greenkeepers are reluctant to change the visual look of the course where the traditional sand colour is very much seen as the norm.

A second phase was therefore undertaken to identify means of offsetting the greenish colour by comparing different blends of processed sand and conventional sand.

THE RIGHT BLEND

A range of mixes of processed sand and conventional sand were trialled to find the ideal mix in terms of colour as well as ensuring that the benefits of the angular nature of the processed sand were not compromised. Test bunkers containing varying ratios of processed sand to conventional sand ranging from 25:75, 50:50 through to 75:25 were compared with control bunkers of 100% conventional or processed sand. Each bunker was tested for colour values, moisture content, hardness, ball penetration and resistance as well as angle of repose.

The results showed that the optimum ratio was a 50:50 blend. This ratio maintained processed sand's performance advantages - such as firmer underfoot conditions and reduced plugging of the ball - but also significantly reduced the green colouring.

A TRULY NATURAL ALTERNATIVE

One of the most well established recycled products used on golf courses is compost. Over the years, the quality of compost has been greatly enhanced through the development of the BSI PAS 100 standard. This standard ensures that compost is produced to a specified level of consistency, quality and safety.

One golf course that has seen significant improvements in the quality of its fairways and tees since switching to PAS 100 compost is Loughgall Country Park Golf Course in Armagh, Northern Ireland. Opened in 2000, the municipal 18 hole course was previously the site of a Department of Agriculture research centre, where the ground had been subjected to different levels of chemicals, such as fertilisers. As a result, its poor condition made maintenance a challenging task.

Processed sand trials

In 2004, the course conducted a trial of BSI PAS 100 compost after hearing about the success at Epping Golf Course, in Essex. Sourced from accredited producer Natural World Products, where the golf course already sent its grass cuttings and clippings for recycling, the compost was applied to three fairways and one sand based fairway landing area.

Four different areas of the course with varying soils were selected for the trials to establish the performance of the compost in different conditions. Previously these areas had problems with grass growth and colour, uneven and unhealthy growth in addition to low nutrient levels.

Within a couple of weeks the results were already visible and there was a significant difference in the growth and

colour of the grass. The course continues to use compost, especially on the areas where there is a high clay content as the compost improves the soil structure by introducing more oxygen and improving its water holding capacity.

PROVIDING SUSTAINABLE SOLUTIONS TO COMMON PROBLEMS

As well as processed sand and compost, two other recycled products growing in popularity are recycled woodchip and recycled plastic. Recycled woodchip is low maintenance and exceptionally durable, taking up to five years to breakdown. It is also an excellent weed suppressant, reducing the



Woodchip is one of the most popular recycled products

conditions and prevents damage to mowing equipment. With availability in a range of colours, such as green, black and brown, woodchip can appear natural to its surrounding environment.

Recycled plastic products are also ideally suited for use on golf courses due to their resistance to damp and harsh weather conditions. The material is very low maintenance and does not require painting with varnish or

> preservative. Products such as artificial golf tees, path edging, fencing and drainage systems are just a few of the recycled plastic products that are suited to golf courses.

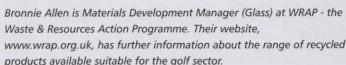
MEETING MEMBERS' EXPECTATIONS

It is clear that awareness of recycled products among greenkeepers and Course Managers is increasing and that recycled materials can offer significant benefits over some of the more traditional materials used. However, greenkeepers may still be asking themselves do existing members really care about recycled products?

WRAP wanted to know the answer to this question and commissioned independent research at the start of this year to find out. The findings revealed that far from not caring, 95% of respondents stated that they would want their golf course to use recycled products, assuming no negative performance or cost implications. Furthermore, 93% agreed that golf courses need to minimise any negative impact on the environment and 66% said they would feel more loyal to their club if they knew it was operating in an environmentally friendly way.

Taken as a whole, there is a very strong case for greenkeepers to switch to recycled products. Ongoing research and developments in new products coupled with the significant performance benefits and pressure from various sources to adopt environmental practices, mean that greenkeepers can no longer ignore the opportunities on offer.

products available suitable for the golf sector.



Your Letters...

Tribute to an Old Turfman

I thought he would live forever, I have a copy of his book in which he wrote: To Jack, an old friend and fellow believer. I worked with him for many years and over those years we, on occasion, disagreed.

