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THIS ISSUE

APRIL 1983

Front Cover: Derek Green, head greenkeeper at Woburn Golf and Country Club, prepares to apply another treatment of Seamac 600 to greens and fairways. The natural cytokinins in Seamac 600 enable the grass to achieve maximum photosynthesis, especially in the still short and sometimes duller days of early spring, resulting in a more vigorous plant earlier in the year. This gives more tillering and a thicker sward to stand up to any drought and heavy traffic later in the summer. Also, the deeper rooting bents and fescues already in place are stimulated early, reducing the opportunity for invasion by annual meadow grass.

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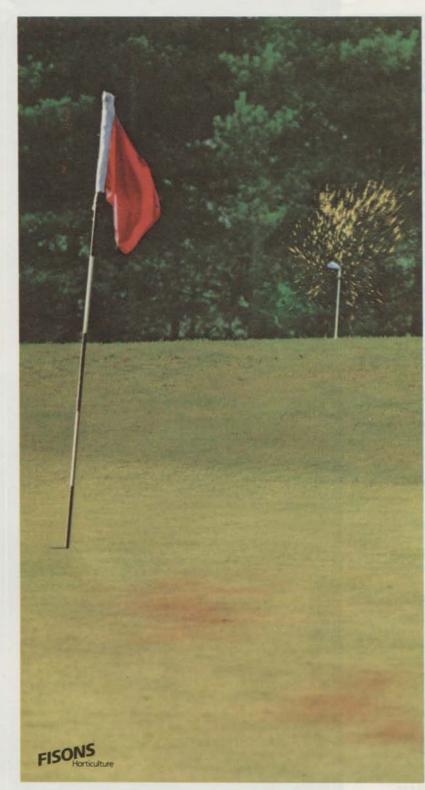
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When was the last time Tom Watson or Sevvy Ballesteros dropped in on your course for a quick eighteen holes?

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If your patience with green starvation is wearing a bit thin, then why not drop a line to Jo Patterson at Dept. 25, Fisons Horticulture, Paper Mill Lane, Bramford, Ipswich, or ring Freefone 3686. And she'll send you details of the Fisons Turf Care Programme.

Fisons Greenkeeper. *Greenkeeper is a Trade Mark of Fisons plc.

IN MY OPINION RICHARD FRY

Richard Fry is the manager of May & Baker's environmental products division.

WHEN invited by *Greenkeeper* to express 'my opinion' on the state of the industry, I initially felt very flattered to have been chosen and, seconly, rather excited. Was this not, after all, an opportunity to air my views regarding all the many pet theories we all have and take the opportunity to 'get at' the establishment through the media?

The reason I am not taking such an approach is because why should you, as a reader, care about my particular hobby horses? Instead, I am taking what I trust to be a positive approach to the changing face of our industry.

There are only two things we can be sure of in this life. One of them is death, which we can do little about, and the other is change. Change is all about us and, I would suggest, no more so than in our profession with the need for constant protection of fine turf from the ravages of weeds, diseases and pests.

Like death, we can do nothing about change, although we can anticipate the likely effect that change will have and harness it to our advantage.

Why, then, is there the perceived need for change in our industry?

We have not moved with the times

First, I would say because we have accepted low standards in the past and have not moved with the times. We are regarded as a Cinderella industry in the much larger agrochemical market and I would suggest that the Fairy Godmother has been kept busy in other areas and found little time and little encouragement to visit our small kitchen. And if you don't strive for high standards, then companies will take the view you are not interested in improving upon the status quo. Let's look back at the standards that have been accepted for a long time.

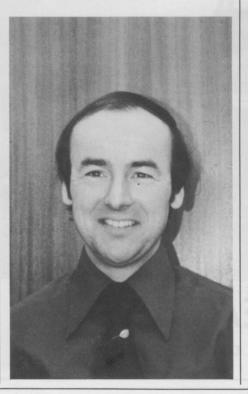
 Up to two years ago, virtually no novel pesticides were introduced for use on fine turf or amenity grassland.
 The vast majority of existing chemical products were formulated for agricultural use and not specifically for fine turf.

3. The packaging of these products has left a lot to be desired. Most are packed in agricultural containers, some even with agricultural labels and directions!

4. The literature that has been available often derived directly from an agricultural leaflet, with agricultural terms, more recognisable to the farmer than a groundsman or a greenkeeper.

5. Little research has been done on what you, the user, really wants, with almost no advice, education or training regarding the correct and proper use of pesticides.

6. An increasing desire to accept lower standards by purchasing the cheapest



chemical available and apply it when weed problems or disease infection is at its highest level — and then expecting that a drastic 'fire brigade' treatment will solve the problem. This, rather than adopting planned weed and disease control programmes, using preventative, rather than eradication methods.

Remedied by a groundswell of opinion

This, I am sure you will agree, is a sorry state of affairs and one that cannot continue. Thankfully, this unhappy picture is currently being remedied by a groundswell of opinion from the users and the perception of companies such as May and Baker.

Further awareness that the turf and amenity grassland industry is undergoing change is the setting up of a specialist BAA committee. This committee, serving the amenity horticultural market, is comprised of member companies dedicated to ensuring that the industry is represented at the highest level. Its function is to 'police' the market so that members and nonmember companies do not act in a manner that may bring the industry into disrepute.

To emphasise this point, the industry is in danger of being exploited by companies entering the market to make a quick profit at the expense of you, the user.

3 In agriculture, a mistake made with a pesticide can be expensive, but normally would only be a problem for the life of one crop. How different is the fine turf situation, for that same mistake could have disastrous longterm consequences, both from the financial and environmental point of view.

The cheapest herbicide or fungicide

Continued overleaf ...

could well end up being an expensive mistake especially when purchased from a company that has no expertise in the development and formulation of chemicals.

It is not commonly realised that the solvents and wetters with which pesticides are formulated can have a more damaging effect if the product is misused, than the active ingredient. Therefore, well tried and tested products from manufacturers with research and development facilities should be the minimum standard adopted.

We are even seeing some companies passing their products off as copies of, or substitutes for, long-established brands from manufacturers with a high reputation and a code of ethics that have been well proved. In my opinion, unless the user takes a stand against these fly-by-night concerns, then such companies will flourish and the industry's reputation will suffer.

I mentioned earlier that a specialist and committed approach is necessary from manufacturers supplying our market. Companies that have the industry's best interests at heart, must constantly look to improve their overall service to ensure the customer gets what he wants, when he wants it and knows where he can obtain it.

This point brings me on to the question of distribution. In my opinion, the industry is generally well served by specialist companies supplying the needs of the fine turf and grassland market.

These companies usually operate on a relatively local basis and, therefore, know their trading area and customer requirements. However, I feel strongly that it is the responsibility of all supplying manufacturers to ensure that the distributors and their representatives are fully informed on all technical and commercial aspects regarding product use.

Better standards in terms of education

By continually striving for better standards in terms of education and direction, the distributor, in turn, can give an enhanced service to the customer. It is a great shame that many of these distributors are not rewarded for their efforts, particularly at local authority level.

