award schemes and courses. Financially, it's a sorry state of affairs but there may be some hope not too far ahead, emanating from 'The Way Forward', last year saw the formation of the Joint Golf Course Committee (JGCC). BIGGA supports the new structure - quite simply it has to be made to work if desperately needed resources are to be made available for education, training and research purposes. Regrettably from our view, the new structure has not got off to an auspicious start and there is a clear need for an end to the prevailing 'politics' along with a united approach if the new structure is to offer lasting benefits to both education programmes and much needed research within the game.

In terms of education and training, let me conclude on positive notes. It is pleasing to report that the presentation of the first Master Greenkeeper Certificate was made by Viscount Whitelaw at BTME. It is not easy to obtain, and let no-one doubt that the award indicates that the recipient has achieved the highest standards of excellence within the profession of greenkeeping. At the outset of the Association in 1987, BIGGA signified its intent to make education a number one priority and without any doubt the best exemplification of BIGGA carrying out its intent is the MGC. Many golf Clubs are now aware of and understand the Scheme - this is very important - and our experience indicates that they will support those employees who set out to Certificate. Club obtain the responses to BIGGA plans and programmes have generally been positive. However, there is evidence that for every greenkeeper who complains that his Club will not support his education, there are probably two or three Club secretaries who will say that they haven't been asked and were they asked would willingly support the staff concerned.

At the end of 1991, it was pleasing to announce that our numbers now exceed 4,000, giving us a strong membership base though with no room for complacency. For whatever reasons we lose some 500 members each year. It is quite true that we are on a growth curve because the number of new members each year exceed that figure. Perhaps this is normal, with members leaving the industry and being replaced. That being the case, there are still large numbers who are not members. If every member went out and brought one fellow greenkeeper into membership just think of the impact.

Membership of the Association brings many pleasures and benefits it also brings obligations. Members abide by a Code of Ethics, but I sense that this Code lies dormant in most files. Our Constitution states that 'After five years from the inception of the Association, each full member shall be required, when

attending a formal national occasion, to dress in tie and jacket of the Association and to follow the guidelines on shoes, slacks and shirt'. January 1992 has now passed and we are some way from achieving this look no further than the recent Iseki Ransomes Tournaments for or proof. Since 1987 we have sought to present our members professionally at such events, with BIGGA sweaters and shirts provided and on occasions blazers and ties have been lent. The Constitution must now be implemented. Greenkeepers have made great strides in presenting themselves professionally but there is still some way to go - even now we are talking of perhaps only 20% who take pride in their appearance with some 80% adopting a laissez faire approach to the detriment of themselves and their Association.

1991 proved a good year - the first good year- for our magazine since 1987. Its content and presentation have been

the

BIGGA will not

be deterred in

taking the

profession

forward to its

rightful place

at the forefront

of the

game

applauded widely throughout whilst industry there has been a constant effort to improve and to reflect the needs of the profession. We could have not chosen a harder year, in the midst recesof sion. to bring the magazine in-house. The indushas try remained

supportive and levels of advertising have been sustained this augurs well for the

future. We are in a highly competitive business and the magazine has to be run on strict

commercial lines. This is happening and we are more than maintaining our own.

I have mentioned the industry and out there many companies who have historically supported the profession are experiencing very hard times. The great majority recognise the benefits of on-going relationships with individual greenkeepers and with our sections. It is in many ways a small and closely-knit industry where everyone knows everyone and amidst the competitive rivalry, a camaraderie exists. Many greenkeepers are at ease with company reps and pressure selling is rare and generally unwelcome by our members. At National level we benefit from a small number of sponsorship agreements, primarily aimed at promoting the education and training of greenkeepers. Those agreements are very welcome and I would suggest mutually beneficial. They generally work well and over a period of three years have stood the test of time. The danger we face is of some companies perceiving others gaining benefit from their relationship with the Association to their exclusion and in time this could have a polarising effect. The launching of the new Education and Development Fund marks another significant advance for the Association. Financial contributions will now channel the resources of the game and the industry into one central fund which will enable the promotion and financing of educational programmes, scholarship awards and training aids for the benefit of the greenkeeping profession. The enhancement of knowledge and technical expertise will in turn lead to higher standards of course management.

Nearly five years on we can stand up and be of proud our achievements. Yet there is much to be done. We must start by examining critically where we falling are down before criticising others. Our biggest problem can be summed up in one word apathy the apathy of members particularly in seeking educational betterment. Whilst this can be seen as a product of attitudes

past within Clubs, many of our members really do need to wake up to oppor-

tunities now becoming avail-Many of them lack the able. confidence to pursue those opportunities having in the past adopted the traditional role of knowing their place. Our Management Courses are designed to instil the self-confidence needed to march into the secretary's office and make a case for financial support in the pursuit of training and qualifications. The pendulum is swinging and we can no longer wholly apportion the blame to reactionary and narrow-minded golf club committees. Again there is fear - fear of the agronomist; of the club secretary; of the green committee; of change and of the unknown. It is debilitating, insidious and can be career-long. Greenkeepers should have nothing to fear and here we get to the heart of the matter. Such fear will only be overcome through involvement - in education, with BIGGA and in interaction with fellow greenkeepers. That is the way ahead.

