

Student GREENKEEPER OF THE YEAR

JOHN RICHARDSON

Nominated by Lancashire College of Agriculture and Horticulture

Writing of John, course tutor Dr. Richard Gibbs told us of how John entered the leisure industry from a background that involved him in a successful sheep and dairy farm in North Yorkshire. From this John decided to diversify into the amenity area as a positive career objective and in order to obtain as much practical experience as possible, is currently working at Wembley Sta-

dium. With little previous practical experience in sportsturf, John has turned out to be one of the most motivated and successful students in his year – a first year National Diploma in Turf Science and Sportground Management.

As if the hallowed turf of Wembley were not enough, John plans to gain yet more practical experience, this time in golf course management and maintenance, when in 1992 he will travel to Florida.



JOHN WAITE

Nominated by Askham Bryan College

John Waite was chosen by Askham Bryan as demonstrating leadership abilities in class as well as genuine interest in greenkeeping, a subject for which he shows great enthusiasm and which he reads and devours well beyond the needs of his current course. 'A likeable character', says course tutor Nick Bisset, 'who has the ability to get on with people and to impress his will on others'.

John is 27 and has worked for Leeds City Council since

leaving school. Currently at Temple Newsam, possibly the busiest municipal course in the county, he is first assistant. He has completed City and Guilds in Horticulture Phases I-III with credits and now is on Phase II of The Greenkeeping City and Guilds, with plans to progress to the Phase III Management curriculum.

A golfer, he believes this gives him an understanding of the needs of players and the ability to be more critical (and therefore more professional) regarding his own course.



ALAN MORGAN

Nominated by Oatridge Agricultural College

Another YTS graduate, Alan left high school to begin work in general agriculture, working on a dairy farm whilst attending college in blocks. From this encouraging start he attended Oatridge, first taking a certification course in Agriculture (for which he was awarded a cup for 'Most Improved Student') followed by a course in Agricultural Engineering. On both courses he received SCOTVEC certificates.

Now an assistant greenkeeper at Craigmillar Park Golf Club, he has completed three further years of study in Greenkeeping, qualifying in June and again being awarded a cup, this time as 'Best Third year Practical Student in Greenkeeping'. His hobbies are fishing and 'learning golf' and his ambition is to work as a course manager on a prestigious golf course, preferably abroad.



TONY BENNETT

Nominated by Plumpton Agricultural College

Course Tutor, David Blackmur, declares 27 year old Tony as this year's star pupil, indeed he was voted 'Student of the Year' during completion of his Phase II Greenkeeping and Sportsturf Management, which he took on block release. Now his aim is to progress further with a view perhaps of moving into Europe as a course manager, and to this end he will shortly begin Phase III.

What is equally praiseworthy is the fact that Tony

joined Canterbury Golf Club in 1987 as an assistant, working under John Millen and having some of John's wisdom rub off. When John moved away to undertake course design and building, Tony applied for and was appointed as Canterbury's head greenkeeper! Visitors and members alike have nothing but praise for this knowledgeable and likeable character, a man who cannot stop learning and who nurtures the fine turf at this Harry Colt designed course to near perfection.



DAVID CAUL

Nominated by Teagasc College of Amenity Horticulture

What better entry into greenkeeping than to have a father who has been a greenkeeper for 40 years! David works with his father as an assistant greenkeeper at The Island Golf Club, Corballis, County Dublin, some 10 miles from his home in Malahide.

The Island has been his base for the past three years, having trained as a mechanic and qualifying with City and Guilds in Mechanical Engineering whilst working as

a part-time assistant during college training.

Now David cares for all the machinery at The Island and is responsible for repairs and maintenance, a task well suited to one with such impressive qualifications.

Currently participating in a City and Guilds Greenkeeping and Sportsturf Management course at Teagasc College, David has completed one year on block release and is declared by College Principal, Dr Paul Cusack, as 'progressing very well'. He likes to play golf and visit other golf courses, both abroad and in Ireland.



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■ **ILAM (Southern Region)**, in association with Sparsholt College, Winchester, are staging an important seminar at the college on November 22nd entitled: PUTTING GOLF TO THE FORE. Papers include: Developments which are taking place in the industry, Design conceptions for today's needs, Budget and Resource management, The public and Local Authority view on CCT., and Modern concepts of golf provision. Credits will be awarded toward Master Greenkeeper status and BIGGA members will be admitted at reduced fee. Details from Mrs A Bulleid, Tel: 0865 862565.