The tender system local authorities and often nationalised industries adopt can often lead to a lowering of standards. Generally, the prime consideration is price, taking little account of the advice, service and reputation of companies whose representative may well have fostered the initial interest. After spending considerable time, effort and money ensuring the product is specified, he often sees his efforts going unrewardel because another company, a considerable distance away, who has never had any contact directly with the tendering organisation, takes the business purely on price.

This bureaucratic system must change to encourage and justly reward the distributor who has invested time, money and effort in employing trained reps.

There is little doubt that as an industry we are evolving. The demand for more facilities and longer playing time will continue. However, there lies the dilemma of, on the one hand, greater wear and tear of the turf and, on the other, a desire for better turf providing enhanced playing surfaces. It is here that I believe we are able to demonstrate that chemicals are an effective management tool enabling these objectives to be met and, unlike Cinderella, this is no fairy tale.

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These include the front-loader shown below, which has a respectable 6.5 cubic feet capacity. Its stability, its nimbleness and its sensible, simple controls make the L345 ideal for light construction work - bunker mainten-

ance is a perfect example. The 34.5 hp Kubota L345 can KUBOTA With 2- or 4-wheel drive. Both models are available

Stormore decay of the suppose range. Or add for a demonstration.

Get booked into Brighton!

The English And International Golf Greenkeepers' Association Annual Conference and Annual General Meeting will be held at Brighton Polytechnic from Friday, April 15 to Sunday, April 17. On the Monday, a golf tournament for all delegates will be held at Worthing GC.

There are still some places available and anyone interested in travelling to Brighton should phone the EIGGA conference organiser on 025 55 7526 to make a reservation.

The full programme is shown below.

At the conference, Geoffrey Athill will give EIGGA delegates details of the association's new correspondence course — the EIGGA Diploma In Management. The changing pattern in golf club management provides a need to enhance the professional status of head green-keepers and those involved in the practical aspect of golf course management.

At the last executive, EIGGA agreed to promote a

correspondence course. The diploma course is available only to EIGGA members and consists of six individual Units:

- 1. Public relations and committee procedures.
- 2. Personnel.
- 3. Budgeting.
- 4. Bookkeeping and finance.
- 5. Purchasing and control.
- 6. Planning.

The successful completion of these units will enable the participant to enter the diploma examination. The examination will take the form of an interview with a panel to discuss a number of pre-set problems.

The course costs £80, which includes VAT and the examination fee.

The launching of this diploma in management course is in keeping with the association's aim of giving members the opportunity to advance themselves and enhance their standing in the golfing community.

The English And International Golf Greenkeepers' Association Annual Conference And Annual General Meeting April 15-17

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£60 for three days residential - £15 per day for daily attendance

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	Saturday	@ £15		
	Sunday	@ £15		
(c)	Golf Tournament	@ £3		
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Name				
Address				
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Club	0	rganisation		Membership No
Mail this form to: The Conference Organiser, Greenkeeper, 121/123 High Street, Dovercourt, Harwich, Essex.				

Finally, Bob Surridge will give details of the life assurance cover included (at no extra cost) in member-

ship of EIGGA. All EIGGA merchandise will be on display and will be able to be bought/ordered.

DAY Friday	TIME Lunch	SPEAKER AND TOPIC			
Friday	2.30-4.00 4.30-6.00	Geoffrey Athill — Budgeting And Man Management Nick Rigden, lecturer at Plumpton College — Education	Sunday	9.00-10.30	Howard Swan, founder of the British Association of Golf Course Constructors — Green And Tee Construction
Saturday	9.00-11.00	For Greenkeepers Wing Commander Bill McCrea, secretary of Walton Heath — What I Expect From A Head Greenkeeper		11.00-12.45 Lunch	Jim Prusa, director of education, Golf Course Superintendents Of America Association — Associations Present And Future
	11.30-12.45	Bob Surridge of J. D. Ward (Insurance Brokers) — Insurance And Pensions, followed by a question and answer session		2.30	Annual General Meeting of EIGGA, followed by an open forum with EIGGA's general administrator, board of management and trustees
	2.30-4.30	Jim Arthur B Sc (Agric), consultant agronomist to the R & A and PGA European Tour The Greenkeeper And The Agronomist, followed by a question and answer session	Monday	Dinner	 available to answer questions 36-hole golf tournament at Worthing Golf Club. Prizes for overall score plus each 18 holes — Stableford
vid herindy addressing addressing wrode bas	Dinner After Dinner	Dr Peter Hayes, director of the Sports Turf Research Institute.	tside the gi e was a se given by verse subje	hat and our t a Then the Then the	ature years. There is no doubt the GCSAA and its members hav proat deat to offer any British gre teeper who makes the journey.

THE EIGGA DIPLOMA IN MANAGEMENT ENROLMENT FORM

Name	al On Ponds	
Club	in a set throughout the banding	and methods of operation to work in [12 in all, or
EIGGA Membership Number	•••••••••••••••••••••••••••••••••••••••	In the Assure February issue of seven new a
Address to which correspondence	e should be sent	of the GCSAA was reproduced 10 gained the de
acts helped mould the geme of		reached its present position, which i lection of the
		nealthy. However, a first-hand insight certification
	is not enough to attain a green but to toption	Home
I am a current member of the En	nglish And International Golf Gre	eenkeepers' Association.
I agree to abide by the condition	s of the course and to accept the	examiner's decision as final.
I enclose my cheque/postal or Management Centre.	der for £80 (inclusive of VAT	T) made payable to The Bournemouth And Poole
Signature		Date
This form should now be sent wi 1 Lowther Gardens, Bournemout		ll, The Bournemouth and Poole Management Centre,
After receipt of your form, you	will be contacted with further de	etails.
a all a memorable week	Membership applications are EIGGA's membership year ru	
	December, therefore joining	immediately affords
	maximum value out of the finot only do you get Greenkeep	
	cover, as well, and all for only £	

Greenkeeper travels to Atlanta

THE 54th International Turfgrass Conference and Show of the Golf Course Superintendents Association of America took place in Atlanta, Georgia recently — reports Greenkeeper's publisher Michael Coffey.

From the UK, Philip York of Toro Irrigation, Derek Edwards of Rolawn, Alec and Howard Swan of Golf Landscapes, Cuy Catchpole and John Wilson from Ransomes, Jonathan Harmer of Farmura, Derek Phillips and Richard Lawrence of Rigby Taylor, Marilyn Jones, Richard Frost, David Smart of Parnell Lang and Trevor Martin of Steetley, among others, represented the full range of our industry.

However, there was a marked absence of greenkeepers, which is something that should be put right in future years. There is no doubt that the GCSAA and its members have a great deal to offer any British greenkeeper who makes the journey.

But before I am accused of eulogising over all things American, let me state that I believe we can all learn from the American organisation and the way they structure research without necessarily putting their findings and methods of operation to work in our climate.

In the January/February issue of *Greenkeeper*, an article on the history of the GCSAA was reproduced. It showed how the association has reached its present position, which would certainly seem to be very healthy. However, a first-hand insight into the association revealed problems similar to those we face at home.