Golf in the United Kingdom is now a wealthy game - that is undeniable. The distribution of that wealth is totally out of proportion. At the top end is the pro tour generating vast sums of money, but adopting an insular approach and seemingly showing little concern for the development of the game as a whole. As we go down the scale we bottom out with junior golf and the Association constantly seeking funding and support. If support is not forthcoming what future lies ahead for the golfing stars of tomorrow and what will be the quality of the golf courses on which they play? The work of the new JGCC will be substantial, it must address key issues and the solutions it puts forward will have fundamental effects on the future of the game in the UK.

There is no doubt that the game is now demanding ever higher standards in course maintenance and presentation - it is the technically experienced course manager who will best be able to meet the required standards. In turn he will be rewarded by a more realistic assessment of necessary salary levels within the profession. We can view the future optimistically there are now tremendous job opportunities, but for those obtaining these top positions there will need to be more study and application, as well as a grasping of opportunity. This way lies the path to success.

The demands made on greenkeepers today never cease to amaze me. The depth of technical knowledge needed to be successful in the profession is extensive and ever increasing. There are heavy physical demands. There is still much ignorance on the part of Club committees and members to be tolerated and overcome each day. I stand committed to improving the position of greenkeepers and the greenkeeping profession and BIGGA will not be deterred in taking the profession forward to its rightful place at the forefront of the game - when all is said and done the most important employees of any golf Club are the greenkeeping staff.

Finally, my special and sincere thanks to our chairman, George Malcolm, for all he has achieved during his year of office. I have enjoyed his steadfast support during the year and no-one should be in

any doubt of the extent to which George has promoted the Association. On behalf of you all, I conclude by thanking George for all he has done and achieved.



Nice and

Being an island nation, it is natural enough that many of us should regard the likes of Jacques Delors, the wheeling and dealing behind closed Maastricht doors and the infuriating parochial dictats of Brussels based Eurocrats with a fair degree of cynicism.

When the long running debate over our entry into the European Community becomes a final reality on the 31st December 1992, will it, we wonder, *really* turn the key to fresh opportunities for anybody prepared to cross the threshold? In my opinion, the short answer is 'Yes', especially for those of us involved in a whole range of activities which collectively forms an industry geared to supporting the game of golf.

Entry into the community of twelve will provide a wider choice of employment and freetrade opportunities: for greenkeepers, golf club managers, golf course architects, constructors, contractors and manufacturers of equipment and machinery essential for the well-being of today's golf course development, management, preparation and on-going maintenance – providing the Eurocrats are kept at bay!

Such opportunities are not only real, they have been on offer - and in many instances, taken-up - ever since golf started to become popular on the Continent. In the mid-1980s for example, agronomist George Shiels was asked to oversee the standards of greenkeeping and course maintenance at the Monte Carlo Golf Club. This eventually resulted in the on-the-spot appointment of Mike Merrick, a young English greenkeeper, as "Le Boss" of greenkeeping affairs on the slopes of Mont Agel, home of the Monaco Open tournament. At that time, Mike didn't speak a word of French. Having accepted the opportunity to broaden his career, he later told me that he spent the entire flight time from Nice back to Heathrow wondering how he would cope and equally important, just how his wife would react to his news!

Twenty-odd years earlier, the late Sir Henry Cotton was taking advantage of his vast professional playing experience and imagination to create new golf courses in Portugal.

Going back even further in time, Bob Buckingham, head of Hampshire-based Toro machinery sales for Europe, tells me that golf course mowers manufactured by his company have been exported into Germany for over 40 years.

Exceptional cases you may think, but are they? Remember if you will that the game of golf has its origins buried deeply in our sporting history. We were building and caring for golf courses long before Bleriot's flimsy aeroplane was the first to stagger across the Channel in – when was it, 1907?

That was long before Germany's revolutionary diesel powered train, the 'Flying Hamburger' broke all existing pre-war railway speed records – and even longer still before General Franco led Spain into his bloody, military based dictatorship.

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Spanning some eighty-odd years, those events happened decades after the game of golf had become an organised sport in this country. Little wonder then that when it comes to the finer points of construction, preparation and maintenance of golf courses, the rest of Europe eyes Britain with respect. We have a history, tradition and knowledge of the game with which they cannot compete.

Why, for example, do you think that this magazine carries advertisements from golf Clubs in France, Germany, Italy and other European countries inviting British applications for the position of head greenkeeper? Being an island nation – and a moderate people – we tend to overlook our own strengths. We are not too enthusiastic about blowing our own trumpets – but this is no time for modesty. We can and should get out there and show them a trick or two!

Some already have. Mike Greaves, whose Bucks-based company, Agripower, builds and maintains sports pitches and golf courses, views the advent of European free-trade as a positive step forward. "We have recently carried out work on a French golf course – our first involvement across the Channel – and I see this development as a good opportunity to extend our interest into Europe."

In the neighbouring county of Oxfordshire, White Horse Construction Limited say that they have received several enquiries from Continental Europe. "We have made no real attempt to promote ourselves – as yet – but we are keeping a close eye on the developments," reports the company's contracts manager, Kevin Smith. Down in Dorset, the Brian Pierson organisation have not only been employed on golf course work in Bordeaux and Toulouse but have also opened an office in Paris to service the French golf market. "Languages are a problem - especially when we receive very detailed specifications from developers over the Channel" says Mark Pierson. "Discussions at architect, developer and especially hotel group levels are easier" he says, "for most business people use English". Nevertheless, Mark is working hard studying both French and German. "Our standards of golf course construction are usually much higher than those accepted in other countries, yet surprisingly we are finding that our cost projections are lower", he concluded.

