

Learning & Development

Greenkeeper Education and Development Fund



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Sami Collins updates us on Learning and Development matters



Time is marching on towards January and Harrogate Week. Rachael and I are now in full swing processing bookings for the Continue to Learn Education Programme that are arriving via post, telephone and the web.



Supported by the John Deere Team Championship and the GTC, we are featuring five new workshops on the 2008 programme:

Managing Relationships at Work

I am sure we all have relationships with work colleagues that could be described as 'challenging'. This two-day workshop will examine those relationships in an engaging, interactive and enjoyable way. Focusing on what makes us tick, personal effectiveness, building rapport, teamwork and conflict resolution this workshop aims to help resolve issues and create a more harmonious working environment.

Managing the Golf Course Better

Do you want to understand how the business of managing a golf course is achieved? Look no further, this one-day workshop, presented by Laurence Pithie MG, Group Golf Courses Manager with Crown Golf, will reveal a route you can follow. Looking at the Golf Club, the Course Managers Role, Basic Planning, Implementation and Setting Up Systems, this workshop will provide you with a strategy to take back to your workplace.

Stress Awareness

Would you like to enhance your wellbeing and your personal effectiveness at work and at home? The purpose of this one-day workshop, presented by a qualified Stress Management Consultant, is to provide participants with the knowledge and awareness to identify and manage their own stress levels and to help them recognise the causes and effects of stress in others.

The Minefield of Appraisals!

Is it appraisal time again? Why do we have appraisals? What use are they? Are these questions you hear every time the 'A' word is mentioned? This informative one-day workshop aims to improve the understanding and the importance of appraisals, how to conduct them and how to use the outcomes to make a difference.

The Disturbance Theory

The Disturbance what? Henry Bechelet, Turfgrass Agronomist with the STRI, will reveal all, in what promises to be an entertaining and enlightening one-day workshop. Guest speakers will discuss practical greenkeeping for the modern age, managing growth, surface preparations without compromise, disturbance theory around the world and the 2007 Open at Carnoustie.

Remember, places are limited on all of the workshops so book now to avoid disappointment.

Full details of the Continue to Learn Education Programme can be found in 'The Definitive Guide to Harrogate Week' brochure or by visiting the Harrogate Week website www.harrogateweek.org.uk.

Toro Student of the Year Award 2007

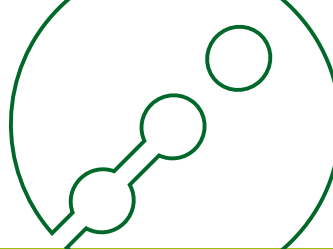
Congratulations must go to the eight student greenkeepers who attended the National Final of the Student of the Year at BIGGA HQ on 16 & 17 September. All eight candidates represented the greenkeeping profession to the highest standard.



The 2007 Toro Student of the Year Award was won by Avon Bridges, Head Greenkeeper at Luton Hoo Golf Club who was representing Oaklands College. The runners-up were Lewis Birch from Abbeydale Golf Club, representing Askham Bryan College and Simon Lambert from Seaford Head Golf Club, representing Plumpton College.

Full details of the final can be found in this magazine.

Membership



VANESSA DEPRE UPDATES US ON MEMBERSHIP MATTERS

Focus on the BIGGA Website:

On the BIGGA website you will find a host of information including events, job vacancies, discussion boards and useful tools for your career.

As a member you will be able to network with others in your profession by exchanging ideas, opinions and giving each other advice on the greenkeepers' bulletin boards, reserved for BIGGA Members only.

There is always an up to date list of greenkeeping jobs on the website. You can also place an advert on our jobs section if you are looking for a job. There is a reduced rate for BIGGA Members to place an advert.

The BIGGA/GCMA Safety Management System is a proactive tool used to identify and control hazards and to reduce risks to prevent injury to golf club members, visitors and employees. It is only available to BIGGA Members through the website.

Also only available to our Members on the BIGGA website is the Training Manual. It explains how to introduce a Training and Development Plan, offers guidance on the types of education and training available and provides information on training providers, national standards and qualifications.

Take the strain out of those tricky calculations with our easy to use Website Calculator and access four-day weather reports so you know if you'll be prepared come rain or shine.

The BIGGA shop can be accessed on the website, and don't forget that our Members get a 10% discount on all clothing.

The Events Section will keep you up to date with what is up and coming in your Section, including golf days and seminars.

For more information on any of the above call us on: 01347 833800 and select Option 1.