The GCSAA has a total membership worldwide of only 5,200, with some 13,000 courses in the United States alone. The membership comprises college/university graduates, certificated members and those without formal qualifications, but years of practical experience. The membership is active and keen to know how and what is being done on its behalf — particularly since the membership fee for the forthcoming year has been raised to US \$145 (about £98).

The association is still run by its members, with the main aim being the promotion of the profession and the interchange of scientific and practical knowledge. If proof of this was needed, over 400 delegates attended a meeting to discuss matters to be dealt with at the annual meeting four days later. The GCSAA has achieved a

great deal and future plans place a great deal of emphasis on education for all members, which is something SIGGA and EIGGA are doing here.

The conference in Atlanta was attended by several hundred delegates. The opening address was given by Republican Congressman Guy Vander Jagt, who told an audience of nearly 2,000 that he "knew of no group more crucial to the enjoyment, challenge and the success of the sport it serves than golf course superintendents." He added: "you were environmentalists and ecologists before the rest of the country knew those words existed."

Naturally, the odd political comment crept in, but it was interesting to note the awareness of what golf courses have to offer to those inside and outside the game itself.

There was a series of seminars and lectures given by over 60 speakers on such diverse subjects as Computers In Golf Course Management, Diseases Of Turfgrass — Identification And Control, Plant Nutrition And Soils, Triplex Fairway Mowing and even Geese Control On Ponds.

The seminars, of which there were 12 in all, continued throughout the duration of the conference. Seven were new and the others popular repeats. Attending the seminars gained the delegate a number of Continuing Education Units and the collection of these units over a period of years allows the member to retain his certification and is at the heart of the GCSAA's continuing education programme. It is not enough to attain a qualification, but to continually update knowledge as well. Cassettes of the various sessions could be purchased before the conference ended.

In addition, there were dozens of lectures each day on everything from architecture and maintenance to even choosing clothes.

No gathering of this size would be complete without a trade show and although indoors and smaller than the Institute of Groundsmanship Exhibition at Windsor, it was certainly a colourful and busy scene with some 250 exhibitors, including 'our own' Ransomes.

The GCSAA had its own stand for membership applications and the ordering of branded merchandise. Although well organised, it was disappointing that only orders were taken and that goods are despatched at a

later date. The aim is that everything sold is an advert for the GCSAA and makes the golfing public more aware of the member's professional status. It is another important part of putting the message across.

On the Thursday, the USGA held a full morning's programme, which included an address by president William C. Campbell, the distinguished amateur golfer. His theme, a familiar one to all, was that of communication and how those involved in golf and, in particular, course maintenance should meet regularly and exchange views and advice. "The superintendent should not have to go it alone," he said.

The USGA programme was followed by the GCSAA's annual meeting which, in keeping with all such affairs the world over, was a lively occasion and one adroitly chaired by the GCSAA president James Wyllie.

The finale was a banquet and show. Some 1,200 delegates and spouses (who had enjoyed a special programme through the week) attended a memorable evening, during which Arnold Palmer was presented with the 'Old Tom' Morris award. The award is made to "that individual who, through a continuing selfless commitment to the game of golf, has helped further the welfare of the game in a manner and style exemplified by Old Tom Morris."

Morris helped mould the game of golf as we know it today. He was a successful and accomplished player, architect, club and ball maker, and greenkeeper. Palmer's career and family tradition (his father was a superintendent/pro) parallel Old Tom's closely and Palmer's role in shaping the game is very well known. He made an excellent acceptance speech reminding all of the part members of the asociation had played in his many successes.

When president James Wyllie relinquished his office to incoming president Bob Osterman, a toast was drunk together with immediate past president Michael Bavier in 'scotch' (single malt — please gentlemen!) presented by 'missionaries'' from SIGGA!

All in all, a memorable week. America has much to offer everyone in the business, but it is equally a mistake to think everything American is great. It is, however, true to say they are the most wonderful hosts!



A well-attended educational session.

William Campbell, President USGA.



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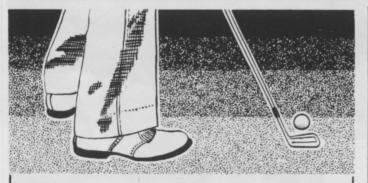
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Surrounds and approaches other neglected areas . . .

Before talking about surrounds and approaches, the most important areas on any golf course after the greens themselves, it might be as well to define what is meant, or at least what I, and I think many others, mean by the terms. This emphasises the need to compile a glossary of greenkeeping terms and definitions, as quite opposite interpretations are often placed on the same term by different people.

By 'approach', I mean the area from about 25 yards from the green in the line of play to the verge of the green. The 'apron' is the immediate mown verge on the front — the same area around the green being defined as surround or collar. This may well vary in width from a yard to several yards and is generally mown at an intermediate height between putting surface and fairway.

By Jim Arthur

These most important areas vary in character and condition from course to course. In some, veritable foregreens of up to 250 square yards are mown out at close surround height. In others, especially on links courses, it is almost impossible to see the dividing line between putting surface and suround, both being identical botanically.

In unhappy contrast, at the other extreme, greens of reasonably satisfactory quality may be surrounded by unmown, lush, worm-infested, ryegrass dominated turf, more like a football pitch than a golf course. Such contrasts are very unsatisfactory, producing quite impossible conditions for either putting or chipping.

In my book, you should be able to take a putter with confidence from several yards off the actual green, hazards permitting. This, of course, quite often occurs on links courses, but is attainable, as well as desirable, on all.

Equally unsatisfactory are the problems of wear, especially where walk-off traffic is concentrated along narrow lines, due to the presence of greenside bunkers; neglect, such as a lack of irrigation and routine aeration, and bare areas caused by sand blast from bunkers — a major problem resolvable only by replanning bunkers, e.g. by bridging or building noses. Bunkers should really be designed in wind tunnels.

But what of the problems when surrounds are better than the greens?

The parlous state of so many thatchy greens surrounded by unspoilt, native fine turf has caused me to remark — with different degrees of reception — on a first visit to many courses over the last 20 years or more that if we could only get the greens half as good as the surrounds, then the battle would be won.

The reason is all too obvious. Overfed and overwatered greens rapidly become dominated by annual meadow grass and it is a moot point which comes first — this wretched weed grass or thatch. The point is really academic as thatch control hinges on discouraging annual meadow grass, but it is clear that if surrounds are still the original fine and wiry turf then greens can be restored quite quickly. It is sad to contemplate the money wasted on ruining such greens and the further expenditure required to reverse the treatments and restore the old, fast, fine, firm putting surfaces.

Surrounds must, of course, be mown regularly and I prefer closemown 'fore-greens' to give first-class run-up conditions and help less-able golfers who, lacking the ability to put backspin on the ball, must rely on the pitch and run-up game, which demands green-like conditions on the aprons to the greens. This mowing is mostly done without boxes to collect the cuttings and so this is an added reason for never applying fertilisers to surrounds and approaches.