In Pocklington, Yorkshire, fine turf specialists Inturf say that although they are fully committed to existing developments in the UK and Eire they are fully aware of the potential of the European market. As managing director, Derek Edwards, put it, "I believe that Europe will be good for us – both as individuals and as a nation. Our present commitments mean that we cannot seriously promote ourselves in European markets until late '93. Nevertheless, we currently have plans to open a new operational base in Kent – when established, it will give Inturf the perfect entreé via the Channel Tunnel".

Dr Peter Hayes of the Sports Turf Research Institute is equally positive. "We have been providing advisory services throughout Europe for a number of years. Indeed, the demand for our services is increasing simply because of a lack of local expertise on the other side of the Channel." However, in the context of turf, Dr



CEDRIC JOHNS goes on the trail of entente cordiale



does it...

Hayes expressed the opinion that even setting aside the possibilities of restrictions being imposed on the exportation of soil, the sheer weight of large deliveries might be uneconomic. In his view, British turf suppliers would find it worthwhile establishing a link with a similar, existing company and grow turf on the Continent. Equally, the possibility of problems arising when British companies get involved in other European countries can be real enough, he suggests.

In Germany, specifications for golf course construction are very much allied to German based DIN standards – which differ from our own BSI requirements. This raises the question of Brussels style bureaucracy! Negotiations are already under way (with the Sports Council and the STRI batting for the UK) to endeavour to reach agreement on the new Franco-German driven CEN standards, which will set the specification for the construction of greens.

At present, standards for the construction of soccer and hockey pitches and tennis courts are being debated. As an example of what this entails, Dr Hayes tells me that Germans are seeking to establish a standard for soccer pitches – similar to the 'super' levels laid down for the Olympic Stadium at Munich.

One can imagine the reaction of UK Parish or Town Councils or other local authorities faced with the costs of providing 'park's pitches' equating to those standards of excellence! The STRI takes the view that providing a grass pitch is able of producing an even bounce of the ball, has sufficient traction (grip) and that drainage is good, the actual components used in its construction is of relatively no great import...

Golf courses? Dr Hayes is of the opinion that this important area will not be discussed and finalised for another two or three years.

As might be expected, that doyen of British greenkeeping practices and construction methods - Jim Arthur - has his own views on the subject. "Bureaucrats and politicians are meddling in matters which are beyond their comprehension," says Jim, referring to attempts by Brussels to standardise everything - never mind golf. He continued, "British architects and constructors, some of the most experienced people on the European scene, are apprehensive about the underlying implications of the Euro-CEN standards relative to golf course design and construction. There is no logic in Eurocrats wasting their time and our money trying to impose themselves by creating 'rule book' standards which will apply to both construction and the management of golf courses. Because they have no real experience or tradition of the game they are being blinded by the American way of doing things. They perceive target greens as the ultimate way that golf should be played this side of the Atlantic. Unless we dig our heels in, we British are in danger of selling our birthright down the river!"

Over-riding Brussels, CEN and all that, Jim is convinced that the game of golf as we know

it will be taken over by professionals. "Europe or not, it will all come down to money" says Jim. "The game will deteriorate into a professional lottery – run by and for professionals."

Greenkeeping? "There are some very good young people coming through" he says. "Hopefully, they will not be compromised by the dictats of commercially minded entrepreneurs motivated by the wrong reasons."

Talking of greenkeeping, David Whitaker, course manager at Wisley, made some pertinent comments related to his experience gained during a two and-a-half year stint at Golf du Domaine Imperial, an 18 hole Swiss course. In charge of a 9-hole in this country and keen to better himself, David jumped at the chance of going to Switzerland. "I didn't speak French and my support team of locals had never seen a golf course before – never mind worked on one!' he says.

Nevertheless, David soon got to grips with his dual problems and says that he soon developed his labour force into a working team – who wanted to learn more. Like so many young greenkeepers, David moved – in his case to Switzerland – to broaden his experience but not to stay indefinitely. "I always knew that I would return to home soil at some time" he says.

In David's opinion, countries such as France, Germany and Belgium are waking up to the needs of providing greenkeeper training. "Lots of chaps went for the money," says David. "Now, thanks to the efforts of BIGGA, salary levels in the UK are catching-up fast."

British greenkeepers eyeing EC countries should also bear in mind that many of the new developments are based on America practices – sand based greens, creeping bents and wallto-wall irrigation. These types of courses call for a radically different approach compared to traditional UK turf management techniques.

In the final analysis, Europe is of course all about people, so the last word on the subject goes to BIGGA's Education Officer, David Golding. "Europe has come to us for greenkeepers" says David, "especially since we have raised the level of education to the point where many young greenkeepers are of outstanding management calibre. "In contrast", he continues, "little formal training is, or has been, available to young people in countries like Germany, Spain, France, Portugal or Holland".

Equally he confirmed that BIGGA approved colleges are increasingly aware of the potential importance of golf on the European continent. This autumn, Cannington College (Somerset) is introducing an HND educational programme linking European studies with greenkeeping courses. Elsewhere, other colleges have set out to encourage the use of a second language. Yes, the signs are good for those with a positive attitude, n'est pas!

■ The author, Cedric Johns, is an ex Fleet Street journalist who now runs his own marketing consultancy. He is also the editor of 'Pipelines'.

