

The rise of digital technologies in greenkeeping

Jim Cook looks at how the greenkeeping industry has embraced new technology

In most areas of modern life, digital technology does seem to be king. Be it at home with the internet and also the recent digitising of television, travelling with the aid of satellite navigation systems or communicating with Smartphones, it is nigh on impossible to spend a day without coming into contact with digital technologies in some form or another.

The same must be said for greenkeeping.

We have all kinds of digital devices from small digital timers which make sticking to machinery maintenance schedules easier, through digital thermometers, to the big one: digitised irrigation systems.

Another common one is greenkeepers using Smartphones to make certain tasks less arduous. Some take pictures of broken machinery parts while out on the course and send an email off the phone to the manufacturer and have a replacement part despatched as soon as possible. Some use them to work out such things as fertiliser application calculations and some to just have a glance at the weather forecast.

It would be hard to deny that using such methods can be a real time-saver and the benefits with regards communication are obvious.

So then, the question could be asked: is digital technology on the golf course another useful, even vital, part of the modern day greenkeeper's armoury or is it, in the grand scheme of things, a fad or luxury likely to fade away more quickly than some new phones' batteries?

One greenkeeper who makes full use of digital technologies is Karl

Parry, Course Manager at Denbigh Golf Club, in North Wales.

He said: "I love my technology and gadgets and I try to incorporate this into my job as much as possible. It makes my life easier and helps everything run efficiently on the golf course. I use a tablet so that when I'm out of the office, in seminars or at home I can do such things as updating the daily diary, upload pictures onto our Facebook page or communicate with our Chairman," said Karl.

"One of the best uses I have for the tablet is giving Green Committee meetings. I can have captions and graphics on the wide-screen television, in our clubhouse, by plugging in the tablet via a HDMI cable. It brings a bit more life to the meetings and can make things clear to people who may be unsure. We can show things like verti draining on screen in pictures; when we did it where we did it and how long it took us," he added.

Karl has developed a Microsoft Excel spreadsheet which allows him, among other things, to calculate his total NPK input.

"It's a simple tool which I developed so I could determine what NPK rate was coming out on the greens after using various products from different companies. It makes sure I never overdose with fertiliser and it just makes the application process easier, with no mess-ups."

Alongside this article is a QR code, to scan with your Smartphone, which will take you to a link to download Karl's handy application calculator for free. If you haven't got a Smartphone email Karl at karlpaulparry@gmail.com and he will send you a free copy.

Karl also had the forward thinking idea of installing QR codes in his workshop where the machinery is stored. Instead of the current

laborious method of writing down what machine was used and when, the code would be scanned each time a machine is used. This would send a message to an online database and Karl would know everything he needed to know about that machine. The idea of fitting brushes onto fairway mowers was one which Karl has developed and made into a reality and did so with the aid of digital technology.

On the golf course, Karl and his team use Smartphones to keep in touch and also send pictures if there is a problem around the course.

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Karl Parry, Denbigh Golf Club

Another digital tool utilised at Denbigh is the online tee-time booking system by BRS Golf.

"I'm set up as an administrator on the system so that every Monday morning I can check my phone to see what times are booked in and if there are any competitions, then we can set our work schedule around that. It really helps me manage myself and my staff and there has never been a moment where we can't deal with a job," said Karl.

Syngenta's GreenCast phone application was favoured by Karl.

"It gives you the weather, spraying windows of opportunities and other helpful things to give you the best timing possible for spraying fungicides. Because fungicides are so expensive, this helps us to save money as well as effort."

Social media sites like Facebook, Twitter and LinkedIn continue to alter the way we interact with each other in everyday situations and for professionals they can be an important method of communication.

"We have just set up a Denbigh Golf Club maintenance page on Facebook and all the jobs we do around the course will have pictures taken and will be uploaded straight onto it. It's like a news bulletin page, so members know what we are doing," Karl added.

He ended by saying that he was looking into getting a new irrigation system that can be controlled from a phone.

This deserves a closer look.

Irrigation systems have come a long way. The beginning of the road to digital can be traced back to the 1960s. The first electrical control systems appeared on the market in the 1960's and allowed greenkeepers to control watering schedules electronically with an on-course housing. Basic though how they now may seem, it was revolutionary in the industry at the time and paved the way for more sophisticated inventions through the following decades.

During the 70s Rain Bird developed a system that could control up to several hundred sprinklers from a central base. What followed next was the shining light in irrigation technology and what is still, in a modernised form, the standard on many courses around the world: computer controlled irrigation systems.

Now, a Mobile Internet (MI) controller by Rain Bird allows the instant, on-the-fly ability to control and monitor your sprinklers from anywhere, as long as you own a Smartphone and there is mobile phone or wireless signal. It can be set up so you can monitor your





pump station and adjust parameters if need be, so traditionally you had to go and visit these locations which sometimes can be very remote and make any adjustments and now these can then be dealt with from the phone. Not only that, but the pump station and control can have a virtual 'talk' together. If the pump station has more capacity it can tell control to turn on more sprinklers and conversely if it is struggling with low pressure, can tell it to turn some off.