They do, however, need periodic controlled irrigation. I really feel that it would be better not to water at all than to water surrounds and approaches every time the greens are irrigated, as this inevitably floods the less well-drained surrounds, with harmful results.

One of my long-standing battles in pursuit of better design in irrigation systems has been to outlaw the linking of approach pop-ups with greenside ones and to discourage fixed arc, i.e. non-adjustable, gear-driven (either 180° or 360°) pop-ups around greens. Today, very few new schemes are proposed that do not employ fully adjustable pop-ups, whether geardriven or impulse heads.

There are still one or two irrigation firms linking the approach sprinkler directly with pop-ups around the greens, inevitably causing lush, overwatered approaches. And others fitting one full circle pop-up at the front of greens, ganged with three halfcircle fixed arc pop-ups at the side and rear of the green. This is, of course, condemned by the British Turf Irrigation Association's specifications, which are mandatory for members.

I strongly advise any golf club, either installing a new pop-up system or upgrading an old inefficient one, to go only to those firms that are members of the BTIA. If they go elsewhere, they may get a properly designed system, but they may not. In the latter case, they will have noone but themselves to blame and have little or no recourse on the culprits.

I am also not very impressed with the automatic follow-on of approach and tee watering by pulse valves after greens, largely because one is never quite certain in practice which greens or approaches are being irrigated, if both are not.

It was what the members specifically wanted

I read with some incredulity, in defence of one incompetent system designed on the basis of a full circle, centrally sited pop-up linked with three half-circle heads, the comment by the firm who installed it that the club had specified full circle heads on the fronts of greens "to give lush approaches because it was what the members specifically wanted. Who are we, or any consultant or contractor to impose irrigation theory on to a customer who is well able to decide what he wants", they said.

Too many clubs have permitted their courses to be mismanaged because the majority of members want, for example, lush, grassy fairways and 'holding,' i.e. boggy greens. Yet, by definition, the majority of members are the less able players and in no other sport is the quality or management of the playing surfaces dictated by 'rabbits'.

Furthermore, what on earth do 99 per cent of members know about irrigation or the long-term effects of badly designed pop-ups? They are always the first to propose a vote of censure on the head greenkeeper or the green committee for producing impossible winter playing conditions and thatchy, waterlogged greens, for the sake of a few short weeks of lush green meadows in summer and cannot for the life of them see the connection.

I make no apology for stating my belief that consultants must lead and must fully brief their clients on the predictable disasters that will surely follow the implementation of bad advice. If the client then insists on going the wrong way, any consultant of integrity must make his objections unambiguously clear and then leave the obstinate miscreants to their fate. Perhaps we would also have better courses if some 'architects' had the sense, as well as the integrity, to refuse a commission when conditions especially when linked with the lack of financial resources - make final disaster certain.

Sadly, I am still burdened with the task of getting some of the bad courses built in the last decade into a semblance of good order and the cost of renovation often greatly exceeds the total initial construction costs. At best, the end result is a patched-up second best. I can but quote one American agronomist brought in to deal with a course and who was acclaimed to be Mr Fix-It. "I would rather be Mr Do-It-Right-First-Time", he said.

From queries at greenkeeping talks, I gather there must be some whispering campaign to the effect that it is all very well quoting those courses that have been improved by taking my advice "but what about those he has ruined." So far, no questioner has been able to quote any example and, indeed, where my advice has been faithfully and enthusiastically implemented, there is never any question of a course being other than improved.

Naturally, there must often be a period of transition, known as 'Arthuritis,' when conditions may get worse before they get better, but this is a temporary phase and one which is better got over quickly before there is a change of committee and, so often, a change of policy. Don't forget that I claim no copyright on this advice, which is logical, tested

and emphatically proven by time.

I am aware I may be inviting my critics to a feast, but where are these courses I am supposed to have ruined? By far, the majority of hundreds of clubs I have advised in the last 15 years still keep in touch, even if not all either receive or require regular advisory visits. Indeed, with problems solved, visits are often needed less.

I do not know which is worst

To return to our subject! The two main problems on approaches especially are often in totally opposed contrast. I do not know which is worst — green, lush, coarse, over-watered meadows, smothered in worm casts, contrasting with fairways and greens and pulling up dead pitch shots just short of the green, or arid, hard, uneven, eroded, weedy aprons, giving totally unpredictable kicks, devastated by wear, rabbit scrapes and drought damage. Some manage to combine the worst of both faults!

A major factor in the creation of bad surrounds and approaches is the presence of perennial ryegrass, forming coarse, lush areas, often associated with well worn walk-off areas. The old error - correct observation, but wrong deduction - leads some 'advisers' to say that this proves perennial ryegrass is hard wearing. Of course, it proves nothing of the sort, but it does demonstrate that it is a very persistent, as well as a totally unsuitable species, incapable of producing a satisfactory golfing turf or blending with other grasses, new cultivars notwithstanding.

What these people forget is that the ryegrass was almost certainly introduced with the wrong seed or with poor ryegrass turf to repair these traditional, worn, walk-off areas and, once introduced, no amount of scarification, close mowing or other mechanical treatment will eradicate it.

Ryegrass will survive very close mowing, even though it is difficult to mow cleanly — the fibrous leaves being stripped between cutting cylinder and sole plate, unless machines are close-set, but it never forms a really dense bottom to the turf, nor blends well with other grasses.

Nothing looks worse or creates more complaints than infrequent mowing of aprons, leaving a definite ridge, between green and surround. I have seen surrounds over an inch taller than the putting surface, especially when the grass type is annual meadow grass and growing strongly. How on earth can anyone play a predictable shot if the ball lodges against this rim? You can neither putt nor chip with accuracy.

To produce better conditions, we need better machines, which can collect the mowings in boxes and I am pleased to see some new and improved triple mowers coming into more general use. These are naturally less expensive than the more sophisticated triplex machines for greens, but both achieve one thing — speedy mowing well ahead of play, so that greens can be mown every day and surrounds every other day, without making excessive demands on limited staffing levels.

Another major and often almost insoluble problem around greens is caused by sand being blasted out or even blown out — from greenside bunkers. Design and the introduction of 'noses' - projections into the bunker to reduce swirl and wind blow - or the dividing of large greenside bunkers into two has often proved remarkably successful in minimising wind blow, but deep and penal greenside bunkers are inevitably linked with sand blasted out, drastically reducing drought resistance and often leaving unsightly scars, as well as burying pop-ups.

Experienced greenkeepers know that the only way to repair such areas is to remove often a foot or more of almost pure sand, replacing with sandy soil, before regularly returfing worn areas. Often, this may involve major revetting (turf on turf walling) of bunker faces to prevent their collapse.

Leaving a wide enough margin between putting surface and bunker to reduce the problem of sand affecting the greens mowers automatically creates another — that trolleys can then be taken by thoughtless golfers between green to bunker and so cause damage.

I am always amazed and amused at the reaction of golfers caught *in flagrente delecto*, with their trolley wheel marks right across the green on a dewy morning, who genuinely have no recollection of taking these contraptions over sacrosanct putting surfaces, even when the tell-tale tracks end at their trolley!