New faces join BTME Steering Committee

Two new members have joined the 1993 BIGGA Turf Management Exhibition Steering Committee.

Lorna Tyson, from Lancashire College and Arthur Wood, from Iseki UK, were introduced at the Committee's first meeting for the 1993 event, at Aldwark Manor on May 21st.

The June 1st deadline for space allocation had prompted many exhibitors from 1992 to confirm their place for the 1993 event, the meeting heard. Together with new companies currently being allocated space, the Exhibiton halls are rapidly filling up.

The Seminar Programme is now taking shape, together with the Social Programme, but details are still to be finalised. "Watch this space!" says Debbie Savage, BTME Exhibitions Officer.

Because of the big success in January, the Old Swan will once again be designated BIGGA's Exhibition and Conference Hotel. Rates have yet to be finalised, but price increases are expected to be modest and may not be increased at all.

A BTME newspaper is again to be produced for distribution to the trade. Companies planning to exhibit at the 1993 event are invited to submit information and photographs for publication.

For more information on the 1993 BTME, or for a copy of the Information Pack, contact Debbie Savage on 03473 581/2 or by fax on 03473 8864.

• BTME 1993 Steering Committee members are: Neil Thomas, Bill Lynch, Debbie Savage, BIGGA; Linda Manning, Arthur Wood, Iseki; Richard Bishop, Karen Smith, Ransomes Sims & Jefferies; Mike Coleman, Fuchsia Print & Publicity Services; Rachel Semlyen, Rolawn; David Palmer, Supaturf Products; David Boothby, Lely (UK) Ltd; Roger Mossop, ICI Professional Products; Jonathan Harmer, Farmura Environmental Products; Jonathan Gaunt, Golf Course Architect; Richard Manby, Joe Manby Ltd; Lorna Tyson, Lancashire College; Colin Gregory, Hardi Ltd.

Modus 'T' set up machinery factory

The new management at Modus 'T' have been keeping a low profile while setting up their 10,000 sq.ft turf machinery factory at Wem in Shropshire.

"Having a 24 year old engineering company up our sleeves meant that we knew what to do, but I definitely had trouble separating my 'upmilling scarifiers' from my 'cast iron fish plates", says MD Adam Greaves. Design engineering work on redesigning the Powercore and Tri-Master products is completed, with the Powercore MkII prototype undergoing extensive field trials. Inherited quality shortcomings have now been remedied across the range and all parts are dispatched within 24 hours. Details, Tel: 0939 233213. As well as the damage which may be caused to golf greens and other areas of the course by pest and disease attack, there are also many physical & chemical causes of damage/injury which may occur. Obviously it is important to be able to distinguish between physical, chemical and biological causes of damage as this has strong implications in the development of an appropriate remedy. In this article, NEIL BALDWIN, the STRI's plant pathologist describes some of the more common sources of injury to golf greens and discusses ways of minimising the damage should a problem occur.

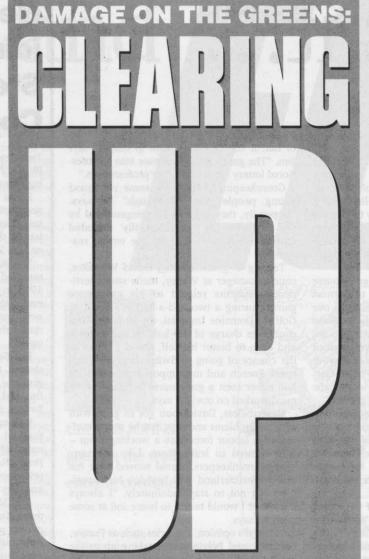
amage to golf greens may occur for any number of potential reasons. For example, the damage may be deliberate such as vandalism, or accidental such as chemical or fertiliser scorch due to mis-application at the wrong time or at too high a rate. The use of modern turf care machinery with engines containing mineral oil and operated by hydraulic controls can lead to accidental spillages onto the green surface. Also, animal urine from female dogs or foxes may scorch severely. These various sources of chemical damage are amplified below.

Vandalism

Unfortunately nowadays, vandalism is of common occurrence on many golf courses, particularly those in which the public has free access due to rights of way established on the course, or on inner city courses which are surrounded by housing. Vandalism may come from many sources, for example disillusioned contractors have been known to wreak havoc on the turf areas under their care, as have club members who on occasion feel hard done by, thus seeking revenge. In many cases the cause of turf injury by vandalism may be readily identified. If a burnt-out car wreck is found in the middle of a green then the cause is obvious! However, in many cases identifying the toxic substance applied is not easy. Identification of the toxic substance used, ie. whether it only lasts in the short-term or whether it is residual, is vital as this has a direct bearing on control methods (see later). One of the most difficult to solve cases I have seen is where greens were scorched using a dry ice fire extinguisher, realised only when the equipment in question was found in adjacent heather!

Machinery

Despite high standards of machinery care and maintenance being the norm on many courses, sadly accidents do happen. For exam-



ple, spillages of petrol or diesel (due perhaps to an over-filled tank) may be the source of the problem. Drips or spillages of hydraulic fluid from leaking or split hydraulic pipes may also occur. Field trials at STRI (Figure 2) are currently investigating the use of new organic-based oils which are claimed to be less phytotoxic than mineral oils.