The one thing we shared in common was the belief this game of golf is played on turf and not mud. He was of the opinion that somewhere along the line we had sacrificed a fine hardwearing turf for visual presentation; it was as simple as that.

Some of the gems of wisdom he shared over the years I am sure that many greenkeepers agree with, while possibly disagreeing with how the message was presented. Unfortunately things change, not always for the better. The demands of today's golfer, many of whom have never enjoyed the delight of playing on fine wiry grasses, and who today demand their courses should be pristine green, and they are always prepared to accept mud on the ball as long as they look good.

I always intended to give him a call and sadly never got round to it. There is no excuse for not catching up, being too busy was mine and today I regret it. I stumbled onto this poem and thought on this occasion it is very appropriate, the author is unknown to me.

Around the corner I have a friend In this great city that has no end, Yet the days go by and weeks rush on, And before I know it, a year is gone

And I never see my old friend's face, For life is a swift and terrible race, He knows I like him just as well, As in the days when I rang his bell, And he rang mine.

If, we were younger then, And now we are busy, tired men. Tired of playing a foolish game, Tired of trying to make a name.

"Tomorrow" I say "I will call on Jim"
"Just to show that I'm thinking of him."
But tomorrow comes and tomorrow goes, and distance between us grows and grows.

Around the corner! yet miles away,
"Here's a telegram sir"
"Jim died today."
And that's what we get and deserve in the end.
Around the corner, a vanished friend.

Jack McMillan MBE, An old friend

Stress Remedy

If you are so stressed out by your Poa, Don't take the mower cut lower.

Don't go and turn on the water, This will only lead to your slaughter.

Dust down your old slitters and scarifiers, Then cancel that date with your NPK suppliers.

Pick up the phone and order your dressing, For hear lies one of your blessings.

Then go to the back of the old seed shed, Because that's where you'll find another one of you rescues It's that old bag of seed called fescue.

Then as the golfers come to admire your swards, Sit back and enjoy your rewards.

If you are looking for an answer that's heaven sent, Well that's where Jim Arthur went.

Andy Peel Bull Bay GC

The Right Man

It is with a great deal of sadness that I heard of the passing away of Jim Arthur. I had known him for the lectures he gave and the articles he wrote for many years, as did a great deal of others in the world of greenkeeping.

In more recent years he became a particular friend, helping me when I was at a very low point in my working life. Without hesitation he helped me and gave real encouragement, just as I am sure he had to many others along the way. I am sure one of his main goals was to care deeply for the greenkeeper, be of high or low stature, he wished to see them receive a much better recognition of their status.

There can be many things written about Jim by people who are in a much better position than me to do so. It is most likely stated that we will not see his like again, which is possibly true. I would sum it up by saying Jim was simply the right man for the job at the right time.

A sad farewell from one of the many.

David Hinks

Letters continued on page 37



BIGGA is actively involved in raising the Standard of Greenkeeper Training. The Association is a member of the Greenkeepers' Training Committee and strives to enhance the level of education though various means, including Section, Regional and National workshops, seminars and conferences.

The range and quality of training now available throughout the UK means that there is a training course for every greenkeeper. This should improve the quality of greenkeeping and help to produce better quality golf courses to the benefit of all within the industry.

Golf Course Managers should ensure that their staff are trained to the highest standards. This begins by selecting a training provider that meets the criteria laid down by the GTC. There is a clear link between education, training and economic success and all clubs should invest in the education of their staff.

Ken Richardson
Education and Training Manager
British and International Golf Greenkeepers Association
Tel: 01347 833800

Email: education@bigga.co.uk Website: www.bigga.org.uk

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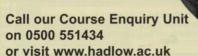


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There are no formal entry requirements, but you should be able to demonstrate knowledge of turfgrass/horticulture management and a commitment to part-time study programmes.

For more information please contact us on 01926 318318, email us on enquiries@warkscol.ac.uk, or write to us at the address below.