■ **Northern Ireland** members may care to note that IOG (Scotland and Northern Ireland Zone) will present SPORTSTURF/GROWERS N.I. 91 at the Royal Ulster Agricultural Showgrounds, Alexander Halls Complex, Balmoral, Belfast on October 3rd. The exhibition promises to be the largest event of its kind in Ireland and affords an opportunity to discuss both equipment and technique. Educational workshops will run continually throughout the exhibition and details may be obtained from Mr E T Brown, Tel: Belfast 795040.

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The analysis fallacy

There is an old agricultural saying that the farmer's boot is the best fertiliser. As many of my remarks, which seem to me to be incapable of misinterpretation, obviously need to be explained, it should be made clear this does not mean that farming should revert to ploughing with horses, but that there is no substitute for experience. Better crops will result more from cultivation and planting at optimum times than by analysing soils in laboratories and applying a little bit of that and some more of the other! Walking out onto a ploughed field, kicking it and declaring that it is fit for cultivation will produce better results than talk of trace elements and special fertilisers, once the basic crop needs for the crop yield expected have been met. Too many of those who lack experience think all grasses require the same fertilisers and all that golf courses need is more fertiliser.

I am accused of 'refusing to take the guess-work out of greenkeeping' and to use soil testing – whatever that means. I rejected the concept of the infallibility of soil analyses over 50 years ago, long before computers became everyday playthings and before most of my critics were born. This rejection was based on the fact that even today there are no criteria saying exactly what good golfing greens require, either seasonally or in total. All we do know is that they will survive and indeed thrive on soils so low in fertility, as measured in terms of chemical analyses, that few other plants can live and we arrive at a monoculture situation, representative of our best golf courses.

I should stress that my reservations apply only to chemical and not physical soil analyses. The importance of correct structuring of soils and avoidance of de-structuring by massive earth moving, all too characteristic of 'American' course construction, has been known and understood for a century and is no new invention of the soil scientists!

What, after all, do soil analyses tell us? Assuming that sampling has been fully representative – and that is a bold assumption – at best it tells us the levels of lime, phosphates and potash (plus, if you are sufficiently naïve to think that they are of any significance save on sterile pure sand greens, trace elements) in the soil being tested – always assuming that the analysis can be supplied quickly enough for it to have any realistic significance. What it does not tell us is what the grass needs and what should be applied.

Statements that 'grass needs a balanced diet of nitrogen, phosphate, potash and micro-nutrients' are, like many apparently self-evident truths, subject to qualification. We need to know how much, how often, and in what form. Frankly our best grasses need so little that it would defy a computer to work out the microscopic proportions. It is not I who has misconstrued the facts, but as ever, those who have only a fleeting knowledge of our problems. I am the first to agree that where grasses are grown hydroponically on sterile sand-only greens, this is a different kettle of fish. Such turf is entirely dependent on what it receives at close and regular intervals, be it water or nutrients. If such nutrients, including micro-elements, are inadequate the grass will die. The ill effects of lime in terms of encouraging *Poa annua*, earthworm activity, disease and weeds has been known and appreciated all this century. It follows that any parallels drawn between management of sand-only greens and sand-soil ones must lead to disaster. Most of our established golf greens, even some of the best, are far too rich in plant nutrients.

Recent soil analyses from superb greens with *Agrostis tenuis* and fine fescue cover show phosphate levels at around 10 ppm or even less, yet Royal Birkdale greens showed (at lower levels especially) over 1000 ppm.

Yet even acceptance of the perfection of the greens with

such low phosphate levels does not stop the fertiliser adviser, or even, I regret to say, the STRI itself, from recommending the application of a super-phosphate! There is an old American adage applicable, to the effect that if it's working don't fix it. We know from a vast range of published research that our fine grasses require nitrogen only and virtually never need phosphate or potash in fertiliser form. It is the low levels of these mineral elements that keep out fertility demanding species such as that enemy of good greenkeeping, our old friend *Poa annua*.

I emphatically dispute Ken Siem's statement (Letters – August issue) that there are a lot of phosphorus and potash deficient courses throughout the world – at least there are none in Britain or Europe! How does he come to terms with the fact that there are millions of acres of fine turf in Britain alone, be they sandy heaths, acid moors or links (a term which must be noted is not restricted to courses north of the Border) which have never in recorded history received a single ounce of fertiliser. Any nutrient they do receive comes from a passing sheep, grouse or seagull!

