In June 2006, The R&A employed the STRI to undertake a project which ran for six years with the purpose of following the impact of a maintenance package aimed at producing firmer, healthier greens at five golf clubs across England: Cold Ashby, Knowle, Leek, The South Buckinghamshire and Wilmslow.

All of the courses involved could be considered to have a ‘parkland’ designation. The programme concluded at the end of 2012.

After six years, all clubs noted improvements in year round putting surface performance and especially winter play. However, they all had to overcome a variety of hurdles to achieve results.

For anyone considering following their path, take heed of the following conclusions from the project, as they might make the journey considerably smoother for you and your course.

Bear in mind that these comments relate to a certain type of course and while they may well be applicable to most courses across the UK, there may be the opportunity for a more rapid change with different techniques on more open courses on lighter soils, such as links and heathland designations.

Planning

An initial assessment is essential. This should determine the status of each green, set reasonable objectives and draw up a programme for improvement over a set period. It must include analysis of species composition, drainage, shade and thatch content.

A benchmark needs to be set for these criteria, and for objective performance measurements. Each green needs to be considered separately to identify the specific issues to be addressed, even to a more local level in terms of areas within putting surfaces that are subject to drainage and shade problems.

Means of objectively measuring the playing performance of putting surfaces must be implemented from day one and undertaken on a regular enough basis to pick up trends. Choose a minimum of three (preferably six) indicator greens representative of the whole, so the best, worst and average, plus the putting green and, if available, a new construction.

In the final article of this two part series, Steve Isaac, Director of Golf Course Management at the R&A, goes through the dos and don’ts of working towards a healthier environment.

Essential assessments and minimum frequencies are considered to be:

- Greenness using a Clegg Impact Hammer on a monthly basis (up to fortnightly from March to November)
- Volumetric soil moisture content using a Theta Probe on a monthly basis when taking firmness readings (up to fortnightly from March to November)
- Reliability using the R&A Holing Out Test on a weekly basis
- Green speed on a weekly basis
- Trueness and smoothness using the STRI Trueness Meter® at least twice a year
- Organic matter content once a year
- Botanical analysis once a year.
The decision to proceed with a programme of improvement must be discussed and approved with club officials and members, with detail about what the programme involves and a commitment to implementing it for at least a three year period. Expectations must be realistic and managed.

**Implementation**

The course management team must achieve the right balance between sward improvement and playing quality. Focusing totally on playing quality can dramatically slow progress. Concentrating too much on sward improvement can see a dip in playing quality which could deter the club from proceeding further.

For those starting from a position where excessive organic matter, poor drainage and shade promote annual meadowgrass (Poa annua) dominance and inadequate year round playability, the initial stages of the process do not involve a change in grass composition but rather the development of the environment in which fine grasses can grow.

Good drainage is the first prerequisite in promoting finer greens. Only when this has been achieved can fine grasses be encouraged. It is essential that the causes of drainage issues are clearly identified at the outset.

These may include underlying problems with soil quality or old drainage systems, poor contouring encouraging water collection, shade or excessive organic matter.

Depending on the severity of your problems, improving drainage, reducing shade and introducing organic matter under control can cause significant disturbance. Progress will be slower with work that creates more disruption, eg coring, deep scarification and topdressing, but more gradual progress can be made with less disruptive programmes.

The same applies to the approach to other maintenance practices that have an impact on turf health and species composition, such as irrigation, fertiliser and pesticide use.

Although part of the aim of the programme is to see the minimum use of such resources, a rapid
Steve Isaac was an agronomist at the Sports Turf Research Institute (STRI) for 17 years. He then worked to protect the enjoyment of the game and got people involved in a manner which preserves enjoyment of the game and working.

The April 2012 issue of the STRI’s Bulletin reported on a club’s attempt to reduce inputs, so the fertiliser regime will need to be adjusted as this source of stress and the programme can produce a situation whereby even inappropriate to switch to finesc. The schedule will need to be delayed until organic matter under control will be relaxed. Eventually, the proportion of finer grasses will come to dominate the sward and it may then be appropriate to switch to finesc only. To give seedling grasses every chance of growing to maturity, amendments to the maintenance schedule, particularly in relation to operations that could damage seedlings such as mowing height, verticutting and top dressing, will have to be factored in. However, do not go to extremes and try to implement work that balances the needs of the seedlings with those of the golfer. The advice for most wishing to go down this route will be to reduce inputs, it will be necessary to guard against reducing them to too low a level. This particularly applies to situations where organic matter has been reduced to within the target range and this potential source of nutrition is no longer making a notable contribution to growth. In such instances, too little fertiliser and inadequate protection against pests and diseases can cause an unnecessary downturn in playing quality. Getting this right is something of a balancing act and will demand all of the greenkeeper’s experience.

The outcomes of the project provide support for the theoretical pathway and also highlight the problems you may well face in taking it.

To enhance your chances of success, make sure you:

• measure playability throughout the year to demonstrate that any disruption is short term and that it brings long term improvement
• record costs as every club wants to see the value of their investment, and you will have to invest in your greens to bring about the desired results
• communicate at every level to ensure that you take people with you. This includes your team as well as club management and golfers

Although this project has come to a conclusion, this is not the end of The R&A’s interest in the clubs involved. We intend keeping in touch with them and monitoring their progress, to see the value of their involvement, and you will have to invest in your greens to bring about the desired results.
Results and reporting

Recording maintenance inputs and measuring performance throughout the programme is essential. Such information will help define trends, act as a future record, inform management practices and give an objective rather than a subjective viewpoint.

Analyse your data. Simply collecting a large set of numbers is a waste of time.

Keep a record of the cost of any action taken to bring about a better environment, eg drainage, tree removal and additional maintenance operations. The decision makers in the club who are not greenskeepers may not be able to follow an argument for investment and trust in the programme if it is based on agronomy; they will have a better understanding of the financial implications – estimated costs and forecasted savings/increases in revenue.

Keep a detailed record of anything that causes a slower rate of success or reduced impact from treatments such as wet summers. Include these as part of your reasoning behind the value of the programme. They must not be seen as excuses!

Use the analysed data to report on successes, and failures, to club management.

Be aware that the intensity of work required to control a significant organic matter problem may result in an initial increase in annual inputs as the programme is brought to a conclusion, this is not the end of the programme but a re evaluation of strategies and priorities. The maintenance programme must be adjusted to take into account progress made.

In conclusion, this is not the end of The R&A’s interest in the clubs involved. We intend keeping in touch with them and monitoring their progress. They are all committed to the process, which has demanded a radical change in approach for some, and their journey has only just begun.

If you have successfully implemented a programme to produce a healthier putting surface environment and, in doing so, increased the proportion of their greens, The R&A would be delighted to hear from you. Send details of your achievements to Steve Lomas, Director – Golf Course Management, The R&A, 18 Andrews, KY16 9JD.

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