH Turner and CK Cotton respectively and more recently Simon Gidman produced the Blue course which opened for play in 1994.

The club is a popular venue for tournaments and is regularly stages national championships and international matches. The English Amateur championship makes a return visit in 2013 and each year, the club plays host to the first of the year's PGA EuroPro Tour

events; an acknowledgement of the course being in excellent playing condition early in the year.

SHARED OBJECTIVES

A board of directors has been appointed to run the club's affairs and to ensure its future viability. Recent changes to the board have brought about the desire for a strategic review and, following the appointment of 'Jimmy' James as General Manager, a process of change has been instigated. Course Manager Sid Arrowsmith, one of only 61 BIGGA Master Greenkeepers, takes up the story.

"Until recent times, the aim has always been to produce courses which are of good quality and offer enjoyment to members and visitors alike, while carrying out as little disturbance to the playing surfaces as possible.

Over a prolonged period of time though, trees encroach upon playing areas, the level of scrub increases and the build-up of thatch and fibre continue on greens and fairways. No club is immune from having to carry out work which is often deemed unpopular and disruptive and although a

discreet balance was successfully maintained, the issues facing the club never disappeared."

Sid, who has been at the helm of Frilford Heath since 1993 after spells in Paris and at Royal Portrush, continues, "Although the club was previously aware of many of these issues, it wasn't until 2010 that plans were drawn up and a more concerted effort made to enhance the quality and reputation of the club.

"As part of the review process, the club sought external expertise to produce environmental reports which included trees, other vegetation and rare plants. This together with a more recent irrigation appraisal and bunker review has given the club the background information it requires in order to move forward and further develop the courses within their natural environment.

"In order to achieve the all-important requirement of excellent putting green performance, which would meet the necessary criteria for the forthcoming English Amateur, the STRI were invited to assist with this process.

The main objectives were to provide putting surfaces that were



firmer and more consistent for longer periods of the year”.

GATHERING OF INFORMATION

Before embarking on any planned changes, it was necessary to have a base or start point as well as a target objective. The necessary data was collected to measure the organic content across each course via the LOI (loss on ignition) testing process, followed by firmness using the Clegg Hammer, moisture content using the Theta Probe and pace using the Stimpmeter. The final part of the process was to use the Smoothness Meter whereby putting quality was accurately measured. This scientific approach has the advantage of reducing the degree of subjectivity and gives a clearer picture of what needs to be achieved. The following is a brief summary of the conditions present in the greens in 2010.

A presentation was made to the club followed by a member question and answer session hosted by the STRI. This allowed members the opportunity to ask and discuss the various options available before finally agreeing on a plan of action.

WORK PLAN

Following initial testing and gathering of data, the club purchased most of the measurement tools previously used by the STRI which has allowed Sid and his team to gather relevant information on a

ABOVE RIGHT: Regular testing the green's firmness with a 'Clegg Hammer' measuring device



regular basis. This has helped to determine what work is required and also the important aspect of communicating results back to the club. With key objectives set out by the Board, all details of work planning are discussed and agreed by the management team, consisting of the General Manager, Professional and Course Manager, with the emphases being on surface quality and management of organic matter.

Once this objective is achieved then the focus will switch to a gradual change in grass species and greater sustainability. It was also agreed not to be overly aggressive with regards to surface cultivation since it was necessary to provide the golfers with an acceptable playing surface. This necessitated a more cautious approach but also a reflection on the fact that the greens were already in reasonable condition and not at a level whereby more severe treatment was required. The agreed program of work consisted of the following;

- **Aeration:** Two corings, spring and summer, using 8-10mm tines; Regular slitting using the Planet Air machine; Annual verti-drain work using 13-16mm tines; Regular use of the Toro Hydroject throughout the summer.

- **Top Dressing:** An increase to using 100 tons of medium grade kiln dried sand following each coring.

- **Over-Seeding:** One or two sowings of Colonial Bent using a drop seeder at a rate of 4 gms/per m2

and following a double verti-cut to 3mm depth.

- **Fertiliser:** Largely the same as before, using three applications of granular products supported by foliar applications of Farmura Porthcawl and other amendments containing seaweed extracts and humic acids throughout the growing season.

- **Chemicals:** No real change other than introducing phosphite applications as a mild form of fungicide and the use of Primo Maxx for sward improvement and poa seed head suppression.

Having the benefit of three courses, it was easy to focus attention on one course at a time while it remained closed for one or two days. This allowed the work to continue unhindered and since most of the work was carried out during the growing season, recovery was swift which was greatly appreciated by the members.

Over the last three years, the Directors have been fully committed to this program of work and have not only allowed Sid to increase his staffing levels, but have ensured that the level of investment has remained consistent, to date this is in excess of £300,000. Further investment will follow when required. Recent purchases have included fairway and surrounds mowers, utility vehicles, a multi pro 5800 sprayer and a pro-core aerifier, all from Toro as well as other essential items including two turfing irons, a spinner dresser and a contra-rotating brush.



In order to strengthen Frilford Heath's growing reputation, the Directors have recently signed an exclusivity agreement with Toro. This will not just be about equipment purchasing, but will ensure that Frilford Heath will be at the forefront of future industry developments arriving in the UK. Later this month will see the arrival of the PS 6000 site survey machine from the US, which will be a first in Europe.

RESULTS

Progress to date in the two years since the program started has been largely positive with encouraging feedback from the members. The OM content is now 8-9% which is a fall of 6-7% and only slightly above the target range. Soil moisture content still tends to vary but is leaning more towards the desired range. The reduction in OM content has also led to improved firmness; one noticeable aspect being the reduction in pitch mark size giving faster recovery.

Green speed has increased to an average of 9-9.6, which is now at the clubs desired level for membership play. Although the Smoothness meter has yet to be used this year for testing, ball roll is more consistent. It is clear that the combination of reduced OM

content, increased sanding and the use of a turfing iron have resulted in an overall improvement of the putting surfaces.

So far so good is probably a fair summary. It is also true to say that the approach by Frilford Heath has been steady, well planned and implemented. Another year of this level of intensity is required, probably adding a pass using the Graden Sand Injector or Blec Sand Filler to further reduce the level of thatch. Raising the quantity of sand top dressing to 120 tons per annum is also under consideration as well as moving slightly more towards a feeding program based more on foliar feeds in order to level out periods of growth.

Previous over-seeding has not resulted in any significant change but that is probably due to low mowing heights meaning Bent is unlikely to establish. As the putting surfaces become firmer and the crown of the plant is further protected by increased dressings, the aim is to raise the mowing height by 1mm and to roll more frequently. This should result in the pace being unaffected but more of the plant remaining, improving the success rate of future over-seeding. Consideration will also be given to slit seeding, thus ensuring good seed to soil contact.

Sid concluded "Without the



support and on-going commitment from the club, the improvement to date would not have been possible. It is important that when embarking on such a program, there are clear objectives in place and that the work is agreed, measured and evaluated for any changes that are deemed necessary.

The other key aspect is communication. Sometimes we forget that it is the members' course and that the playing surfaces are of paramount importance at all times. Therefore the members need to know what is happening on their course on a regular basis. Fortunately we have a good system of communication within the club via a weekly electronic newsletter, along with a clear vision of providing premium quality".