I will not dwell unduly on other points raised as readers must be fed up with the word Pennncross. It is sufficient to say that this species is totally unsuitable because of winter dormancy anywhere where there is a mild open winter climate, be this Britain, Northern Europe, the mild climates of the U.S. Pacific coast or even where it has been tried in New Zealand. It also demands high cost maintenance, is prone to thatch and disease and is easily invaded by alien grasses, except where hot summers preclude their co-existence. What really annoys many of us is that those few cases where Pennncross is claimed as producing perfect putting surfaces are either under-played or shut in critical winter months. What is worse, pure sands are kept that way in some cases by the admitted illegal use of banned pesticides and mercurial fungicides. Pennncross is fine where there is no winter or else no winter golf because of ice and snow. Elsewhere, when it is sold (at present it is illegal to do so) it should bear a warning: *this seed will seriously damage your pocket*.

So far as the USGA Green Section specification is concerned, it should be recorded that for 25 years greens have been constructed to a slight modification of the spec. to enable construction to be mechanised, and thus cheapened. We simply cannot afford to build greens by hand as is deemed necessary when using only 4" thickness of 4mm gravel, which is soon driven into the green base and lost in mechanical operations.

No-one has presumed to title these greens 'USGA Spec.' but many hundreds of eminently satisfactory courses bear witness to the efficiency of the modification, which essentially is only one in relation to a deeper depth of larger stone, blinded of course (with two layers when particle size demands) to stop infiltration of the sand-soil root zone mix.

One hopes that no-one will go on thinking that the USGA Spec. means pure sand and Pennncross. It emphatically does not. Further, if anyone dares to suggest that British greenkeepers lack the skill and ability to look after Pennncross – when it is lack of budgets and resources which cause their difficulties – I may well be less than restrained.

We could do without advice from overseas visitors who lack the humility to recognise that they know very little about our grasses, climate, soils or indeed the way we play the original version of the Royal and Ancient game. In doing so they think they can transplant their specifications instantly and without modification and ignore all the work at all levels put in for more than a century – indeed since greenkeeping started – which can be equated with the general use of the reel type mower.



'I rejected the concept of the infallibility of soil analyses over 50 years ago, long before computers became everyday playthings and before most of my critics were born'

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HUGH TILLEY looks at sweepers,
leaf and litter collectors

Let's get this place CLEANED-UP



The ever popular Turf Tidy by Charterhouse

THE MACHINERY available for cleaning litter, leaves and grass is almost as diverse as the situations for which it is required, with each machine having its own particular strengths and weaknesses. The range extends from lightweight blowers through brush sweepers to vacuum collectors and from push models through the many tractor mounted or trailed implements to self-propelled machinery.

After a brush or rake, the most basic form of sweeper is the pedestrian operated push type (lawn) sweeper costing about £100. This simple device has a horizontal rotary brush driven by the wheels and collects debris in a canvas or similar collector. Whilst satisfactory for sweeping leaves or litter from small areas of turf or paths it has its limits – and time and effort are prime amongst them. The next stage in mechanisation is the same device but trailed by a ride-on, lawn or compact tractor. Obviously more expensive, but significantly less laborious and with greater output, such designs are available in widths up to about 5ft. However there are again limitations in use, for instance because they are driven by the wheels with a fixed ratio of brush rotation to forward motion, often causing difficulty in picking up heavy accumulations of wet leaves. Use of the height adjustment and making several passes usually results in an acceptable job, though this negates most of the economies of labour-saving machinery.

There are other options – like using a ride-on rotary with a collector. Many of these operate extremely efficiently having good suction built-in, usually because they have a separate suction fan. Buying a collector for an existing ride-on in your stable may prove an economic answer.

Going upmarket, to about £4,000, should provide a PTO driven sweeper/collector, or if sweeping is restricted to turf alone, perhaps a flail mower/collector of similar design will offer greater flexibility for other use. Hard surfaces with loose stone precludes the use of mowers – at least as primary collectors – although they may be able to collect from a heap or row.