Thank You

Big thanks to Mr John Rogers from South Wales for making an extra donation on top of his usual Gold Key donation, to the BIGGA Training and Development Fund.

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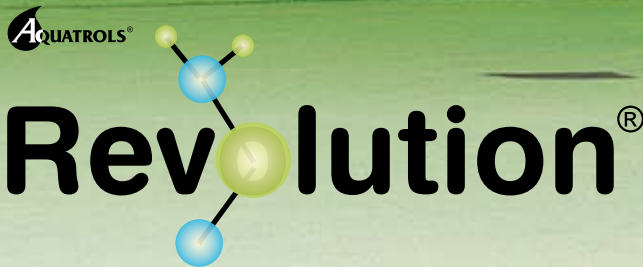
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THE IMPORTANCE OF GREENS AERATION

By Bruce Jamieson

After one of the wettest summers on record, combined with the golfer's desire for improved putting surfaces, the need for aeration has increased substantially. Clearly something must give: if aeration is postponed until late autumn, the players may be appeased. However, limited or no recovery will occur during periods of low temperatures, causing frustration for golfers as the greens will take longer to recover.

You can almost hear the cry: "Why can't the head greenkeeper leave the greens alone?" The answer is that, though the need for aeration is extremely difficult to justify when the greens are looking great, if neglected the resulting problems will slowly increase and the greens will start to deteriorate.

But before aerating the greens course managers must decide what needs to be achieved through this disruptive process, as all too often the wrong operation is implemented just because it was done in previous years.



Assessment of the greens will indicate the course of action required. If the problem is compaction, and the rootzones are of a high quality with limited thatch, Verti-draining with a small amount of lift or heave would be the correct approach. This is in preference to hollow coring, which removes a core of material to allow soil improvement. But if the thatch layer has increased during the summer months, as it has on many courses this year, then hollow tining may be the best course of action as it will remove some of the organic build-up and allow new rootzone material to be inserted into the thatch layer. This increases microbial action and helps to break thatch down.

It is important to recognize that aeration replaces cultivation of the soil in its true sense. Farmers will always turn the soil between crops to relieve compaction and redistribute nutrients evenly throughout the profile. Unfortunately, this type of exercise would be too costly and disruptive to the golfing calendar.

However, during the late 50s and early 60s it was commonplace in Scotland for head greenkeepers to remove the turf from two or three greens during the winter and dig the rootzone material over to a depth of 250-300mm. This material was then made firm, by using the heel and tread method, prior to raking and was done at least three times to ensure the material was evenly consolidated.

Surface levels may have also been adjusted or amended at this point. The turf was placed upside down in a box and the thatch and soil was

cut away to ensure that all of the turves were of a uniform thickness, following which the greens were then re-laid and top-dressed.

Some head greenkeepers apparently were able to boast that three greens could be done each winter without the members realising! However the volume of play was probably not as great then as it is now and certainly members today would not accept this type of disruption. This kind of operation was implemented before the advent of hollow tine and aeration machines. Things have moved on, thank heavens!

With the various tines available for aeration, it can be difficult to decide upon the correct course of action. It is important that, following each operation, the decision makers assess the effectiveness of tine selection and adjust future operations accordingly. Many resort to using 8mm hollow tines during the summer to remove thatch build-up and increase nutrient and water penetration. These small holes are extremely difficult to fill uniformly and sometimes result in uneven surfaces that require additional applications of top-dressing. Although more disruptive, 12-15mm tines create holes that can be filled uniformly and, if timed correctly, recovery can be achieved within seven days.

Cross, slit and chisel tines, which create small incisions in the surface with minimum disturbance, would be the best choice for summer aeration. These tines increase gas exchange within the profile, improve nutrient penetration into the soil and aid the removal of surface and subsurface water. It is doubtful whether these operations in themselves will relieve compaction substantially, but the act of moving the soil will encourage new roots to develop and help reduce Black Layer if present.

Over the years I have seen many aeration ideas come in and go out of fashion. For example, in the early 70s, Sisis developed a pedestrian aeration machine called the Autocrat, which would hollow tine a green to a depth of four inches (100mm) with half-inch (12mm) hollow tines. It



would take one man approximately one to one-and-a-half hours to aerate a green and another hour for two men to collect the cores. Aerating greens with this machine was a slow process compared to the speed at which it can be achieved today.

Then in the mid-80s development moved towards tractor-mounted aeration machines with the Core Master being the forerunner to today's machines. Recently Toro has launched the pedestrian ProCore 648 greens aerator (see picture), which can aerate 18 greens in less than a day, providing you can collect the cores quickly enough.