GREENKEEPER TRAINING

ABINGDON AND WITNEY COLLEGE Warren Farm Campus, Horton-cum-Studley, Oxford OX33 1BY Contact: Alan Brown or John Revis Tel: 01865 351794 Fax: 01865 358931 Email: john.revis@abingdon-witney.ac.uk Web: www.abingdon-witney.ac.uk Information: Warren Farm Campus is the base for Abingdon and Witney College's education and training in Greenkeeping, Sportsturf, Amenity horticulture and allied land based courses for the whole of Oxfordshire. Courses include:- NVQ Levels 2 & 3 in Sportsturf, Landscaping and Nursery. We also offer a range of short courses for the Industry including Health & Safety, pesticide training and chainsaw operation. For more information contact either Alan Brown or John Revis on Tel: 01865 351794 or Fax: 01865 358931.



ASKHAM BRYAN COLLEGE Askham Bryan, York, North Yorkshire, YO23 3FR Contact: Central Admissions Tel: 01904 772211 Fax: 01904 772288 Email: st@askham-bryan.ac.uk Web: www.askham-bryan.ac.uk Information: First Diploma in Horticulture, National Diploma in Horticulture (Turf Option), Higher National Certificate in Horticulture (Golf Course Management): part-time study, Higher National Diploma in Horticulture (Golf Management Option) all available full or part time. Block release courses: NVQ Level 2 Greenkeeping, NVQ Level 3 Greenkeeping and Sportsturf Maintenance, NVQ Level 4 Amenity Horticulture. Short courses: FEPA spraying, chainsaw and brushcutter courses.



BERKSHIRE COLLEGE OF AGRICULTURE Hall Place, Burchetts Green, Maidenhead, Berkshire, SL6 6QR Contact: Andy Williams Tel: 01628 824444 Fax: 01628 824695 Email: enquiries@bca.ac.uk Web: www.bca.ac.uk Information: Located in the Thames Valley, BCA has excellent resources for horticultural based training including a six-hole golf training facility opened by HRH The Duke of York. Programmes include the First Diploma, National Certificate and National Diploma in Horticulture, with Landscape Design and Greenkeeping options plus Higher National Diploma/Certificate programmes. Part-time programmes include NVQ Level 2 and 3 Amenity Horticulture, Sports Turf. Residential



BROOKSBY MELTON COLLEGE Brooksby, Melton Mowbray, Leicestershire, LE14 2LJ Contact: Student Services Tel: 01664 850850 Fax: 01664 855355 Email: course.enquiries@brooksbymelton.ac.uk Web: www.brooksbymelton.ac.uk Information: Situated on the A607 between Leicester and Melton Mowbray. Programmes available include NVQ Levels 2, 3 & 4 in Greenkeeping. Work based emphasis for all of these programmes. Short courses available in Arboriculture/Chainsaw work, TDLB training and Pesticide application training.



BRIDGWATER COLLEGE CANNINGTON CENTRE FOR LANDBASED STUDIES, Cannington, Bridgwater, Somerset, TA5 2LS Contact: Steve Hasell Tel: 01278 655000 Fax:

01278 655055 Email: enquiries@cannington.ac.uk

Web: www.cannington.ac.uk Information: National Certificate in Amenity Horticulture (Sportsturf), Certificate of Higher Education in Golf Course Management, Foundation
Degree in Golf Course Management, NVQ Level 2 Sports Turf, NVQ Level 3 Sports Turf, NVQ Level 4 Horticulture (Sportsturf), FEPA Training, Chainsaw Certification, Off-Road Vehicle Certification, Greenkeeper Mechanics. Note: Certificate of Higher Education is available as a part-time option and Foundation Degree.



EAST DURHAM AND HOUGHALL COMMUNITY COLLEGE Houghall, Durham, DH1 3SG Contact: Ian Lacy Tel: 0191 375 4754 / 0191 375 4740 Fax: 0191 386 0419 Email: enquiry@edhcc.ac.uk Web: www.edhcc.ac.uk Information: Full-time courses: National Certificate in Horticulture/Greenkeeping and Groundsmanship 1 year; National Diploma in Horticulture Turf Option - 2/3 years. Part time courses:-Greenkeeping and Sportsturf maintenance NVQ Level 2 - Day Release. NVQ Level 3/4 Greenkeeping and Sportsturf Maintenance Day Release. Short courses: FEPA Modules, Chainsaw certification, Tree inspection, Horticultural Machinery, Safe Lifting and First Aid.