However there are other relatively inexpen-

sive options for hard surfaces and these can usually be used on short grass. These include blowers and simple angled rotary brushes. Blowers, particularly lightweight models costing from about £250, are particularly effective at flushing leaves and light litter from under bushes and from the inevitable nooks and crannies around buildings. These 'air brooms' still leave a need to collect the debris and whilst many of them can be converted to vacuum, they are generally of limited capacity and dislike anything soggy. Of course with biodegradable materials such as leaves and grass it may be sufficient to simply remove them from turf, path or car park to a position where they can remain as mulch. If collection is essential then it is possible to windrow for collection by another type of machine.

The simple linkage mounted PTO driven angled brush, together with its derivatives, is more vigorous and efficient at moving all types of debris. What and how it will move depends on the strength of the bristles and how well it can be set. Given the right brushes, it should even be possible to clean mud off roads or stones from turf. Like the blower, it should be restricted in dry weather because it makes the dust fly. It is possible (and not difficult) to fit water spray bars to most rotary sweepers and some makers offer

it as an option – but it is not a DIY job. Water sprays add to both cost and complication and perhaps the worst of these complications is caused by failure to empty the water before a frost. With any mechanical brush it is important that setting height and replacing worn brushes is both quick and easy.

Industrial manufacturers offer various grades of bristle according to use demanded and these can include steel and nylon as well as bass and mixed fibres. It may also be possible to fit paddles, which work particularly well on cans, bottles and mud – ideal after a tournament invasion perhaps – though → 16

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15 ⇒ wholly turf oriented machines may not have such options. If there is a lot of brushing to be done then consider fitting the brush to a loader or front linkage – it's more manoeuvrable and saves the operator's neck.

The next stage in sophistication and price is the brush collector combination. There are a number of such machines specifically designed for turf, these being produced in Britain or imported by well known companies. The buyer should also be aware that there are a number of quite similar machines which are no less effective on turf, these being produced for industrial or environment use. Assuming they are to be used on turf, one important point to consider is the GP – does the prospective machine have sufficient ground pressure? This is where most industrial designs fail.

Another point to ponder is the capacity of the collector. Flail cut grass produces bulk but little weight, thus you may fill the collector within very few yards and then have to travel miles to tip! In contrast, soggy leaves and soil cores weigh heavily and may jeopardise the stability of a tractor mounted machine. Many models can 'high tip' into a trailer and this may counteract lower capacity. Beware of claims that a

machine mulches and thus packs more into its collector, for mulched material can be less dense. Of greater importance is the power of the fan and the filler chute.

Flail mower/collectors may be available with a range of flails which include scarifier flails to allow easy cutting and collecting of thatch in one operation. These machines can cope happily with small branches and twigs.

In contrast, vacuum collectors seldom cope well with such material, though they are becoming increasingly popular, especially for litter picking. If your course is one where 'events' take place they may well be worth consideration. The trailed models are likely to be most popular for golf courses because of large capacity and ready availability of a tractor. A flexible wander hose attachment is perhaps more important than the ground head, however it must either be light or balanced by the boom, of suitable length and diameter and with some form of suction control from the nozzle, such as a slide, to admit air above the intake. Any ground head should have quick and easy control of height, preferably from a tractor seat – a modification which is normally easy to make. Some makers can also supply a brush sweeper to enhance the vacuum head.

Flotation tyres suitable for turf are essential but may not be the normal fitment, however it is the overall weight which can be carried on the wheels which is important. Self-propelled ride-on and pedestrian operated vacuum sweepers with brushes are also readily available, but with few exceptions are more applicable to hard surfaces.

Thus to obtain a clean sweep the first requirement is to define the areas and debris which need gathering, this long before selecting a suitable type for demonstration. Asking colleagues of their experience using specific machines costs little more than a 'phone call yet can save an expensive mistake. Half the hassle of getting a machine which does not do the job is the frustration in knowing too late that you selected the wrong machine in the first place.