Chemical scorch

Perhaps the most important consideration when using pesticides is to read the label and follow the instructions carefully. Under normal usage chemical scorch due to over application of pesticides is rare. However, over application due perhaps to incorrect sprayer calibration may cause severe problems. Certain turf treatments such as wetting agents are widely known to scorch fine turf if not watered in after application, as demonstrated in STRI field trials (Figure 4). Thus the correct use of pesticides and other chemical treatments must be emphasised. Extreme care must be taken in the use of total herbicides as these chemicals will kill any turf in

which they come into contact. For example, heavy rain shortly after application may wash the total herbicide off the path or other area to which it had been applied, especially if the treated area is on sloping ground (Figure 3).

Fertiliser scorch

Dry weather (as we have seen over the last three growing seasons) or whenever turf is drought stressed, are the conditions under which fertiliser may scorch if not watered in after application (Figure 5). As the symptoms of fertiliser scorch bear an uncanny resemblance to those of fusarium patch disease, great care must be taken to identify the problem correctly.

Animal damage

Burn marks due to animal urine, particularly during the night by foxes, may be a problem. Characteristic symptoms are of circular patches, brown or straw coloured in the centre, with a lush green peripheral ring. This scorching effect is due to the fact that animal urine contains soluble salts, urea and other compounds which may kill or sometimes stimulate turfgrass growth (Figure 1).

Recommendations for control

The procedures to be implemented when physical or chemical damage occurs to golf greens depends very much on the exact cause of the problem. It must be stated at the outset that the best solution is in the preventative sense, ie. not to let it happen in the first place! When this is under the greenkeeper's control, ie. operations such as fertilising, spraying pesticides and machinery maintenance, then naturally prevention is the best policy. However, animal damage and vandalism cannot be predicted and consequently minimising the damage caused is the only practical solution.

With all types of chemical scorch the greatest chances of success are if the problem is identified soon after it has occurred and action taken immediately. In the case of spillages of fuel, oil, pesticide concentrate or hydraulic fluid then removing chemical deposits by blotting with absorbent paper or by using a proprietary material such as the flowable formulation of 'activated charcoal, which has recently been marketed. The next stage is to wash off the turf surface with copious amounts of water applied to the spilled material. Addition of a wetting agent may prove beneficial at this time. The wetting agent 'new improved Turfex' contains label instructions for dealing with spillages of toxic chemicals. This washing procedure may work well if done soon after the spillage has occurred, however, if one or two hours have passed before the spillage is noticed the damage will have been done and severe turf injury will be the result.

Some of the worst scorch problems are caused by total herbicides being applied to golf greens, where of course their application was not intended. The problem is at its worst when a residual herbicide, eg. simazine, atrazine or sodium chlorate, has been applied. In these situations the STRI undertakes a laboratory 'growth test' whereby grass seedlings are grown in contaminated soil. Failure of seedlings to establish or poor rooting may indicate the presence of a residual herbicide, in which case the only solution is to remove damaged turf and soil below and then repair the whole area. If, however, the problem is due to a nonresidual herbicide, eg. paraquat or glyphosate, then renovation and overseeding will probably suffice.

The author, Dr Neil Baldwin, is the Sports Turf Research Institute's Plant Pathologist.



1. Fox urine scorch. Note the stimulated green grass around the edge of the scorched area



 $\ensuremath{\mathbf{2.STRI}}$ field trial evaluating oil/hydraulic fluids for adverse effects on fine turf



3. Total herbicide run-off causing severe damage



4. STRI field trial evaluating wetting agents for scorch effects



5. Fertiliser scorch, sometimes confused with fusarium patch disease





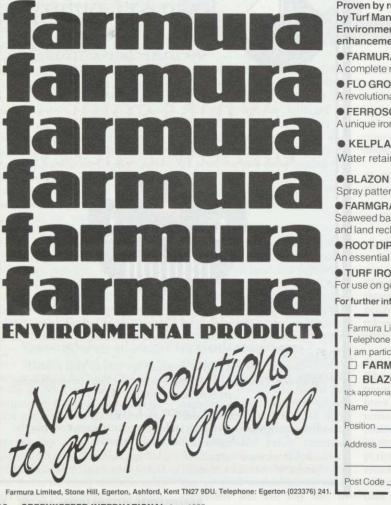
very buying decision means someone must make a financial decision. A greenkeeper can put enormous effort into researching the best machines for the course and making a selection after carefully evaluating demonstration performance and price. But if the person responsible for the financial decision says 'We can't afford it', then the proposal, irrespective of its value, is halted.

All too often a Club can afford it, but ignorance of the funding alternatives means that decisions are based on the assumption of a fixed financial 'pot' to cover all investment for the year. As a result, capital is rationed to balance investment priorities against the need for any substantial increase in membership subscriptions. Put simply, fixing the clubhouse roof may defer a decision on a new greens triple mower.

There is an amazing array of funding sources - from cash to banks and finance companies - but the funding options can be divided quite simply into 'Buy' or 'Hire'. The key difference between the two is who retains title (legal ownership) to the asset? Under purchase options title passes to the purchaser either immediately (cash and loans) or at some later date (hire purchase and other deferred sale options). Under 'hire' options (eg. leasing) title never passes to the hirer, but that is not to say that Clubs which lease lose out. Some could have a lot to gain, particularly when the overall cost of funds is taken into account.

