



The Pogo is used regularly to ensure moisture levels are within target, and to identify any dry or wet spots

Scottish Powrie

Ladybank GC in Scotland is consistently rated as one of the best heathlands in the UK. *Greenkeeping* spoke to its course manager, Colin Powrie, and head greenkeeper, David Gray, to find out how they achieve high results, including a significant reduction in organic matter and high green speeds without having to reduce the height of cut

Ladybank Golf Club in Scotland, which has hosted final qualifying for the Open Championship – when it has been played at St Andrews – seven times in the last 38 years, is one of the UK's premier golfing destinations. Standing at number two in *Britain's Best 100 Courses Under £100* the judges wrote: 'You know before you have even opened the car door that Ladybank is going to be special. This is a blend of parkland and heathland where the smooth fairways are often lined by pine trees and the greens are delightfully and naturally situated. Peaceful, fair and receptive to good shots, there is something inspiring about playing here.' Red squirrels, in decline in the UK, are resident in the proliferation of Scots pines in and around the course and can often be seen in the broad-leaved species of beech trees in the long avenue leading to the clubhouse.

Greenkeeping caught up with the club's

course manager, Colin Powrie, and head greenkeeper, David Gray, to find out about the work involved in maintaining and improving such a prestigious golf course.

Greenkeeping: What were your paths to greenkeeping and how long have you now been at Ladybank?

Colin Powrie: I'm 48-years-old, having spent 30 years in greenkeeping, and just achieved 25 years at Ladybank in December. Working up from assistant in 1990 to head greenkeeper in 1999 and on to current newly created position of course manager in 2014. I achieved SVQ II and SVQIII at Elmwood College and have worked during four Open qualifiers in 1995, 2000, 2005 and 2010, and various other prestigious events including the British Ladies and British Boys. I'm a keen golfer with a handicap of nine.

David Gray: As a keen young golfer I spent

all my summer holidays playing golf at my local club. An opportunity arose to do voluntary work with the greenstaff and this led to full time employment which started 10 days after my 16th birthday. After completing my SVQII and SVQIII at Elmwood college I moved onwards gaining some grow-in experience, then a local head greenkeeper position before starting at Ladybank in 2007 as first assistant, more recently being promoted to head greenkeeper in 2014. I am 34-years-old, have now spent 18 years in the industry and a career defining moment was being selected as part of the BIGGA / Bernhards delegation team for the GIS in 2012 in Las Vegas. I'm a keen golfer with a handicap of four.

Greenkeeping: How big is your team and how do you maximise the team resources to ensure best maintenance of the course?

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Right, from left to right: careful moisture monitoring ensures irrigation is kept to a minimum; Graden sand injection has played a big part in organic matter reduction; and a very clean job!

Colin Powrie: We have a staff of eight which includes a handyman to manage clubhouse facilities and gardens and so on: Myself, David, Michael Herd, deputy head greenkeeper / mechanic, Neil Cross, assistant, Bruce Todd, assistant, Graeme Marnie, assistant, Joseph Meakins, assistant, and Drew Grant, handyman. All staff are full time and fully qualified with two guys currently enrolled in SVQIII. With a very good in-house training programme we can ensure everyone is very competent in all aspects and this allows for flexibility and good job rotation. We do not have any seasonal staff.

Greenkeeping: What would you say are the biggest challenges you currently face and how does this impact on the daily maintenance?

David Gray: Consistently presenting the course to an exceptional standard with the pressures of being an extremely busy member and visitor club. Careful planning is essential to ensure our golfers meet as little disruption as possible and enjoy their experience. On a typical morning we aim to have all mowing

and course set up completed by 11am. Wetter summers, demand for year-round play and continued higher expectations can be problematic in our low lying microclimate.

Greenkeeping: How did you achieve such a high ranking in the 'top 100 golf courses in the UK' list?

Colin Powrie: Continued progress with our STRI objective testing programme and increased top-dressing applications has seen us reduce our organic matter content by 50 percent over the last five years on greens. We consistently hit, or exceed, our targets for moisture, firmness, trueness, smoothness and speed. Clever use of the latest technology and keeping up with new trends allows us to monitor and make adjustments quickly and efficiently.

Greenkeeping: What processes have you used to remove the organic matter?