HADLOW COLLEGE Hadlow, Tonbridge, Kent, TN11 0AL Contact: Sally Flanagan Tel: 01732 853162 Fax: 01732 853207 Email: sally.flanagan@hadlowcollege.ac.uk Web: www.hadlow.ac.uk

Information: Work based Learning: Apprenticships in Amenity Horticulture (Sports turf), NVQ 2 & 3 in Amenity Horticulture (Sports turf), A1/V1 awards. Short courses available including Pesticide application, First Aid and Tractor Driving. Funding available for many of these courses.



HARTPURY COLLEGE Hartpury, Gloucestershire, GL19 3BE. Courses available include: National Awards, National Certificates and National Diplomas in Green Keeping and Groundsmanship and Amenity & Landscape Horticulture and Day Release training for Apprenticeships leading to NVQs in Sports Turf and Horticulture. For further information contact our Enquiry Line on 01452 702132 or visit the Hartpury College website at www.hartpury.ac.uk



MERRIST WOOD CAMPUS OF GUILDFORD COLLEGE Worplesdon, Guildford, Surrey, GU3 3PE Contact: Joe Paulin Tel: 01483 884088 Fax: 01483 884001

Email: jpaulin@guildford.ac.uk Web: www.guildford.ac.uk Information: Part-time courses: NVQ Level 2 Sportsturf college day release and workplace visits/assessments at Merrist Wood and at Crawley, Level 2 First Diploma college day release, for those without qualified workplace accessories, NVQ Level 3 Sportsturf college day release and workplace visits/assessments, Level 3 National Award college day release for those without qualified workplace assessors, HNC Turfgrass Science and Management college day release over 2 years plus various short courses including BTLIA irrigation Certificate Course, throughout the year. HND Turfgrass Science and Management college day release. Please contact us for up-to-date listings, qualifications and advice. Career Evenings held regularly at the campus.



MYERSCOUGH COLLEGE Bilsborrow, Preston, Lancashire, PR3 ORY Contact: Wayne Roberts Tel: 01995 642222/642305 Fax: 01995 642333 Email: mailbox@myerscough.ac.uk Web: www.myerscough.ac.uk Information: Full time courses; BSc (Hon's) Turfgrass Science, Foundation Degree Sportsturf Science - online option by distance learning, ND Turf Science & Sportsground Maintenance: Natinal Certificate in Groundsmanship and Greenkeeping, also Sports Turf Mechanisation option: First Diploma in Greenkeeping; Turf Science: NVQ 2, 3 & 4 Greenkeeping Management delivered both in the work place and over the internet using the colleges 'Mollnet System'. Part-time courses NVQ Level 2 & 3 Greenkeeping and Sports Turf Maintenance (Day/block release or Fast track work-based training qualification). All higher education courses can be accessed on a part time basis.: HNC Turf Science: FEPA Short courses. NPTC Certificates of competence in the safe use of mowers and turfcare equipment. Careers mornings monthly on saturdays.



NESCOT - NORTH EAST SURREY COLLEGE OF TECHNOLOGY Reigate Road, Ewell, Epsom, Surrey, KT17 3DS Contact: Gary Stewart Tel: 0208 394 3220 Email: info@nescot.ac.uk Web: www.nescot.ac.uk Information: NVQ Levels I, II and III in Amenity Horticulture (Greenkeeping options). Part time Day Release. Duration: Two years to Level II. FEPA Spraying Courses. Also available - RHS General and Advanced Certificates in Horticulture. RHS Diploma in Horticulture.



OAKLANDS COLLEGE St Albans Smallford Campus, Hatfield Road, St Albans, Hertfordshire, AL4 0JA Contact: Andrew Wight Tel: 01727 737080

Email: andy.wight@oaklands.ac.uk Web: www.oaklands.ac.uk Information: Full time courses: National Certificate in Greenkeeping and Sports Turf Management. Part-time courses: leading to NVQ Level 2 & 3 Greenkeeping, Apprenticeship Training. Evening Courses: leading to NVQ Level 4. Short Courses: Pesticide, Chainsaw.



PLUMPTON COLLEGE Ditchling Road, Plumpton, Lewes, East Sussex BN7 3AE Contact: David Blackmur Tel: 01273 890454 Fax: 01273 890071 Email: enquiries@plumpton.ac.uk Web: www.plumpton.ac.uk Information: National Diploma in Amenity Horticulture, National Award (Garden Design), First Diploma in Horticulture. Part time courses: NVQ Level 1; NVQ Level 2 in Landscaping and Sportsturf; NVQ Level 4. Also available are RHS General and RHS Advanced; IOG National Technical and Intermediate National Diploma. Short courses are also available for FEPA spraying and chainsaw.