Some of the worst surrounds I have ever seen are on courses built under American influence, but without due thought to local problems. It does not seem sensible to me to create

Continued on page 18 . . .



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Jim Arthur — Continued . . .

an over-drained putting surface, dependent on heavy irrigation, in a basin of badly drained impermeable clay or marl. In so many cases, the under-drainage was led to small sumps — incredibly, in more than one case, with the sump five yards off the green central on the approach, with no overflow drainage. Even in summer, with high irrigation, the virtually undrained impermeable clay surrounds became muddy morrasses with a lush bog over the sump in the approach, or if water were limited, the greens droughted.

In one case, in an attempt to deal with over-watered muddy surrounds receiving as much water as the overdrained greens, the full circle nonadjustable heads were changed to half circle, fixed-arc heads, but no one told the wind about the deal, so some parts of the greens are missed and down-wind surrounds still get too much water.

I am totally unrepentant in my opposition to the heresy of unadulterated sand greens favoured by some US authorities. I am happy to note that a number of practical men, head greenkeepers and golf course contractors also share my opposition and since this is based on our combined experience of building literally hundreds of greens, those who will have to foot the bill if things go wrong would perhaps be wise to listen to the voices of experience.

I fully accept that inherent problems are vastly aggravated by the use of wrong sands and grasses, but why do things the complicated and expensive way when it is better, cheaper and more sure to do it the conventional way?

Another factor influencing the condition of aprons and surrounds is drainage. I do not mean that we should install a network of herringboned drains, but we must follow the basic first rule of drainage — stop the water getting there!

One fault is pulling out the Sub-Air vibratory plough or mole attachment of the Hydromain or Cushman at the very perimeter of the green, which inevitably creates a wet area at this critical zone. Moles should always be pulled right out well on to the approach and, incidentally, saucered greens, unless provided with a special drain at the lowest area, should never be mole ploughed, or the centre merely gets wetter.

One important aspect, especially on hilly, moorland courses, with greens cut out of slopes, and with relatively impermeable, fibrous acid, bent turf shedding water on to surround and green, is to use open, slit, cut-off drains, cut as narrow as possible, with a trenchless drainer at or near the foot of the slope. These must not be turfed over and should be stoned right to the surface, but the stones retained by a narrow strip of wire netting flush with the surface of the turf. This enables a putter to be used if desired, or a ball to continue to roll over the slit. but cover it with even the thickness of a turf and you have a flood at once.

I gladly acknowledge learning the wire netting tip from an extremely able young Scottish head greenkeeper, Bobbie Bennett from Caldwell — and the open slit cut off drain has for many years now been the first step to thatch control on such cut-out (chair) greens, with surprisingly little effect on play or players!

A personal plea to some architects to avoid that terible anathema, the steep apron, almost 45° to greens constructed on rising ground may fall on deaf ears. Quite apart from the fact that a pitch just short of the green may sucker, or run back, while

one a few yards longer may go through the green, such steep and unnatural slopes are difficult if not impossible to maintain and look most unnatural.

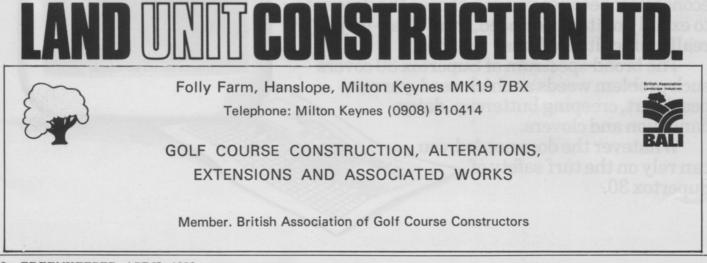
Another design fault of professional as well as amateur architects is to obstruct the centre line of an approach. I have seen pot bunkers inserted into par-three approaches to stop someone foozling a shot off the tee and dribbling it on to the green. Bunkering should never be designed to trap poorer players — they carry their own bunkers with them.

I have also seen some foolish examples of water in front of greens — one rock-walled, blue plastic lined monstrosity that dried up in summer and silted up in winter and others that developed into muddy, mosquitoridden bogs. My main objection is not so much aesthetic but because they concentrate traffic around the hazard and serious erosion is inevitable.

There is certainly more to any course than eighteen good greens and if they are surrounded by inferior turf, the greens suffer not only visually but in playing quality. Yet, approaches and surrounds often get little attention and are frequently the areas that would respond to more generous treatment — routine aeration, top dressing, weed and worm control and, of course, regular mowing.

Where there are more serious problems, the chief of which being sand blow from bunkers, ryegrass infestation, major remedial work, redesign of bunkers and extensive returfing may be needed.

Much of what I write will be no news to many of my readers, but if it enables committees on even a few courses to be convinced of the need to finance action with the aid of this ammunition, then it will have served its purpose.



A Consultation with the Doctor

Shortly after his appointment as director of The Sports Turf Research Institute, Dr Peter Hayes (pictured) talked exclusively to Greenkeeper — an interview that was featured in the January/February, 1982 issue. We recently returned to Bingley and obtained this progress report...

Greenkeeper: Have you changed your mind about any of the comments you made last year?

Hayes: I have just re-read the Greenkeeper interview, which was held about a month after I arrived here, in November 1981. I can truthfully say that after reading that article again, I would not change one sentence today.

Greenkeeper: You started with scientific principles. You aren't going to change them, are you?

Hayes: No. Whether it is grass grown for agriculture or grass grown for, say, a golf green, the scientific principles are exactly the same, but there is a change in emphasis and, of course, the whole ecology of the situation is different.

Greenkeeper: What progress have you to report in the scientific and research fields this year?

Hayes: It has been a matter of consolidating our position and looking at research programmes and where we are going in future. I have made a number of cases to the governing bodies of various sports to try to get them interested in financing research and I hope that the governing body of golf will finance research applicable to golf.

Greenkeeper: What sort of programmes of interest to golfers are you carrying out at the moment?

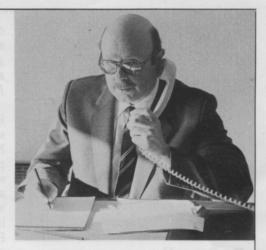
Hayes: We are interested in testing cultivars — that is varieties of bents and fescues for golf greens. We are also looking at the effect of slow release fertilizer programmes on turf and, of course, we are always looking at disease and some of the new disease problems that arise. For instance, this year we have had an increased interest in disease of Poa annua. A lot of people may say it is a good thing to have a disease that attacks Poa annua. but it can be a problem if you are depending purely on 100 per cent Poa annua greens. There are also situations where there is a lot of thatch on greens (in this country, there are a lot of greens with thatch varying from in up to maybe as much as 6in in some cases) and thatch fungus is prevalent. This eats into the organic matter in the thatch, causes depressions and an uneven surface.

Greenkeeper: Would you agree that research into the environmental factors that favour fine grasses and kill the coarse grasses would be a great help?