Colin Powrie: Through organic matter monitoring it was identified there was a need for reduction. We opted for a programme of

solid tining followed directly by Graden sand injection. From 2011 to 2014 this was carried out each autumn and by utilising our dried sand supply on site we managed to inject 30 to 40 tonnes of Hugh King TD4 sand into the target area of 0 to 20mm of the profile. This has been done four times now and results have been clear to see; greens are firmer, hold less moisture and are much more consistent. Complementing the sand injection was an increase in top-dressing with dilution the main aim and this has also made big improvements. A well planned spoon feeding programme with a fortnightly application of Primo Maxx with balanced nutrient input gives a more consistent growth pattern which has a positive effect on organic matter reduction.

Greenkeeping: Moisture measurement is a discipline you abide by, what equipment are you currently using and how have you found it benefits the management of the course?

David Gray: We have always monitored moisture levels as part of our STRI programme twice per year, but in 2013 we purchased a Stevens POGO moisture probe so this can be done at our leisure. With built-in Wi-Fi and a smartphone app this has been a fantastic investment. It allows us to regularly monitor levels and rather than guessing visually if we need to irrigate we can identify spots on greens requiring hand watering and correct accordingly.

This has corrected any inconsistencies on greens and reduced unnecessary irrigation ensuring we stay well within our SEPA extraction licence.

Greenkeeping: You've been undertaking bunker renovation, can you explain exactly what drove the decision to undertake the work and what exactly is being done.

David Gray: Being a heathland course we are very much a minority in our area with a unique setting. This is a big attraction so it is vital that we retain and enhance these rare heathland characteristics. Following discussions with industry specialists it was brought to our attention that our bunkers can perhaps appear a little too neat. Following this a bunker renovation plan was put in place with the aim



to naturalise the bunkers and incorporate some long fescues and heather into faces and create a more rustic look. This programme has only just begun and will be ongoing for several years.

Greenkeeping: Because the course is in a low lying area and surrounded by forest, you can find yourselves working against a microclimate. What effects do you see on the course because of this and how do you manage your way through?

Colin Powrie: Ladybank is surrounded on all sides by forestry land and sits in a low pocket which results in temperatures typically at least three degrees Celsius lower than our surrounding areas. This results in frost lingering for long periods. The frost policy we have in place is there to protect the finer grasses and large population of heather and to limit the invasion of poa, rye and any weeds which as previously mentioned would damage our heathland nature.

Greenkeeping: What seed cultivars do you generally use across the course and how often do you overseed? Have you made any new introductions to the course?

Colin Powrie: Our outfield areas are generally a mix of fine fescues / bent and require very little in the way of overseeding. Patching tees and fairways we use a traditional fescue mix such as Bar Fairway or J Fairway. Our greens are around 70 to 80 percent bent with the remaining made up of poa and fescue. Having hit our organic matter targets we felt now was the time to introduce more fescue into the sward. We overseeded in 2015 with Bar



Fescue where we achieved a fantastic take. We plan to repeat this procedure twice throughout the year. We are well aware that germination is the easy part and the hard part comes next – sustaining it under the intense pressures of maintenance.

Greenkeeping: What machines have you now got in your new fleet?

David Gray: We have a mixed fleet which is largely John Deere but not tied into any lease deals simply as we select the machine which is best suited to our requirements and that performs best on our terrain. We have three John Deere fairway mowers, one John Deere surround mower, two John Deere Pro Gators, one John Deere E-Gator, one John Deere HD200 Sprayer, one Tru-Turf Greens Roller, two zero turn Lastec Articulators, one Sweep-N-Fill brush, five Toro 3250s, one Toro Workman, three Kubota tractors, one Toro 648 ProCore, one E-Z-GO buggy and five Baroness handmowers.

Greenkeeping: The turf iron is an important piece of your equipment, can you explain when and how often you use the iron and what result it delivers for the course and members?

David Gray: Our greens are generally very flat with few undulations which can make achieving our target for pace difficult. Since purchasing the Tru Turf it has become part of our daily routine from April to September where it is used seven days a week following mowing. We now achieve our desired pace without the need to lower the height of cut, infact we can even raise heights and still hit our target, in turn relieving stress on the plant. With its low ground pressure we feel it consolidates the immediate surface without causing



compaction. It can also be used during the winter months to maintain a consistent surface.

Greenkeeping: How do you aerate and prevent compaction on your greens?

Colin Powrie: Throughout the playing season we aim to pencil tine greens every four to six weeks depending on requirements. We use 8mm tines to a depth of three inches to relieve any surface tension. With it being the playing season it is important to get the surfaces back in play so as soon as a green is tined the Tru Turf runs over and the green is back in play with very little evidence of disruption. From autumn through to spring we Vertidrain greens with 13mm tines to a depth of eight to nine inches to relieve deep compaction, along with a solid tine programme to keep surfaces open.