REASEHEATH COLLEGE Nantwich, Cheshire, CW5 6DF Contact: Chard Spicer Tel: 01270 613236 Fax: 01270 625665 Email: chards@reaseheath.ac.uk Web: www.reaseheath.ac.uk Information: (Full- time) National Certificate in Amenity Horticulture, National Diploma in Amenity Horticulture with Sports Turf; Foundation Degree/ Higher National Diploma in Golf Course Management; (Part-time) Higher National Certificate in Golf Course Management; NVQ Levels 2, 3, 4 in Sports Turf plus a wide

Training providers guide Available courses guide

This guide is not exhaustive and a full list of GTC approved training providers can be obtained from the GTC The Greenkeepers Training Committee (GTC) are continually reviewing the approved status of training providers offering greenkeeper training courses. Anyone with a query regarding greenkeeper training should contact the Greenkeeper Training Committee at Aldwark Manor, Aldwark, Alne, York YO61 1UF, Tel: 01347 838640 or visit their website at http://www.the-gtc.co.uk

Rodbastor College



RODBASTON COLLEGE Rodbaston College, Rodbaston, Penkridge, Stafford ST19 5PH Contact: John Renshaw Tel: 01785 712209 Fax: 01785 715701 Email: john.renshaw@rodbaston.ac.uk Information: NVQ Amenity Horticulture (Sportsturf) at Levels 1- 4.Part-time and flexible study options. Short Courses: Pesticides, Chainsaws and safe use of equipment.



SPARSHOLT COLLEGE HAMPSHIRE Sparsholt, Winchester, Hampshire, SO21 2NF Contact: Ray Broughton Tel: 01962 776441 Fax: 01962 776587

Email: rbroughton@sparsholt.ac.uk Web: www.sparsholt.ac.uk Information: NVQ Level 2 Greenkeeping Practice, NVQ Level 3 Greenkeeping Supervision, City & Guilds Phase IV Management Studies, National Diplomas in Golf Course Management and Golf Studies, National Certificate in Greenkeeping and Sportsturf Management. GTC: Greenkeeping Certificate, GTC: Certificate in Golf Course Supervision, FEPA: Short courses, Chainsaws. Phase IV and NVQ Level 2 are offered on block release and day release. Full residential facilities available. Sparsholt College provides education and training in the land-based industries.

The College of West Anglia



THE COLLEGE OF WEST ANGLIA Milton Campus Contact: Bob Young Tel: 01223 860701 Email: enquires@col-westanglia.ac.uk Information: The College of West Anglia offers a full range of courses for Greenkeepers including; NVQ Level 2 Sportsturf (Greenkeeping and Groundsmanship), NVQ Level 3 Sports Turf Maintenance. TDLB Assessors awards. FEPA, Chain Saws, MO1.

Other Courses: National and First Diploma in Horticulture and Garden Design.



WARWICKSHIRE COLLEGE Moreton Morrell Centre, Moreton Morrell, Warwick, Warwickshire, CV35 9BL Contact: Andrew Turnbull Tel: 01926 318285
Fax: 01926 318300 Email: aturnbull@warkscol.ac.uk Web: www.warkscol.ac.uk Information: Greenkeeping Courses: Foundation Degree Sports Turf Management (3 year part-time with the option of an HNC after two years, some distance learning units) NVQ Level 2 & 3 Day Release and Workbased Option. City and Guilds Advanced National certificate Sports Turf A level 3 qualification, 2 year day release. BTech First Diploma Sports Turf. Short Courses: Spraying Certificates (PA1, PA2, PA6), Chainsaw Certificate; NPTC certificates; Tractor Driving, Mowing Equipment, Turf Maintenance Equipment. All training and assessment carried out in the workplace.