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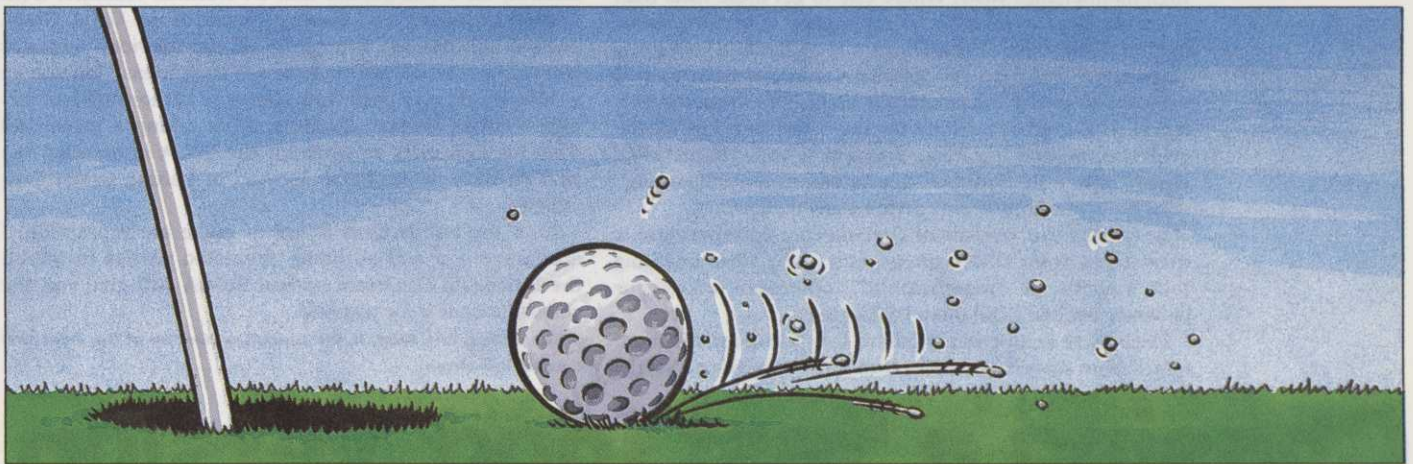
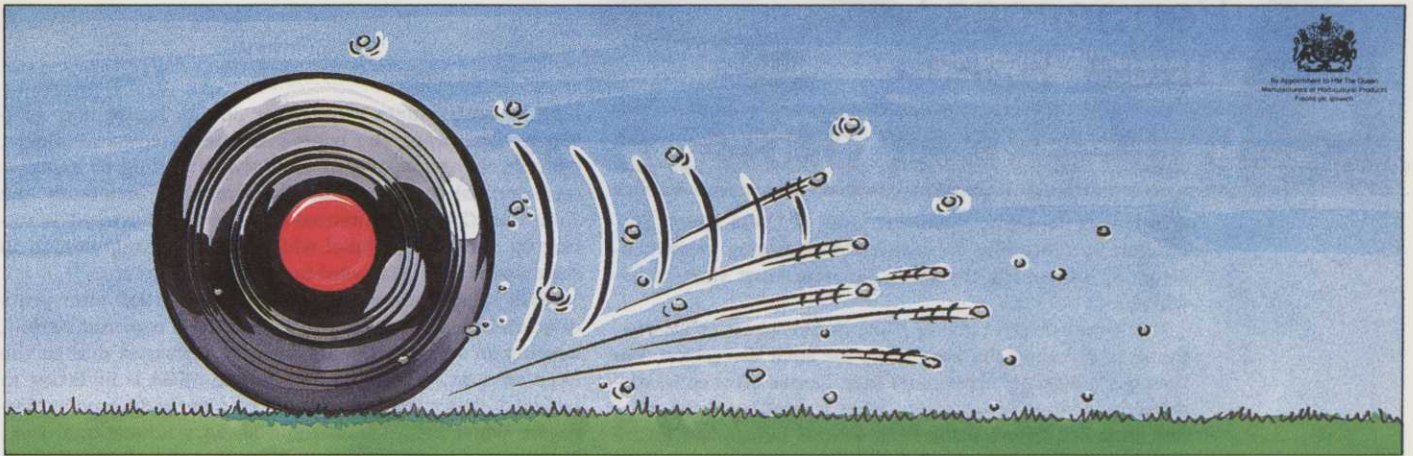
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THE GREAT DEBATE

Far be it for me to cloud the issue of USGA Green Section Specifications for a method of putting green construction by stating the facts, but one must start somewhere.

The 'Great Debate' taking place in Greenkeeper International is certainly the best place for such discussion, but the poor old greenkeepers and their bosses must come to a decision eventually regarding what is best for them. All I can do is help shorten the odds against failure and future high maintenance costs. Where else to get these facts than from the horse's mouth and my money is on Jim Snow, National Director of the USGA Green Section, which is responsible for these specifications. Jim has been quoted recently as saying 'while there is nothing foolproof in this world, USGA greens are by far the safest bet. For all the criticism, no-one has come forward with a scientifically based, time tested method that is better, or comparable'. (The full text of Jim Snow's article is printed below).