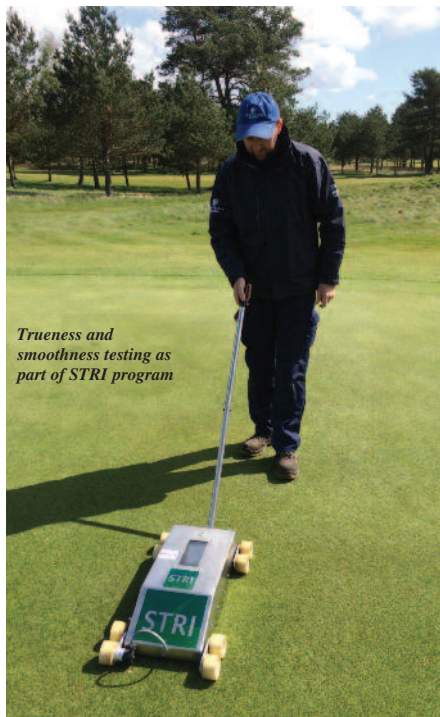
Greenkeeping: What height of cut do you use across the course?

Colin Powrie: Heights of cut are as follows: Greens 3.75 to 5mm (daily throughout growing season), collars 6mm (twice per week), tees / approaches 8mm (two to three times per week), fairways 13mm (two to three times per week), semi rough 62mm (one to two times per week), deep rough 87mm (fortnightly).

Greenkeeping: You have a Sweep-N-Fill brush, please can you explain for what purposes you use the brush and how it contributes to the wellbeing and finished presentation of the course.

Colin Powrie and David Gray: The Sweep-N-Fill brush was purchased in 2014 to work in conjunction with our increased top-dressing programme where we are now applying close to 120 tonnes per year. During autumn

► Greenkeeper profile



Trueness and smoothness testing as part of STRI program

maintenance this year we opted to have a break from Graden work and a change of strategy from recent concentrating on 0 to 20mm to target a little deeper. Firstly we top-dressed with 1.5 to two tonnes of dried sand followed by a solid tine with 13mm tines to a depth of two to three inches. Next came the Sweep-N-Fill which worked the sand into the holes with ease, the action flicks sand out the canopy and down the holes, we have never seen tine holes so full. The brush is fantastic



Monthly dried sand top dressing applied throughout the season

for filling aeration holes, and that was what our initial investment was in, however we soon discovered another use for it as a grooming brush. As previously stated we have a large population of bent within our sward. This can be problematic in the spring with different grass species growing at different rates leading to inconsistent bumpy surfaces. We found the brush extremely useful for standing up the lateral growth prior to mowing, the extra clippings removed by doing this was very impressive. The action of the brush gently cleans the surface and has all but eliminated the use of our verticutters. With its manoeuvrability, quick adjustment and easy storage it is now a great addition to fine turf management.

Greenkeeping: You have a silo on site to house the kiln-dried sand, how did this come about and what have been the benefits?

David Gray: When we began our Graden programme there was an inconvenience when it came to using bagged material to fill the hopper, also sourcing suitable material and having it dried was difficult and expensive.