Where the Club is aware of the funding alternatives and is prepared to consider them, the question then becomes 'What is the best way to fund it?' and there are a number of basic criteria that a Club can apply to make a better financial decision: · Cost of Funds:

Price and cost are two different concepts. For example, you know the price of a machine the day you buy it, but you only know what it cost the day you sell it. That is after you have totalled-up the running costs, including repairs and maintenance - not to mention how well it performed under different conditions. It's the same with funding. Lease or buy, you know the price at



the outset, expressed either as a rate of interest or as a repayment in pounds (£s) per thousand borrowed. However, the real cost is only known when all the costs and the benefits, eg. tax concessions and cashflow advantages are taken into account, together with any special fees charged in connection with the facility. For example, an arrangement fee charged by a bank for a loan or the percentage rebate of rentals passed to the lessee at the end of the lease. These are costs which are not immediately obvious. Interest too, can be expressed in a variety of ways. Simple interest expressed as a Flat Rate Percentage always looks more attractive than the corresponding True Rate. Therefore to compare the cost of one finance deal against another, techniques like Discounted Cashflow are valuable, even to non-commercial organisations.

• Availability of Funds:

For most Clubs the first call for additional funds will be the bank. either for working capital through current account and overdraft facilities or for longer term loans. However, it makes good sense to use a number of different sources of funds to spread the cost of investment and to relieve pressure on existing lines of credit. Finance companies, often subsidiaries of major banks, provide a choice of lease and purchase facilities at competitive cost to fund vehicles, machinery and fixed equipment.

· Cashflow:

There is a popular misconception that a deal done for cash must be the best deal, but will a new machine work any harder because you pay cash for it on day one? Instead, paying cash 'up-front' probably places an additional strain on existing lines of credit. It can even increase the overall cost if the funds are borrowed on overdraft. Better to plan investment with repayments matched to income. Monthly payments may be fine for most businesses, but not for organisations with seasonal income. The size and timing of payments should be fixed in advance to minimise impact on cashflow and to fit in with budgets. For example, it may be better for many Clubs to make payments in

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February, March and April each year that fit in with subscription income. Spreading the cost, rather than making one big payment each year, also takes pressure off cashflow.

Sometimes things happen that fall outside existing plans and budgets. For example, a tractor breaks down and repairs are uneconomic compared with replacement. A carefully structured lease or hire-purchase agreement can put a new tractor on course in mid-season with payments timed to coincide with the following years subscription income. This reduces stress on current lines of credit. In addition, using credit instead of cash does not reduce your bargaining power, because the supplier is not aware of how you intend to fund the machine.

• Investment Incentives:

Excluding low cost loans or grants that may be available (eg. brewery loans) substantial savings can often be made by acquiring machinery and equipment on low cost Lease or Hire Purchase finance available with the machine through the supplying dealer.

Whilst zero percentage finance is attractive, don't overlook longer term alternatives. If you intend to keep a machine for five years, why not pay for it over the same period. Where low cost funds are available it may pay to lock into funds with a true cost well below bank base rates for as long as you can. In addition, the fixed payments will help you budget more accurately.

Capital investment is essential if Clubs are to deliver what the members want – whatever that may be. One thing is certain, with increasing playing demands being made on every course, the green staff need up to date machinery and equipment to cope and that means additional investment. So, when putting a proposal to committee, or making your own evaluation, look beyond the technical justification for the machine, to the way in which it can be funded.

■ The author, Eddie Henderson, is a director of NMB Farm Finance. He is also the current captain of the Agricultural Engineers Association Golf Society and a member of Aldwark Manor Golf Club.

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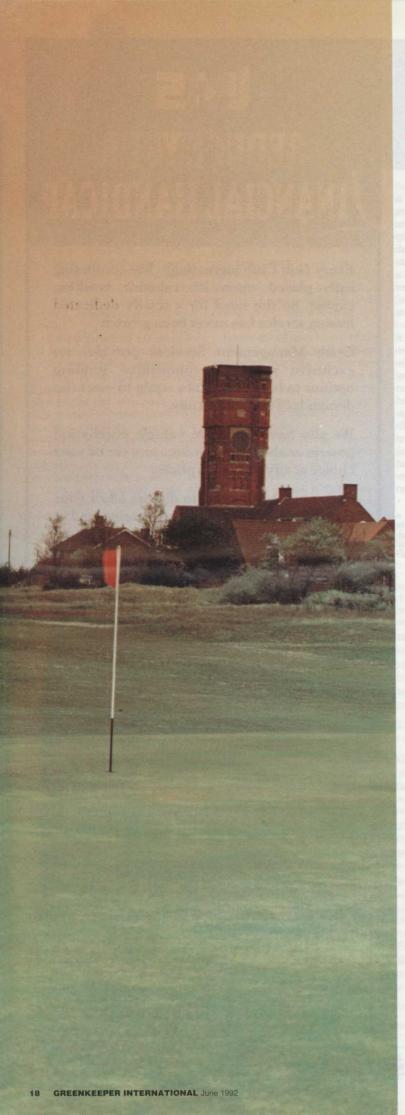
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AD REF 371



by DAVID WHITE

t is not surprising that greenkeepers look to great locations for their own National Championships; and a quick perusal of previous sites upon which our champions have been crowned will reveal no weaknesses in that sphere, our quest being always for challenging courses that bring out the best in the best players.

Littlestone is no exception, located in that corner of Kent noted for its fine turf – a veritable gem of a links course so close to the sea we snuff the salt deep in our nostrils. It is a wonderful test of golf, playing host throughout its 104 year history to a multitude of championships, including use as a qualifing course for The Open.