WRITTLE COLLEGE Chelmsford, Essex, CM1 3RR Contact: Registry Tel: 01245 424200 Fax: 01245 420456 Email: info@writtle.ac.uk Web: www.writtle.ac.uk Information: All Degrees are awarded by the University of Essex. SPORTS TURF PROGRAMMES NVQ Level 2 - Sports Turf Honours & Foundation degree - Sports Turf and Golf Course Management Honours Degree - Sports Turf Science and Management. OTHER PROGRAMMES: First Diploma, National Certificate, National Diploma - Horticulture NVQ Level 2 & 3 Amenity Horticulture. NVQ Level 2 Retail Operation (Commercial Horticulture). NVQ Level 2 & 3 Commercial Horticulture BSc (Hons) & FdSc Horticulture BSc (Hons). Horticulture Wish Business Management BSc (Hons). International Horticulture BSc (Hons) & FdSc Horticulture (Composery and Retail). MSc/MAI International Horticulture. (Msc Horticulture (Composery and Retail). MSc/MAI International Horticulture. MSc Horti



ELMWOOD COLLEGE Cupar, Fife, KY15 4JB Contact: Sam Letham Tel: 01334 658884 Fax: 01334 658888 Email: sletham@elmwood.ac.uk Web: www.elmwood.ac.uk Information: Full time National Certificate Greenkeeping: Block Release SVQ Level II, SVQ Level III Sportsturf block release and Outreach available, and SVQ Level IV, HNC/D Golf Course Management available as full-time, block release and distance learning. HNC Golf Facility Management, PAD Golf Facility Manag



GOSTA TRAINING LTD 50 Brook Street, Glasgow, G40 2AB Contact: Chris Bothwell Tel: 0141 556 3999 Fax: 0141 556 4999

Email: learn@gostatraining.co.uk Information: SVQ II, Ill and IV also Modern Apprenticeship in Sportsturf including other options and GTC Training Manual.

Attendance Day release from November - March. Distance Learning also available. Short courses with certification include Pesticides, Chainsaw, First Aid, Risk

Assessment, Abrasive Wheels, Full Range of Machinery Courses, Manual Handling and Fire Extinguisher training. Consultancy service for Health and Safety Policy development, Site Risk Audits, Machinery Permit to Use system, COSHH and Noise Assessment.



LANGSIDE COLLEGE Rutherglen Campus, Buchanan Drive, Rutherglen, Glasgow, G73 3PF Contact: Colin S Urquhart Tel: 0141 647 6300 Email: curquhart@langside.ac.uk Information: SVQ, SGA, HNC, HND. Full time and part-time courses in Greenkeeping, Groundsmanship, Golf Course Management, Horticulture, Land and Environment and Applied Ecology. Short courses for land-based industries including Risk Assessment and Pesticides.



OATRIDGE COLLEGE Ecclesmachan, By Broxburn, West Lothian, EH52 6NH Contact: Steve Miller Tel: 01506 864800 Fax: 01506 853373

Email: info@oatridge.ac.uk Web: www.oatridge.ac.uk Information: Full-time National Certificate in Greenkeeping: SVQ Level II and GTC Manual (Day and Block Release): SVQ Level 3 Sportsturf & SVQ Level 3 Fast Track (Day and Block Release) SVQ Level III in Service Engineering, full range of Amenity Horticulture, Landscaping and other land based subjects at HND and HNC, National Certificate and SVQ Levels; Short Course - FEPA, Chainsaw, Forklift, First Aid.



SOUTH AYRSHIRE COUNCIL GREENKEEPING COURSE Chief Executive's Department, Training & Development Centre, 15 Links Road, South Ayrshire Contact: Gordon McGinn Tel: 01292 678861 Fax: 01292 671790 Email: gordon.mcginn@southayrshire.gov.uk Information: SVQ Level 2 Amenity Horticulture: Sportsturf, SVQ Level 3 Amenity Horticulture: Sportsturf and the Modern Aprenticeship in Amenity Horticulture

ALES

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- Foundation Degree in Golf Course Management (full-time & part-time)
- Short courses available in FEPA, Chainsaw, First Aid & Tractor Operations

For further information & advice:

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www.bridgwater.ac.uk

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Letters.

A Willing Helper

One cannot put into writing the loss of a good and helpful friend. Such a man was John Scott, Senior. He was always there to assist or just for a chat when and if he was required. I have known him to visit sick or retired greenkeepers long after most others had forgotten who, or where, they came from. John seemed to keep tabs on everyone. If you had forgotten someone and if they required being

brought to mind John was the one to get on the other side of the phone.