Scarifying in the early 70s was implemented with a machine called a Bluebird. This could be set to penetrate to a depth of 20mm into the green with blades spaced at approximately 20mm apart. This operation became unfashionable through the 90s but has been resurrected with today's Graden machines and a phrase called 'linear aeration'.

A machine that was very popular for several years was the Subair, a pedestrian vibrating mole plough that could be fitted with three blades up to 225mm deep. I remember once visiting St Andrews during the early 80s when Walter Woods had used this machine, in two directions, on the Old Course greens and the greens had been cut into neat cubes. Fortunately this was during the autumn and the turf recovered quickly. Newer versions of this machine have come and gone over the years and will, I am sure, reappear in the future.

Aeration is the most important operation that can be implemented on a golf course and there are few procedures that produce as many benefits for the grass. (See Table.)

THE BENEFITS OF AERATION

- restructures deflocculated soils
- reduces compaction
- improves surface and subsurface drainage
- breaks down thatch by increasing microbial action
- reduces Black Layer
- increases aerobic microbes, which increases root development and improves drought-resistance
- reduces dry patch
- allows top-dressing to be incorporated into thatch and soil without layering
- increases overall health of the turf

Aeration must be implemented regularly throughout the year at varying depths to deliver all of the benefits shown in the Table. It is evident that many courses in Britain use three main types of aeration:

- **Verti-draining, with a small amount of heave set on the machine, once during winter with 19mm tines to a depth of 300mm**
- **Hollow tining once or twice a year with 12-15mm diameter tines to a depth of 100-125mm**
- **Slit, chisel or cross tining at various depths throughout the year**

The debate on 'sustainable golf' hinges heavily on aeration, sensible use of water, fertilisers, fungicides, pesticides and so on. Aeration helps the grass develop deep roots that, in turn, will ensure that the



grass is in a healthy condition when adverse weather conditions occur. The constant wet weather of this summer will have resulted in more compaction on most greens, because water acts like a lubricant in assisting the movement of small clay particles within the soil to block up the pore spaces.

A combination of Verti-draining and hollow tining will be required to reduce deep compaction and remove thatch build up. I would recommend that these operations are implemented one after the other – ie, Verti-drain with 19mm tines to a depth of 225mm and then hollow tine with 12mm tines to a depth of 100mm. Hollow tining will close up most of the Verti-drain holes and recovery will occur within the normal timeframe despite two disruptive operations being implemented together.

Once the cores have been removed, top-dressing should be applied to fill in the holes. It is important that these operations are implemented when the soils are moist, but not waterlogged, as there is no benefit if the holes remain full of water for several weeks.

Ideal conditions in which to aerate are when the soil is dry and friable.

ABOUT THE AUTHOR

Bruce Jamieson is an agronomist who runs his own consultancy, and is well known in the greenkeeping industry.



The importance of raking bunkers is demonstrated here at the Open Championship 2007

SAND SAVERS

By Scott MacCallum

Golfers today now expect a perfect surface from which to play their bunker shots so a good quality rake is now a necessity.

Bunkers have been a golfing hazard for as long as the game has been played and they have struck fear into the hearts of many who would rather execute their Vardon grip on a hot poker than a sand wedge.

But most professionals will tell you that bunker play is not that difficult and they would miss the green in the sand than in the rough as they would normally back themselves to get up and down.

For that reason bunkers have become a very emotive golfing issue as the top players have tended to forget that bunkers are indeed a hazard and that automatic recovery should be a given. Think back to press coverage you've read and invariably the sand has been too deep, the bunker not firm enough, the sand the wrong type, the base too flat, bunker not raked well enough etc etc etc.

Of course in the old days bunkers were indeed hazards and going into one really did mean a shot dropped. Oakmont GC, scene of Angel Cabrera's US Open win this year, used to be known for its rutted bunkers – deep grooves carved into the bunker sand by specially devised rakes

guaranteeing a tough old time for anyone misfortunate, or unskilled, enough to find them.

But times have changed and greenkeepers give priority to ensuring bunkers are kept in as perfect a condition as they can be and anyone who doesn't rake a bunker once they've played out is considered the golfing equivalent of a pariah.

So rakes are now an important element of a golf course's furniture and the need for effective rakes capable of doing the job has never been greater.

"In the early days, golf bunker sand was smoothed after use by the player upon leaving the hazard by means of using the back of his sand wedge and/or his foot in most cases," said Andrew Cornes, Managing Director of Acorn Golf

"Over the past 20 to 25 years there has been an insurgence of rakes for sand that have appeared in bunkers all over the world. Which one and for which type of sand has always been a point of debate, with golf committees, club management, players and members alike."