My message to readers of Greenkeeper International is this: if you want USGA greens, stay away from anything that smacks of "modification", otherwise take your chances, but *don't* call them USGA greens.

Since there is no other standard for greens construction, (Jim Arthur has come closest with articles on the subject) I

hate to contemplate what other nomenclature may arbitrarily come from golf course architects, course builders, committees, greenkeepers and others willing to compromise and risk long term successful results. Fortunately, the Joint Golf Course Committee for 'The Way Forward' is setting up a Technical Panel which will be strong enough to state which way is forward in this great debate.

USGA specifications were developed in 1960 after years of scientific study and have been under constant review, bearing in mind new data being discovered due to the huge amount of time and money the USGA is investing in turfgrass research. There should be a packed house at Harrogate when BIGGA hold their January Educational Conference, for I understand that Dr Norman Hummel from Cornell University and Stanley Zontek of the USGA Green Section will present papers. Of all the previous lecturers from abroad who have come to sell their ideas, this will be a refreshingly rare treat from the most authoritative of foreign sources. In fact, Dr Hummel is taking a sabbatical from his university to work for the USGA in creating the next revision of the USGA Method of Putting Green Construction.

So, if my words have failed to make an impression, I encourage you and all other interested parties to attend the Harrogate Conference when BIGGA will give you the chance to hear it for yourself.

● The author, Eric Shiel, is the Executive Director of the Joint Golf Course Committee.

Chasing a 'fast food' version of the USGA spec green

by JAMES T SNOW
National Director,
USGA Green Section

It's come to this: After listening to golf course architects, builders, superintendents, and others complain endlessly about USGA specifications for green construction and watching them modify the specs a hundred different ways to meet their own desires, I've decided that what these people must really want is a 'fast food' version of the specs!

What constitutes my definition of 'fast food' specs, you ask? It's simple. Green construction according to the 'fast food' method must be all of the following: It must be **easy, fast, cheap** and **foolproof**.

Unfortunately, building greens is not like flipping burgers. If you look around long enough and set your standards low enough it's possible to find restaurants that serve food that meets all four performance characteristics. If anyone tells you he can build greens that meet all four standards, though, my advice would be look elsewhere.

It's not hard to find greens built with the first three characteristics in mind – **easy, fast** and **cheap**. They're the ones that often fail and must be rebuilt, or else cost many times their original expense in terms of extra maintenance costs, poor quality turf, aggravation and unhappy golfers.

The fourth characteristic – **foolproof** – is the standard the smart money goes with. It means building a green according to the method most likely to succeed, ensuring good drainage, resistance to compaction, consistently good turf conditions and, with maintenance, decades of good performance. It means a method of construction based upon good scientific principles and years of proven field experience; in other words, the USGA method of green construction.

Why wouldn't everyone build **foolproof** greens? Some critics say that USGA greens are too difficult, time-consuming and costly to build. But are these criticisms justified? Let's take a look:

Easy – USGA greens are fully described in a 24-page booklet. Laboratory personnel and Green Section agronomists are available to answer questions and provide other assistance. Sure, it takes some planning and co-ordination to build

USGA greens and it takes more steps than the alternative fly-by-the-seat-of-your-pants method. But which method is actually easier? With USGA greens all you have to do is follow the directions. One point in favour of the USGA specs.

Fast – It's true, building a USGA green is not the same as deciding to get in your bulldozer, pushing up some "native soil", planting some grass seed and calling it a green. It requires seeking out the best materials, allowing time for laboratory testing, mixing the components carefully and following through with all the details to ensure success. One point in favour of the critics, but nothing that some planning couldn't change.

Cheap – Okay, the best materials sometimes cost more and it could cost a few hundred more for lab. testing and a few thousand more for the time to put down the intermediate course sand layer. And let's go first class and hire a quality-control person on a costly green construction project. The extra cost for doing it the right way to ensure long-term success is usually less than 10% of the total. Another point in favour of the specs.

Foolproof – Admittedly, there is little that is foolproof in the world, but USGA greens are by far the safest bet when it comes to green construction. For all of the criticism, no-one has come forward with a scientifically based, time tested method that's better, or even cheaper.