John was an Engineer of merit, who started his working life with ATGO at Larkball, which was near Lesmahagow, where John was born and bred. He worked out of Inverness for some years and had a great number of stories to tell about his Highland Station and the surrounding populace.

No matter where one met John he had a story to tell or a joke to pass on. If he happened to visit your golf club when you were cursing a machine that would not start, he would shove you aside and 'Hey

Presto' the magic touch of the mechanic put life back into the faulty machine.

It is impossible to name all the little favours John Scott did for greenkeepers in the west of Scotland, but there are those of us who will remember him mostly at our AGM, where he would make the arrangements with his Bowling Club for a Games' Night to follow the AGM. He would see to the purchasing of Scottish Mince Pies which were heated and served halfway through these most enjoyable evenings.

John had a long drawn out illness, which he suffered bravely knowing that it was terminal. On Friday May 13, the funeral service was held at Dalnottar Crematorium overlooking the River Clyde. The Chapel was crammed full with John's relations and friends. I could not count the number of greenkeepers present

whom John had touched during his working life. He was a friend indeed who will be sadly missed. I know many greenkeepers in the west and further a field who would tell many a story in John's favour. This is the stamp of a man who took his profession very seriously while he canvassed his skills out to a few companies in Glasgow and the West of Scotland.

I know I am speaking for the whole of the greenkeeping fraternity when we send our condolences and deepest sympathies to John's wife and family in this time of their sad bereavement.

Cecil George BIGGA Life Member

Martin Collins

Martin Collins passed away recently at the tender age of 37 and he will be sadly missed by all who knew him. Martin was a greenkeeper of 19 years, cutting his teeth at 16 years old at Woking Golf Club. He worked in Spain for a while, before joining his final club, Hersham Village Golf Club, in Surrey.

Martin made an impression wherever he went and whomever he worked with, all sang his praises highly. He was full of life, outgoing and passionate about his profession. His brother told me that Martin made greenkeeping sound like the best kept secret in the world, as he could not believe more people didn't do this wonderful job. Martin called greenkeeping a job of life, one you would want until retirement.

Many came to Martin's service, a sign of the respect he had, and he will be missed greatly.

Clive Osgood, Regional Administrator

YOUR LETTERS ARE REQUESTED!

Send to: Scott MacCallum, Editor, Greenkeeper International, BIGGA HOUSE, Aldwark, Alne, York YO61 1UF, or email them to: scott@bigga.co.uk













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Fact or Fiction?

Dr Kate Entwistle, The Turf Disease Centre, gets under the microscope to explore new turfgrass diseases and asks if they really exist.

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To answer the question as to whether new turfgrass diseases are really developing, it is important to be clear what is meant by the term new diseases. You could reasonably argue that if a known pathogen - an organism that has the potential to cause disease - causes symptoms of disease on a turfgrass that has previously not been known to succumb to that pathogen, the result is actually a new disease.

This might be the case with the new grass types that are being developed for use or the introduction of non-native grasses in to our amenity areas. Personally, I would argue that a new disease is identified only when a previously unknown or unidentified pathogen is formally identified and associated with the expression of disease symptoms, regardless of the grass that is being affected.

As an example, it has become increasingly common over the past few years to find take-all patch developing on Poa annua swards but, since the pathogen has long been known to have the potential to infect P. annua even though the occurrence of its infection had been relatively uncommon, I would not say that this is a new disease - it is still take-all patch.

We tend to use common names for diseases because the Latin names of the organisms that cause them can sometimes be quite difficult to pronounce. For example, it is easier to say that your turf has take-all patch than it is to say that your turf is infected by the fungus Gaeumannomyces graminis var. avenae. However, the use of common names can occasionally be either misleading or amusing.

To say that your turf has fusarium means something completely different to saying that your turf has fusarium patch and one of the turf diseases that I love to hear about is anthrax. Of course, common sense tells us in 99% of cases, what is really meant by what is said but for that small number of cases where there may be confusion, naming the organism rather than using the common name for the disease dismisses any doubt.



Fusarium Patch

SO HOW DOES THIS RELATE TO THE DEVELOPMENT OF NEW DISEASES?