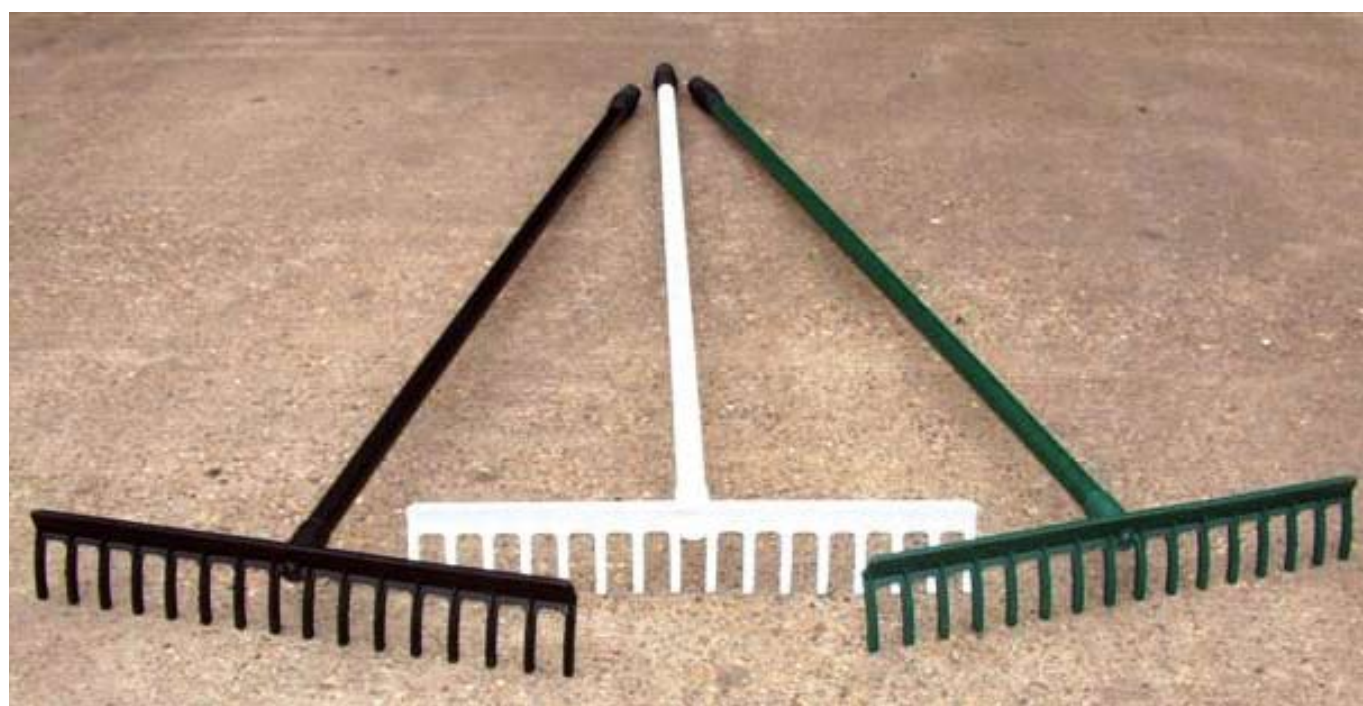
Andrew has spent more time than most attempting to solve the conundrum.

“A few years back, in 2003 to be exact, from a debate at the GCSAA show in Atlanta, I wrote an article about preferences on design and manufacture of bunker rake’ it covered short teeth; long teeth; no teeth; flat; curved; flexible; rigid rakes that would tiller sand as well as smoothing sand. Then we looked at which handle is best for players to use - short; bent; flexible shaft design etc.

“On compiling all this data, and along with BMS in manufacture we came up ‘one rake head’ that had covered most of the things everyone involved wanted from a members/greenkeepers or club bunker rake,” he explained.

“To simplify the supply and to cover all needs we decided to produce this head in a ABS polyethelene which is virtually unbreakable, but supply three different colour options for different environments and a choice of three shaft/ handle options to cover all budgets, wood for the lower end to lightweight aluminium for the higher end,” said Andrew adding that these had become the company’s best selling rake.