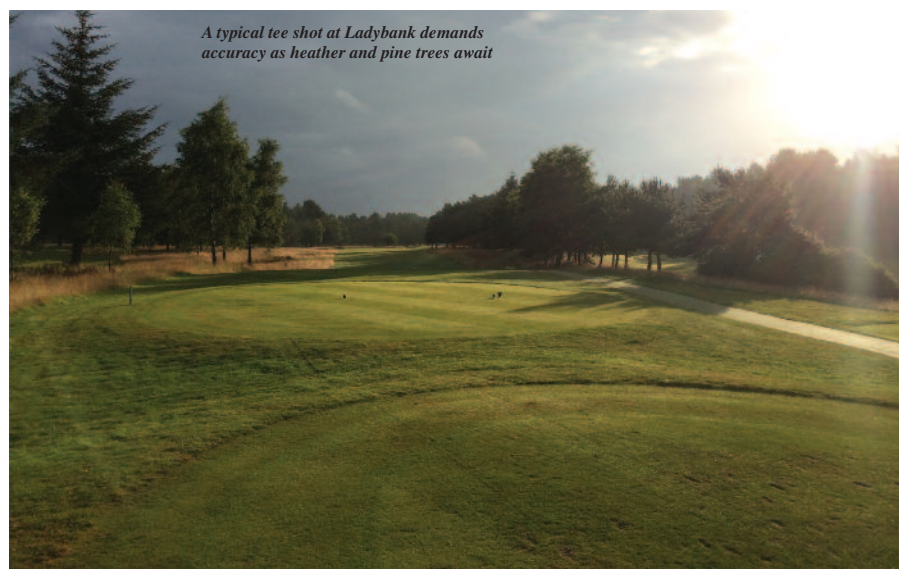


The Tru-Turf has become an essential daily tool

Hugh King & Co offer a wide range of products including the TD4 dried sand which can be pumped directly into a silo on site which holds 34 tonnes. We were the first in the country to have one of their silos as a permanent fixture and it has been in place for five years now. The benefits of having this facility on site is that we have 100 percent dried, consistent, uncontaminated sand on demand and the silo itself can be housed out the way in our yard and doesn't take up valuable space. With our Dakota spinner dresser we are now applying around 120 tonnes per year on a monthly programme. We have seen a vast improvement in surface firmness and general performance of our greens.

Greenkeeping: You have put together mini workshops as part of the ongoing training programme, which are built to include and educate staff members outside the greenkeeping team. Please can you explain how this came about and what you've achieved by doing this?

Colin Powrie and David Gray: As part of our ongoing training programme we felt that staff would benefit from some extra in-house education on certain topics that could be beneficial. During annual appraisals this was mentioned and the staff were invited to make



A typical tee shot at Ladybank demands accuracy as heather and pine trees await



The fescue overseeding programme is now underway on greens with the aim to achieve a classic heathland bent / fescue sward

suggestions on topics. We then spent some time developing detailed mini workshops which can be introduced during spells of poor weather and all staff present. These have worked very well, they are relaxed, informal and focus specifically on why we do things a certain way at Ladybank and what exactly we aim to achieve. In January 2016 we held our latest 'Frost policy and its importance' workshop and for the first time we invited two of our PGA pros along so they could gain an understanding of the policy and be armed for any potentially difficult questions from golfers. This is all valuable education; our staff are actively encouraged to always educate themselves, they are all enrolled on the BIGGA CPD scheme and following any workshops they can claim credits towards their targets. We have found that staff are more prepared for any questions and have a much better understanding of the job.

Greenkeeping: David introduced a blog last year that is emailed out with the pro shop newsletter. What results have you seen from keeping the membership updated and how has this helped relations between the members and your team?

David Gray: Introducing the blog has been a great communication tool with our

membership and has proven to be very popular. Whenever we are planning some maintenance which may be disruptive I can give a detailed explanation of why we are doing it and the benefits. I also add in things like recent rainfall figures, a brief weather outlook and a variety of pictures so they can familiarise themselves with our machinery and understand its purpose. The blog is included in the pro's weekly newsletter and also posted on staff and members' notice boards. This has been a big hit and feedback has been excellent, it's a great way of educating our members.

Greenkeeping: You seem to have an exceptional working relationship, how do you bounce off of one another, how do you work to ensure the course is maintained to such high standards of presentation?

Colin Powrie and David Gray: We meet 30 minutes before start time every morning for a meeting and a discussion which includes a look at tee sheets, the weather, the plan for the day and the outlook for the week ahead. We both have different working styles but they complement each other to achieve the best results. We share a huge passion for our industry and a drive to keep learning new trends and discovering new developments

which continues to elevate the quality of our golf course. Work rarely finishes at the end of our shift; we are constantly in contact with potential brainstorming ideas.

Greenkeeping: With your experience, what advice would you give to youngsters starting out and wanting to pursue a career in the profession?

Colin Powrie and David Gray: Education, Education, Education! In employment it is becoming more and more of a requirement for a highly educated individual and someone actively involved in CPD. With the excellent educational options available through BIGGA, this is something that's going to be even more essential moving forward. Ask as many questions as possible, dedicate yourself to the job, show enthusiasm, have an interest in golf and an understanding of the game.

Greenkeeping: What changes do you think need to be made to benefit the industry sector and profession of the greenkeeper?

Colin Powrie and David Gray: More recognition and respect for us as industry professionals and highlight our expertise. Have a support network in place for the education of golfers.

Have a sustainability push to focus on improving our image and show our contribution to the environmental and wildlife benefits.



The dried sand silo on site keeps the material uncontaminated and consistent