For those of us who have a passion for turfgrass diseases, we are always studying the symptoms of damage on turf to try and find any association with a given pathogen. It is always the symptoms of disease that are recognised first and once the symptoms have been recorded or described, the search is on to find out if those symptoms have been caused by a pathogen and if so, is it one that we know about or something new.

Take-all patch is again a very good example of a disease where the symptoms had been recognised and recorded across the United States between 30 and 50 years before the causal fungus was confirmed.

Obviously, pathologists are always hoping that observed symptoms will be the expression of a new disease but in most cases, we have to admit that the unusual or uncommon symptoms are merely a different expression of a well known pathogen. Very occasionally, something exciting is found, 'a new disease' but getting it accepted in the Industry can sometimes be an up hill struggle.

This is something that I have always found difficult to understand. If we think back to what was known about turfgrass diseases only 60 years ago, the diseases recognised then did not include several that are generally accepted today.

There must have been a time when the symptoms that were continually being seen on the sward were eventually associated with a specific causal organism and a new disease was described. That must have happened in the past, so why should it not still happen today?



Take-all Patch

Staying with the example of take-all patch disease, the causal fungus G. graminis var. avenae is referred to as an ectotrophic root infecting (ERI) fungus and up until as recently as 1984, it was the only recognised turfgrass disease that was caused by an ERI fungus. Today, there are six.

As recently as 1998, researchers in the US discovered a new disease of creeping bentgrass caused by the ERI fungus Ophiosphaerella Agrostis, a new species of this fungal genus (Camara et al, 2000). They initially gave

the disease the common name bentgrass dead spot but following identification of O. agrostis causing dead spots in hybrid bermudagrass greens, the common name was changed to dead spot (Kaminski & Dernoeden, 2004).

It should be mentioned that there are presently two other as yet unidentified diseases that have recently been recorded on bermudagrass putting greens. One is tentatively being referred to as 'mini-ring' and the other, 'unknown bermudagrass disease but not the min-rings' (O'Brien, 2005). Research is currently ongoing in the US to try and confirm the identity of the fungi causing these symptoms.

We have already identified one new disease to the UK and Ireland but its identification appears to remain a difficult one to accept by many in our Industry. The disease in question is that of the yellowing patch disease caused by the new species of root-knot nematode, Meloidogyne minor.

It was in 2001 that this nematode was independently identified by both myself and Dr Joe Vargas, of Michigan State University, as the cause of the disfiguring symptoms of yellowing rings and patches on creeping bentgrass greens. However, it was only in 2004 that this new nematode species was formally described in a publication by Karssen et al.

Plant parasitic nematodes like Meloidogyne are, quite correctly, described as disease causing organisms since they directly attack and colonise the plant and cause changes to the normal physiology or functioning of the plant. They affect the plant in various ways including direct injury to the plant cells, secretion or injection of enzymes and other toxins into the plant or by forming specialised feeding sites that physically disrupt the normal function of the plants vascular tissue.

We now know of several nematodes that are associated with damage to cool season turfgrasses and in particular the nematode Subanguina radicicola that causes galls on the roots of Poa annua in putting greens. Although there is now substantial evidence to support the theory that plant parasitic nematodes can cause, or significantly contribute to, disease problems on cool season turfgrasses, they are still dismissed by many as having any part to play in observed disease symptoms.

We have seen that there are new fungal diseases of bermudagrass being investigated and also new nematode diseases recorded on cool season turfgrasses, but are there any new fungal diseases of cool season turfgrasses?

Absolutely. I have already mentioned the dead spot disease recently identified across the US but there is another that is still in the process of being formally identified. In 2004, Patrick O'Brien and Christopher Hartwiger (USGA Section SE Region) wrote a regional update, on the USGA website, detailing an unidentified bentgrass disease that was impacting the Southeast region.

The disease was known to attack the root system and upper leaves of bentgrass eventually causing total dieback of the plant. In April of this year, I received a copy of an article from Dr Lane Tredway, written for publication in USGA Green Section Record (Tredway & Kerns, May/June 2005), in which they describe their current theory regarding this new disease.

They believe that this widely distributed disease is a Pythium root dysfunction caused by Pythium volutum and details of this new disease along with pictures of the damage, can be found on the USGA website. So there you have two new fungal diseases developing on cool season turfgrasses but I hear you shout, they are in the US. Do we have any new fungal diseases on this side of the pond? Well yes and no - let me explain.