Kneale Diamond, of Rain Bird, spoke about what has just been released with regard to digital technology in greenkeeping:

"Integrated Soil Sensors which take moisture, temperature and salinity readings from any soil types and feed them back to a central control through wireless communication and this is proving to be very popular. We are always looking at different ways to becoming as efficient and responsible as possible and these systems help with reducing water and especially power usage."

Kneale mentioned the advantages of digital technology: "One of the biggest benefit is the internet; being able to remotely access control systems. Whereas before if somebody rang with a problem

with a new control system, you'd jump in your car and drive to where the problem was and fix it in 10 minutes perhaps. Nowadays most manufacturers will have call centres with technicians who can access systems and computers, download and upload files, perform diagnostic tests and complete modifications."

"Digital technology saves time and is good for communication, learning and finding knowledge. It is so easy to find answers now with forums and sites dedicated to sharing knowledge"

Stewart Brown, Myerscough College

Kneale went on to explain how Rain Bird's MI controller had been available on the market for just over two years, but in the last six to nine months sales of the product had dramatically increased. This can be attributed to the dramatic rise in popularity of Smartphones and especially, the iPhone becoming a household name.

Stewart Brown, Sportsturf Team Leader at Myerscough College, was enthusiastic about new digital technologies and said that as well

as being important for education and knowledge, were also a useful, if sometimes limited, tool to be used by greenkeepers out on the course.

"I think digital technology around the golf course is great. It helps save time and has been really good for enhancing communication, learning and finding knowledge. It is so easy to find answers now with forums and sites dedicated to sharing knowledge," he explained.

"Basically digital technology is another tool available to use to help you do your job from a diagnostic point of view, working with irrigation and various other things. I would say use the tools, but the tools are there to help you do your job and you've still got to know what the tool is telling you. That intuition and knowledge only comes from experience," added Stewart.

"There are occasions when you don't need the gizmo or gadget though. It wouldn't be clever to solely rely on a moisture sensor on the furthest part of the course without getting out there and seeing for yourself. It is the subtle things which can tell the most, such as slight colour changes in grass or a weed just emerging and these things need a person to see them with their own eyes. The day a greenkeeper doesn't walk out



Stewart Brown, of Myerscough College.



onto the course to look at it will be a disaster. You're never going to replace that experience and knowledge."

As an education tool, digital technology can really excel and Stewart spoke of how it is used at Myerscough for various greenkeeping courses and how far-reaching it can be: "We have a lot of provision online now particularly because you can do a BSc or foundation degree entirely online as distance learning. It's one of our biggest areas."

All the resources and materials are delivered online and you basically log onto the website, download the materials and there are videos, tests and interactive sessions. These students don't usually come anywhere near Myerscough and the first time we see them is when they arrive for graduation. Our furthest student at the moment is in Japan, but we have students all over the world including in Germany, France, Spain, Portugal, United Arab Emirates, in the USA and all over the UK and Ireland.

Also, because we do NVQ levels 2, 3 and 4 in the workplace, a lot of those students are supported by online materials. So they can download workbooks, submit work or can have a webcam chat to interact

with tutors."

Stewart spoke about a multitude of other digital methods used in learning such as video assessments and clips for portfolios and subscriptions to massive online turf databases. He also spoke about how practical skills could tie in with online learning.

"If you're studying online then you are also working in the industry and some of the modules revolve around the work that you are doing. One of these is called Work Skills Development where they create their own website and basically build their own online portfolio. It is something to show an employer as it will include such things as a CV, projects managed and courses worked at. It can also help people develop digital and computer skills if they aren't confident in that area."

We use industry resources to give students practical knowledge of such new technologies as mobile internet for irrigation. Most students coming in now already have Smartphones, iPods and knowledge in these areas, but we do consciously try."

Electric automatic mowers have been in development for some years and there are models out there on the market already, but Stewart was certain greenkeepers would

never be replaced by digitised robots in the future.

"I don't think you're ever going to remove the person from behind the mower. By the very nature of greenkeeping, it's a practical, outside, hands-on job. You need the visual, practical skills to say a green may be under stress or it has a certain disease."

All in all then, many digital technologies can not only make life easier for greenkeepers who choose to use them, but can also provide more efficient use of water, fertilisers and chemicals. Perhaps one of the greatest benefits digital technologies can offer greenkeepers is that of learning and shared knowledge. From online degrees to Smartphone applications which give practical advice, opportunities to learn are vast and expanding rapidly. Due to the practical nature of greenkeeping, digital technology will never replace greenkeepers, but as a support tool it can certainly make life easier, be used as a learning method and help with general efficiency. As Loretta Lynn sang, we've come a long way baby and it is just mind boggling to think where digital technology might take us in the coming years.

One thing is for sure: it is here to stay.

BELOW: Linkfertiliser application tool by Karl Parry. http://myfreefilehosting.com/f/96c8957a4c_0.03MB