Haves: Yes. I said in the interview last year that if your management system is applicable to the growth of Poa annua (in other words, your management regime provides all the ecological conditions that make Poa annua successful) then you will have Poa annua and you will have 100 per cent Poa annua greens, with all the inherent faults of this species. However, if your management is different and the management balance is changed in favour of fescue and bent, then you will favour those grases and, in turn, they should increase and, in the long term, you should have a bent/fescue green.

Greenkeeper: Those factors should be spelled out and proved by research, but not an awful lot of work has been done on that . . .

Hayes: I would agree. Some of the



old work at Bingley was to do with the manipulation of pH, but this was often concerned with the control of broad-leaved weeds. Nowadays. with modern herbicides, broad-leaved weeds are no longer a major problem and we have to look in more detail at the ecological factors that encourage fescue and bent growth and, in particular, the encouragement of fescue growth, because the amount of fescue on golf greens in this country is very limited.

Greenkeeper: One major problem worries greenkeepers a great deal at present and this concerns wet golf courses.

Hayes: The aim nowadays should be golf for 365 days a year, but a lot of golf courses have bad drainage, causing many to be closed due to waterlogged conditions.

I have been reading *Dr Mackenzie's Golf Architecture*. I'll quote a paragraph.

'In time many of the dull, monotonous, muddy inland London links will be entirely re-modelled under expect supervision and the turf and subsoil treated so that it is a pleasure to play on them, even during the winter months.'

Now that was written in 1920. Has the situation improved in the 1980s? A colleague of mine Caroline Ward has undertaken a survey on the drainage of golf courses. This survey was financed by the Department of the Environment and the Sports Council and she randomly sampled 500 golf courses in Great Britain. Among a number of questions, she asked: 'How many days last year (1981) was your golf course closed due to wet conditions?'

The results of this survey indicate that about a third of them were never

Continued overleaf . . .



Dr Peter Hayes.

closed, but a further 52 per cent were closed between one day and ten days in the year of the survey and that 13 per cent of the golf courses were closed due to waterlogged conditions from between 16 and 35 days during the year.

I need not say that this situation is not acceptable and, to refer back to Dr Mackenzie's words, I just wonder how far we have progressed? Waterlogging is still a major problem on our golf courses. This is due mainly to bad drainage and partly to excess thatch and compaction.

Greenkeeper: As far as golf courses are concerned, Bingley had dropped to a fairly low level of advisory work. Is this now picking up?

Hayes: I would not agree with your statement. Our advisory officers still go to about 400 courses every year and we have about 700 golf clubs as members of the institute. There seems to be, over this last year, an increasing interest in our advisory service. The returns have come in this month from golf clubs and they do show an increase in the interest in the Bingley advisory service. Greenkeeper: You have been holding some seminars this year and you are going to hold more next year. I am sure these are of interest to golfers. Have they been successful?

Haves: They have been very successful. We held the first in November at Moor Allerton and 120 participants took part. We held a second seminar in the Lancashire area, at Haydock Park Golf Club, where 80 participants took part. The institute held a third seminar at Plymouth recently where we had an audience of over 80. We are trying to get our message over to the officials of golf clubs and we would like to see a mixed attendance of greenkeepers, secretaries and chairmen of greens at the seminars, as we feel that if each of these parties had an appreciation of the problems that arise on golf courses, then they would be able to understand better each other's points of view.

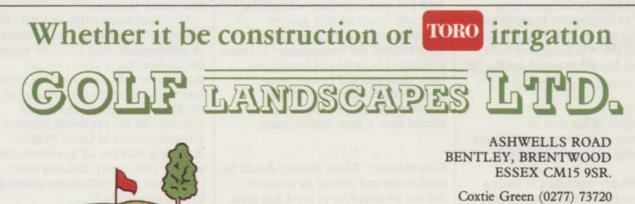
Greenkeeper: There does seem to be something of a move towards the need for uniformity of advice, with a number of conferences about the country. You had one of your most famous old boys Jim Arthur at a meeting of Bingley advisors in December. Was there a fair degree of agreement then?

Hayes: I was pleased to welcome Jim Arthur back to Bingley. As you say, he was an advisory officer here in the early 1950s. I thought it was worthwhile institute staff discussing problems we find on golf courses with Jim, so we could have a mutual discussion on advisory problems. I have also attended conferences with Jim and the differences between his advice and that given by the institute are much narrower than a lot of people are led to believe. Greenkeeper: You will not want to comment on greenkeeper politics, but what do you feel about the formation of EIGGA and training standards in general?

Haves: It is a great pity if any professional organisation is fragmented into different factions. I hope matters will improve in the future. One thing that has struck me since I have been here is the poor image of the greenkeeper. To improve this situation, I think we have to look to the future - to ten and 2- years - and find ways to improve the popular image. The whole professional image of the greenkeeper should be raised and this should start with educational standards. Future head greenkeepers should have certain academic qualifications, such as O-levels, A-levels, ONDs and degrees, as well as practical training. In the future, I would hope that all greenkeepers would have a basic academic training enabling them to be course managers.

Greenkeeper: We are beginning to see the need for more general management — in stav, machinery, budgeting and cost control. With all the things that a manager would have to do, as well as managing his course, he has to know why as well as how.

Hayes: The course manager is really a manager of men. He has to be an agronomist to understand growth of grass. He also has to be in charge of machinery, therefore he should have a mechanisation background. And on top of all that, he is a manager and therefore he must have managerial skills as well, because the amount of money in his control is considerable. In any other industry, you would have a person of high managerial standard to look after that type of investment.



The proven experience in the field



Dr Peter Hayes.

Greenkeeper: There is also a need to persuade the clubs to upgrade their management. Your scientific staff feel a requirement in all sports for the governing bodies to lay down stricter guidelines for playing surfaces required. Doesn't it seem illogical for the R & A to specify golf balls and clubs, but not the playing surface?

Hayes: Not just in golf but in all sports, we have a lack of knowledge of the surface requirements of those sports. Turning to golf, what do golfers require on a golf green? What type of surface? What speed? What resilience do they need, trueness and so forth? If we could define these, then at least in experiments we could aim to get surfaces that come up to these criteria. At the moment, we have no standards whatsoever for the surfaces of tees, greens or fairways.

Greenkeeper: Nor, in fact, do you carry out field trials, which could be done in co-operation with some courses, surely?

Hayes: Yes, that's true, but it is difficult. I don't know whether many golf clubs would allow us to put an experiment halfway across a green. Some treatments may fail and no golf club would like experimental failures on their greens. Where a golf course can be useful for field trials is in the case of disease. When our advisory officers report a certain disease prevalent on the greens or fairways of a particular golf course, then we can go there and apply various chemicals and try to control it and that is a very good field trial for fungicides. Some clubs have practice greens, which might become experimental areas.

Greenkeeper: Talking about the training of greenkeepers, what we really need is a range of different courses for everyone from trainees to potential course supervisors.