This attraction as a championship site is easily explained, for though at first glance Littlestone appears to be wide open and begging to be murdered, it defends its honour with subtlety rather than great length and has an unusually high number of outstandingly fine holes. The fairways are quite wide, the turf a delight; and the greens are always swift but never impossible and therein lies the rub. The greens are quite small, they are well defended by bunkers that properly defend - indeed every single one of its 94 strategic bunkers (added to at various times by James Braid and Alistair Mackenzie) play an absolute part in giving the course its reputation, this despite arguments that rage over the modern ball and its 'lengthy' nature. Add to this the breezes that sometimes snarl in over the English Channel, with their propensity to dry out those holding characteristics found inland; and you have a course where finesse beats the erratic slogger every time.

Malcolm Grand, the Club's dedicated head greenkeeper, is of the opinion that the run-up shot – the bump and run – will be the shot to practice; and as one who has dedicated all his working life to his craft whilst spending the majority of his time on linksland courses, his opinion is one would-be champions will do well to heed.

Meeting him was a real pleasure, made the more so by his immediate declaration that greenkeeping is a career that gives him huge pleasure and satisfaction, and when I learned that this love had been forged from early links with Rye – just down the road from Littlestone – where his father was in charge of the victuals at that famous Club, it came as no surprise.

Taking up the story, Malcolm told me that without parental pressure – though heeding Dad's sound counsel – he opted for the attraction of working in golf and joined the Rye greenkeeping crew under Frank Arnold, straight from school at 17, a move he has never regretted. There must be something about the magic of the place, for the 'Grand' invasion of golf continued when Malcolm's younger brothers, Simon and Garth, both took up greenkeeping careers at Rye; and though Simon has now moved to Highgate as first assistant, Garth remains a dedicated Rye man, working under Trevor Ockendon, who took over as head when Frank Arnold retired.

In the event, Malcolm left Rye following six very happy years in which he learned his craft well, moving for the first time to an inland course at Newark, though Malcolm and Trevor Ockenden remain good friends to this day, sharing in the same delights and challenges of managing true linksland golf.

Joining Newark as first assistant, Malcolm was to work a different type of course entirely, one where lushness prevailed and where tree planting (necessary following the front nine coming under the plough during World War II) was a seemingly continuous activity. Two years as first assistant was followed with promotion when head greenkeeper Les Bakin retired; and for a further six years Malcolm was the 'main man' – in his own words, 'a happy time at a happy Club'.

Inevitably for a Southerner, the urge to return to one's roots remained strong, though it was quite by chance that Littlestone came to Malcolm's attention. On a visit in 1986 to attend his sister's wedding at Rye (where else!) he heard on the

BIGGA NATIONAL GOLF TOURNAMENT ~

'grapevine' that Littlestone were seeking the services of a head greenkeeper and hot-footed along for a pow-wow with secretary Bill Bailey, who offered him the job straight away!

I asked him if he had inherited any problems at Littlestone, the answer being a categoric no! 'The course was in lovely condition', he said, 'indeed, just as it has always been'. Offering an opinion as to this phenomenon, he suggested that perhaps it was because in the so-called boom years when everyone was mucking their greens up by applying fertiliser by the truckload, Littlestone had the good sense not to waste their money. 'Are you still mean with fertiliser', I asked, to which Malcolm grinned before replying, 'the fertiliser reps get fed up calling on me, for we use so little. Last year we

used none at all save a liquid 50/50 feed dressing on the greens - just to keep them pretty - and you can see for yourself how good they are'.

Indeed, I have to admit those Littlestone greens putt as well as they look, which is very well indeed; and would opine that this might also be down to the intelligent use of water. Throughout those aforementioned boom years Littlestone was without automatic irrigation, and although they now have this facility, the past two years have seen drought orders enforced, with minimal night-time watering only. Though forced

upon them, this is in many ways a blessing for the predominating bents and fescues, kept to perfection principly by the use of the handheld hose.

'I'm very happy with the Watermation system installed, complete with TW2 controller, and it's a boon if used intelligently', says Malcolm, though he chuckled when recalling early conversations with the installer: 'how does all this high-tech stuff work?' he asked, 'don't know', came the reply! He has it mastered now, thanks to some schooling at a Watermation training session, though he thinks the real learning is largely down to experimentation and using the system - playing with it.

If I am allowed another opinion here, I would suggest that Malcolm's avowed credo minimal watering at a rate just enough to keep the grass alive, is extremely sound indeed, for

though links golf is different - with its humps and hollows, its bounds and ricochets - it is this very difference that makes it attractive beyond measure. The green committee at Littlestone do well to insist upon maintaining the status quo, for once a links course is allowed to degenerate (not too harsh a word) into lushness and 'green grass at any price', the quality that is links golf is lost forever!

We talked of visits from the STRI, Malcolm pointing to the advisory reports eminating from agronomist David Stansfield and suggesting that nothing much had changed over the years. 'From Jim Arthur's earlier visits, when he was agronomist for the R&A Championship Committee, down to the present visits of David Stansfield, the same sensible, logical and

workable ideas still persist, he said, 'Jim Arthur's policies are still very much with us, albeit written with a different pencil - nothing much changes, which pleases me'.