Thanks to Acorn Golf sales@acorn-golf.com and BMS info@bms-europe.co.uk for their assistance in putting this article together



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A modern zero tail-swing excavator is designed to enable it to work in a confined space. It will not do a better job than a used example, but represents what you might get from a hire company

MINI-EXCAVATORS: A TOOL FOR ALL SEASONS

By James de Havilland

Tracked mini-excavators can be really useful on a golf course. Suitable for digging out and clearing ditches through to helping in bunker repairs or even levelling gravel in a car park, a mini-excavator often finds itself out working far more than would initially have imagined. This is all well and good, but how much do these machines cost and is it better to hire or buy one?

Although the size of the excavator will ultimately determine how much it will cost to hire, a small 1.0 tonne machine that can dig down to a depth of 1800mm will cost about £65 a day or £200 a week plus delivery at perhaps £125. A nominal 5.0 tonne model will cost nearer £100 a day or £350 per week with transport starting at much the same £125. The larger machine will have much greater capacity and dig a lot deeper, but for most jobs around a golf course, the smaller machine should be fine; there are, of course, models in between, all of which will typically do much the same type of general-purpose work around the course.

Most hire companies will supply the machine with three buckets, two for digging and a wider ditch bucket. Other attachments can be supplied, to include soil augers and hydraulic hammers. As a guide, these items will cost upwards of £100 a day or £300 a week to hire. Soil augers can be supplied with a choice of flight diameters, including larger diameters that can be ideal for preparing holes for tree and shrub planting. So when hiring an auger to put in fence posts, try and extend its use by also using it for some planting work.

These aforementioned hire rates, which are intended as an outline guide as opposed to representing hard and fast prices, are pretty reasonable if the machine in question is worked hard during the hire period. Hire companies, however, make most of their money on machines that are hired out but actually spend much of their time parked up. So it pays to plan the excavator's usage to maximise upon its hire value.

It is this planning issue that can be a problem. All it takes is for someone to be off sick, the weather to change or some other demand to raise its head and everything can get upset. It is not unusual to find a hire machine is not used as much as intended and then for it to be in demand just as the hire lorry turns up to take it back. If a project needs completing but there is no fixed time in which it can be done, it can make sense to consider a different approach; buying a used machine.

This may seem a bit of overkill, but used mini-excavator prices, sourced from a dealer, will start at £5 to 6,500 for a tidy 1.5 tonne capacity machine. An equivalent 3.0 and 5.0 tonne model will be priced from £8,200 and £12,400 respectively. These are entry level dealer prices, but will secure a machine with a set of buckets and a full dealer pre-sale service and check. Although this is a fair chunk of money for a non-essential item of kit, selling the machine on once it has done its job should be easy enough. If the machine is cared for, its residual value after six months on a golf course could well be pretty close to what was paid for it. This makes buying a good alternative to hire.

When considering a used buy, it can pay to look for a model from a better known supplier such as JCB, Kubota or Volvo to name just three. These will make a sound choice because they tend to have good parts support and it is always easier to sell a machine with a recognised name. That said, there are some excellent machines available from companies even plant enthusiasts would not recognise. If in doubt, ask a few dealers what they think and see if they would buy the machine from you in a few months time.

Rubber tracks have gained popularity simply because of convenience. A steel track can damage hard surfaces such as pavements, roads and drives, whereas rubber can cross them without any problem. Rubber track has become increasingly popular because of its versatility. With regard to marking turf, the best low ground pressure and stability option will be a machine running on 550mm steel plates. These are not a common find unfortunately.

It is the 1.5 tonne mini-excavators that will be among the most common size available as it is a size that can be towed on a trailer behind a suitable pick-up or 4x4. Because of this they are popular with smaller builders. Pro-rata, this can make these small units more expensive than a larger nominal 2.5 or 3.0 tonne machine. If transport is not going to be an issue and there is access to something that can move the excavator around the course, then a bigger machine can make the most sense.

As an aside, it is all too easy to forget how long it can take an excavator to propel itself over longer distances. Travel speeds that barely make it above 5 km/h are the norm on excavators. This can mean it takes a long time to get from one job to the next. A trailer that comes as part of a used excavator deal is therefore well worth considering.

One final point. A machine without buckets is not much use, so expect it to come with at least a digging and ditching bucket. Typically, a 3.0 tonne model will have been supplied when new with a 12, 18 and a 30 inch plus ditching bucket. Also consider the hydraulic specification offered. An auxiliary hydraulic circuit will be needed to power a soil auger and a free-flow return is necessary to drive a hydraulic breaker.



Before buying or hiring a mini-excavator, it is important to do a full risk assessment. If in doubt, seek advice and check if any extra insurance will be required to cover the machine, its operator and third parties