Hayes: Yes, the skills of management, agronomy and mechanisation can only be obtained in a residential course at an agricultural/horticultural college with departments specialising in turf culture, and then practical training sandwiched into that course. Nevertheless, there is a place for training the person who does the everyday work and that can be done by block release to agricultural colleges where skills and theory are taught to these greenkeepers. However, it is important that the lecturers know greenkeeping so they can disseminate their knowledge.

Greenkeeper: You mentioned the need for money for research. What about the financial aspect of Bingley? Clearly, you don't think that enough money is coming from the golf game. Hayes: The biggest problem with the institute is finance. We are selffinancing in that our fees for the advisory and construction services cover the advisory staff's salaries. We do get a grant from the Sports Council, which partly covers overheads. It is when we come to financing research that problems arise. Research is not cheap and, therefore, we have to obtain monies from other sources.

In the past, we have received finance from the Department of the Environment to undertake cultivar testing and we have been criticised for carrying out too many cultivar tests, but the fact is the Department of the Environment has been prepared to finance this work.

In the future, I think that each sport, whether it is golf, soccer or cricket, will have to finance research applicable to their particular sport. Whether this is done on a levy basis, on clubs or per capita of players, or whether special tournaments are held throughout the country to try and finance research is open to discussion. In the UK, very little research is undertaken in fine turf and you can always contrast this with our friends in the USA.

Greenkeeper: Are you confident about the future of Bingley?

Hayes: I think the future for sport and for Bingley has never been better because there is an increasing interest in active recreation and grass-based sports will always be high on the list of priorities for sportsmen. A lot of people see golf on television and want to play themselves and I see a very good future for the game. Bingley will help to improve the playing conditions for this increased use of golf courses.

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Notebook

Building For A Better Future

Brian D. Pierson (Contractors) of Wimborne, Dorset has completed alterations to Royal Birkdale in readiness for this year's Open. Royal Birkdale is the company's third Open Championship commission.

Other work for Brian D. Pierson in 1982 included a seven-hole extension at Cawder GC, Lanarkshire; new greens at Barton-on-Sea, Hampshire; new tees at Sittingbourne, Kent; a new green at West Surrey; final preparation and seeding of fairways, greens and tees at Copthorne, Sussex and new tees at Temple, Berkshire.

The company worked in conjunction with Bath City Council to build a new nine-hole course, which involved capping and re-shaping a refuse tip, and Brian was also involved in a consultancy capacity at Ashtonunder-Lyne, Greater Manchester on a three-hole extension.

For 1983, Brian D. Pierson is currently working at Salisbury and South Wilts, where a new green is being built along with work on alterations to existing greens, new bunkers and tees and tree planting. The company is constructing more tees at West Surrey and refurbishing bunkers on the New Forest course at Lyndhurst.

The company has won the contract for the new 18 hole course and fishing lakes in a joint venture between Miller Buckley Golf Services and the Redditch Development Corporation, and, more recently, the construction of a nine-hole course at Radley School, Abingdon.

Brian reports that 1982 was a quiet year for general landscaping, although the company took over the contract side of Roffey Brothers and carried out autumn treatment to over 30 bowling greens. Brian D. Pierson now has a complete Cushman System and the company hopes that 1983 will bring greater interest in its maintenance and specialist treatment of grassed areas.

New Sponsor For Ryder Cup

Bell's Scotch Whisky is to sponsor the biennial international Ryder Cup matches for 1983 and 1985 plus this year's PGA Cup Match at Muirfield in a £300,000 agreement with the PGA.

This year's Ryder Cup is at the PGA National Course, Palm Beach Gardens, Florida on October 14-16.

The 1985 match is scheduled for The Belfry.

The matches have been officially designated: The Bell's Scotch Ryder Cup and The Bell's Scotch PGA Cup.

The match in Florida will be the 25th in the series, which began in 1927 as a contest between the PGAs of Britain and the United States. Britain first incorporated Europe in 1979.

In the 24 previous meetings, America has won 20 and lost three, while the 1969 match was halved.

The PGA Cup Matches, contested between teams representing the club professionals of the two countries, is played annually. Inaugurated in 1973, the USA has won six times, Great Britain and Ireland twice. Two matches in the US have been halved.

This year's Bell Scotch PGA Cup Match at Muirfield is scheduled for July 28-30.

"It is no secret that, without such sponsorship, the future of the matches would have been in some jeopardy," PGA executive director Colin Snape said.

Turf Cutter By Brouwer

The new Mini Turf Cutter is an example of Brouwer awareness of the advantages to be gained from easy transportation and simple set-up. With its folding handles in the transport position, the turf cutter is transformed into a neat package that can be fitted into a pick-up or even the boot of a large car.

Although the unit weighs just 195lb, it is robust and capable of excellent productivity, making it an ideal tool for golf clubs, local authorities and contractors.

The split blade action makes running the machine a smooth operation and the reduced vibration greatly improves cutter efficiency.

The Brouwer Turf Cutter is powered by a 5hp Honda engine and has a 13in overall blade width. The depth of cut can be adjusted from $\frac{1}{2}$ in to $1\frac{1}{2}$ in, allowing for all types of turfing operation to be undertaken.

The unit costs £1,190 (plus VAT) and full details can be obtained from Watmore's Turfland, Red House Farm, Dutton, Warrington, Cheshire WA4 1BR. Tel: Aston (Runcorn) 261.



Brouwer's Mini Turf Cutter.



Good Support For Langside Lectures

Over 100 delegates attended Sports Turf 83, a one-day educational seminar sponsored jointly by the west section of the Scottish And International Golf Greenkeepers' Association and Langside College, Glasgow.

There is an excellent policy of close co-operation between the college and SIGGA, which makes for an exciting innovation in greenkeeping education, combining the resources of the college and the industry generally.

Conference chairman Alistair Connell of Cawder Golf Club had arranged a very interesting programme and a great diversity of subjects were covered by six principal speakers. Subjects covered were golf-course construction, a history of greenkeeping, trees on the golf course, the role of the turf agronomist, the use of turf in the leisure industry, and irrigation. These were concluded by a question and answer session involving the panel of speakers.

After the introductory remarks, Howard Swan of Golf Landscapes gave an interesting talk on the many aspects of golf-course construction, from site preparation through to completion. Mr. Swan stressed the need for good liaison between constructor and architect and the early appointment of a competent greenkeeper to act as the on-site clerk-of-works. He added that building a good golf course involves detailed specifications, good quality control and a team effort involving close co-operation between the contractor and greenkeeper.

John Campbell dealt with a history of greenkeeping from the early days right through to the present period of scientific and technological advancement. He said most of the important advances in sophisticated equipment and materials were achieved from the 1950s onwards. The first steps taken in greenkeeper training and education were in the '60s with the establishment of the apprenticeship scheme. This had the support of the BGGA, SIGGA and the Sports Turf Research Institute.

Trees were the subject of discussion by Cecil George of Lenzie Golf Club. The importance of a long-term plan for planting, proper choice of species and regular maintenance were among the main considerations in any tree planting scheme to improve a course, where protective fencing is essential until young trees are fully established, Mr George said. He said that tree planting should be done well away from the line of play to avoid the problem of leaves and other debris, which frustrate golfers and cause extra work for the greenkeeping staff.