During the past year we've heard from every imaginable corner of the game about how the USGA ought to change its specs to make them easier, faster and cheaper. Not surprisingly, most recommendations best served an individual's needs, rather than the needs of golf courses for top-quality greens. Rest assured, however, that the USGA is not going to put its name on construction methods designed primarily to make green construction easy, fast and cheap – without including the foolproof. If we ever endorse 'fast food' green construction techniques, it will only be after extensive scientific investigation and extensive field testing – and after the fat and cholesterol have been removed too!

● This article first appeared in the USGA 'Green Section Record' in July 1991 and is reproduced with due acknowledgement and thanks.
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Prescriptions for the OLD GREEN SYNDROME

Sitting in the stands at Augusta National for the 1991 Masters, DAVID WHITE chanced to sit beside Cutler Robinson Jnr., a golf course superintendent and member of the Golf Course Superintendents Association of America. Inevitably conversation centred around the perfection that was all around, the American dilemma of demanding slicker and slicker greens, and eventually to a discussion of Cutler's own course, an old established Club in Virginia. "I've had problems that would tax the very being of the fellows here", he said, "and would love to share them with my fellow greenkeepers on your side of the Atlantic". Here then is Cutler's answer to his little problem, one he calls 'prescriptions for the old green syndrome.'



Deep aeration with sand topdressing

Maintaining quality bent putting greens in south eastern Virginia is a very arduous task. Extreme heat and humidity throughout the summer months are very common, making management difficult. Elizabeth Manor Golf and Country Club has 'old style' greens which compounds this problem, characterised by heavy soil and lack of internal drainage. Many of these old greens also have shade and air circulation problems and are often too small for the amount of play they receive.

Reconstruction seemed a logical solution to the management dilemma of maintaining these traditional old style greens, but fear of losing the architectural integrity of the golf course and the expense involved precludes this approach. Besides, contemporary methods for putting green construction can create many more complicated problems than those associated with old greens.

Upon my arrival at Elizabeth Manor in 1986, I found the greens prone to *Poa annua* and algae infestations, mostly due to extremely poor internal drainage. The implementation of a deep aeration programme with the Verti-Drain provided quick yet temporary relief. The greens would take approximately three times the amount of water to reach field capacity as they did before, but anaerobic soil conditions were still common following heavy rainfall during the hot, humid months.

After the first summer I decided to begin a programme of drain tile installation into the existing greens. The poorest draining greens were selected to be done first. The sod was stripped and trenches dug in predetermined areas. Drain tile was installed and backfilled with stone and then sand/root-zone. The sod was then replaced and the greens were soon ready for play. The drain tiles from the greens were coupled with a solid pipe and daylighted in an appropriate location. The continuation of the deep aeration programme, with the Verti-Drain set at a depth just above the drain tile, allowed excess water unimpeded movement through soil profile and away from the green.

The precise management of irrigation throughout hot and humid periods is critical in these parts in order to maintain quality putting surfaces. The stringent and judicious application of water creates a healthy environment for turf survival. Dry greens putt better and withstand more traffic than wet, soggy greens. Hand watering and the use of wetting agents were found to be necessary to prevent turf loss from localised dry spots.

I subscribe to the view that the application of nutrients should be based on the requirement of the plant. Micronutrients and biostimulants have proven invaluable here in maintaining healthy greens through stressful periods. Certainly, old style greens will afford the greenkeeper more flexibility in this area when compared to sand based greens, which have poor nutrient holding capacity. The analysis of tissue as well as soil are again, I believe, essential aspects of a sound management programme.

Cultural practices such as shallow and solid tine aerification are still very important in the areas of thatch reduction and improved evapotranspiration. The incorporation of sand through topdressing, especially following aeration, will improve the infiltration of water through the soil profile.

The demands of the golfer for faster greens is a goal we should not shun too quickly. A dry, closely cut green that is ideal for putting will also have excellent surface drainage and improved evapotranspirational qualities. Achieving double digit stimpmeter readings during environmentally stressful periods is no easy task, but every effort to do so will be appreciated by your employers.

The management problems associated with old style greens are very simple in nature compared to the problems created through contemporary methods of construction. By managing the environmental factors affecting the maintenance of old style greens, such as internal drainage, shade and air circulation, you can save your golf course its original architectural integrity – as well as saving money.

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