Malcolm has had one big surprise this year, a pleasant one but a surprise nonetheless. I asked him when he first learned about the BIGGA Championships coming to Littlestone. 'When you shook my hand four months ago, on the first of your photographic visits', was his candid reply. 'When you came and said to me 'getting ready for the big one?", I thought you were referring to the English Ladies Stroke Play Championship, which is

here at the end of July. I didn't let on to you, but I had no idea; and it was only when I got home and found my latest copy of Greenkeeper International that I realised you were not kidding!'

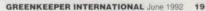
It says something for the man that he took this surprise in such good spirit, and as he was quick to point out, 'we are always ready for the big occasion anyway, my policy being that the course should be as good for a monthly medal as a British title championship. Big events don't frighten me, but I would be kidding you if I didn't feel a little apprehensive at the thought of being judged by my peers - I've no holiday booked until the event is history and I'll be on tenterhooks until the BIGGA Championship is over - then I'll either be sacked or relaxed!' He laughed at this comment, but I have a sneaky feeling he'll be relaxing come sundown on August 12th.

'Will you be 'tricking' up the course in any way, creating anything out of the ordinary?', I asked. He grinned - 'I'll look to make it as tough as its 6,424 vards can play for those three days, but at Littlestone in August the weather will do all the tricking for us. The course can and probably will dry out to an extent that will make it 'fiery' and the run-in approach shot will be called for, though players may get a false impression from the grassy fairways on the first five or six holes. There is no logical reason why these fairways should yield more grass cover - perhaps it's how reclamation from the sea has left us - but we often need only to gang-mow just these six, leaving the rest! Green speed will also be dictated somewhat by nature, which means fairly fast - or downright rapid if the drving winds take control! I rarely need to cut lower than 3/16" on the mainly fescue/bent surfaces. We've a wee bit of Poa annua, but I verticut the life out of it - weekly if the greens look as though they can stand it - and the slit-tiner gets used regularly, with as many passes as possible, from the end of summer 'till spring. The greens drain freely and we never have any surface water even after a downpour, nevertheless I run the Vertidrain over every two years or so - largely as a safety measure'.

Malcolm is confident that if the weather holds to form - which means little rain - tight lies will be the order of the day, which will please the better players no end. He has supreme confidence in his loyal staff; with first assistant, John Stickels, having no less than 22 years service with the Club - a veritable Godsend, 'They're a fantastic crew: dedicated, loyal and very hard working - I cannot praise them highly enough' - commendation indeed!

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	Machinery is shared with	the	adjacent Warren course,	
which is also maintained by the Littlestone team. An addi-				
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structed by Malcolm Grand and his crew.



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Petrol or diesel, which is best? Of course the answer depends on so many variables but probably the most important of all would be the type of equipment to be powered. A solidly built, heavy diesel engine could be suitable for the larger rideon commercial mowers but is it right for equipment that travels over sensitive greens and other fine turf? Perhaps a lighter, quieter, vibration-free OHV petrol engine is a better alternative. The advantages of petrol over diesel can be summarised as follows: Typically a 12kw petrol engine will weigh only 32kgs, reducing the chances of equipment leaving ruts or compact it allows equipment manufacturers to reduce the overall size and weight of the equipment.

Low noise levels: Comparing like for like a petrol engine will be quieter than an air cooled diesel so it is often necessary to build expensive enclosures to reduce noise levels from diesel engines to acceptable levels.

Lower vibration: Modern petrol engines such as Briggs & Stratton's Vanguard 16HP V-Twin have very low vibration giving high levels of operator comfort and minimising the need for a reinforced chassis and mounting plate.

Better starting: Especially in cold weather the petrol engine will normally start easier than the diesel due to its lower compression ratio and the higher volatility of the fuel.

Fuel economy: This is the area where the diesel usually has the biggest advantage but the latest OHV petrol engines are up to 30% more fuel efficient than the older side valve designs. And of course they can all run on unleaded fuel, which now costs about the same as diesel. The fuel consumption for a 12kw petrol engine running on a typical 50% load would be approximately three quarters of a gallon an hour.

Lubrication: Modern petrol engines now have pressure lubrication systems with external oil filters – just the same as their diesel cousins.

The environment: Improved carburettor design has resulted in lower emission levels and catalytic converters will soon be available for some engines. Most petrol engines can also be run on environmentally friendly LPG (Liquid Propane Gas).

Equipment manufacturers often offer a choice of engine allowing prospective purchasers to make the decision themselves on which type of power unit is most suitable for their operation.

In recent years there have been many improvements in lightweight, high speed diesel engines which make them suitable for purposes for which they would not have been considered a few years ago. The diesel unit, because of its high compression ratio – often in the region of 20:1 – has to be a robustly constructed engine which in turn is one of the factors that leads to a long service life. Often they are now of a size that makes them interchangeable with an existing petrol engine which is fitted to an expensive piece of machinery.

Diesel advantages: Amongst the advantages of the diesel are a much lower combustion chamber temperature leading to far longer valve and piston ring life, less dilution of the oil on the cylinder bore during cold starting and a very much improved fuel consumption. If 'red' diesel is being used, fuel bills can be cut by as much as 75%. It is normal for a diesel engine to run for 1,500 hours before it needs decarbonising and the injector cleaned and reset and a further 1,500 hours before a rebore needs to be considered. As many engines are built to have two or three overhauls in their lives, a total life of 10,000 hours is not an unreasonable expectation. This, together with the outstanding fuel economy, will repay the extra first cost of a diesel engine many times over. The essential advantages of the diesel engine are: Robust construction, long engine life, good fuel economy and reliability.