Agronomist George Shiels considered the role of his work in an advisory capacity. At some clubs, there was often too much committee advice and the opinion of the greenkeeper was never really considered, even when he could make a useful contribution through long experience and local knowledge of course conditions. It was the role of the agronomist to help the greenkeeper with any turf problems. Often problems occur due to poor maintenance practices and it was the job of the agronomist to plan a programme for improvement. An agronomist has to be independent and have no ties with trade or manufacturing companies. In new course construction, his opinions on drainage, soil analysis, materials, grasses and maintenance are vital.

Iain Macadam, director of leisure and recreation for Renfrew District Council, explained the many problems involved in catering for local authority needs in sport and recreation. In Renfrew, new township development was continually adding to the task of providing adequate facilities for outdoor sports. Intensive usage created a demand for all-weather surfaces, such as red blaze. High cost of artificial turf surfaces limits usage on recreation areas and natural turf is preferred wherever possible, although the cost of maintaining grassed facilities is high. There is always a need to have more public bowling greens, but these give little return for investment. Central government restrictions place constraints on new developments, but Renfrew provides a fair share of sports facilities for the community, he concluded.

Peter Roberts, sales manager of Toro Irrigation UK, warned of the pitfalls of poor installations. He believed sprinkler nozzles, pipes and pumps that meet design requirements should be economical to install and operate and that sprinkler heads should be spaced to ensure uniform water distribution. Consideration should be given to the water application rate to match the specific infiltration properties of the soil.

The main question directed at the panel of speakers before the seminar ended concerned Poa annua and many asked if it is possible to get rid of it completely. The majority of the panel agreed it would always be a constant battle to reduce it. Today, there is more awareness among greenkeepers of the causes of poa invasion and well-planned maintenance programmes can encourage the more desirable types of grasses to the detriment of annual meadow grass, particularly on greens.

Langside College offers courses on a day-release basis leading to a SCOTEC Certificate In Greenkeeping And Groundsmanship.

James Kidd has been appointed course manager at Gleneagles. James was previously at Kilmacolm Golf Club.



Cushman Four-Wheeler On The Road To New Markets



On or off the road, the new Cushman is ideal for a variety of uses.

The new Cushman Four-Wheel Truckster is the latest addition to Huxleys' range. The company sold the first Cushman Turf Care System in 1975 and since then dealers have supplied over 600 Cushman Three-Wheel Trucksters to golf clubs and local authorities all over Britain.

Managing director Ted Huxley is optimistic about the prospects for the new Four-Wheel vehicle. "Local authority transport managers and parks officers have been very enthusiastic about the specification," he said. "It is a two-seat vehicle with hydraulic brakes on all four wheels and a road speed of over 20 mph, making it purpose-built for a wide variety of applications. It can take the same comprehensive range of mowing and turf maintenance attachments that have proved so successful with the Three-Wheel vehicle and it's ideal for transporting either staff, tools or materials.'

Two of the first Four-Wheel Truck-

sters will be going to Brighton council, which has seven Three-Wheel Truck-sters.

The new Four-Wheel vehicle retains the famous Cushman engine, gearbox and rear axle, has an even stronger chassis and features live hydraulics and pto as standard. The heavy-duty clutch and suspension are similar to a normal road vehicle and full road lighting kit, speedo, weather cab and heater can be added.

A hydraulic tipping steel dump box and flatbed body are two quick-fitting attachments produced by Huxleys, which has now begun to export to European Cushman dealers.

Huxleys' dealer network covers Britain and Ireland from 26 specialist sales and service outlets. Dealers are booking demonstrations of the Four-Wheel Cushman Truckster now.

Full details from Huxleys Grass Machinery, 22-26 Church Street, Staines, Middlesex TW18 4ER. Tel: 0784 51123

Supaturf Sends Out A New Agent

A new wetting agent has been launched by Supaturf Products. The product, known as Aqua-Gro, has been widely used in the United States for more than 20 years. Supaturf has been appointed the sole EEC distributor.

Trials have already shown the benfits of using Aqua-Gro on UK golf courses, especially in solving the wetting problems on greens, where thick thatch forms a barrier restricting the penetration of irrigation water. Dew formation has also been reduced, allowing the turf to be used earlier in the day.

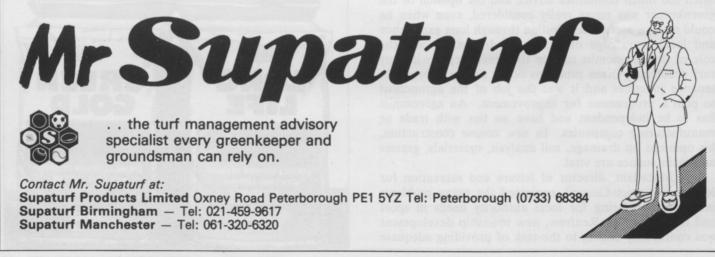
Aqua-Gro is an organic non-ionic wetting agent containing 100 per cent ester-ether-alcohol active ingredient. It works by reducing the high surface tension of water allowing easier, more uniform penetration of the soil.

Excess water drains away leaving a moist, well aerated root zone, which, will encourage healthy grass growth. The need for water is reduced by 30 to 50 per cent and because of the non-ionic nature of the compound, plant nutrients are retained in the root zone.

Aqua-Gro Liquid is available in five and ten litre drums and is recommended for use at two gallons (nine litres) per acre. The cost works out at around £50 per acre.

An associate company of Supaturf, Palmers Fertiliser, is introducing the granular product for nurserymen and growers. As the first granular wetting agent in the UK, it will enable them to make big savings in the cost of compost through mixing their own.

Further information from David Palmer (Supaturf) on 0733 68384 or Bernard Hunt (Palmers) on 0733 61222.



Turf Topics



Turf should not be left in stacks for any considerable length of time.

A turf nursery plays an important part in the upkeep of a golf course. There is always the need for a reserve of good turf for any repairs or construction work that might arise. Not every course possesses a turf nursery and while there may be compelling reasons for not having one, it is obviously a great advantage to have your own source of turf to deal with emergencies.

A turf nursery should be looked after in the same manner as its counterpart on the course and if the turf is to be used for the greens, then it should get exactly the same treatment by way of mowing, irrigation, fertilising and weedkilling, etc.

Laying turf on a golf green or tee is a specialised job best performed by a competent greenkeeper. The main objective is to put turf down in a manner that will produce a firm, level surface and ensure rapid rooting or 'knitting' of the turf into the underlying soil. The whole operation may be jeopardised unless good quality turf containing desirable grasses is used. Turf lifted from random areas on the course without proper preparation is usually thin, often infested with weeds and may contain a mixture of grasses that will not produce a desirable turf to withstand the rigours of heavy play.

The thickness at which the turf is cut may vary with the turfgrass species, uniformity of the soil surface, type of soil and turf strength. The amount of fibre and root development is the deciding factor in turf strength for handling and for quick root establishment. The poorer the turf strength and shoot density, the thicker the turf must be cut to permit ease of handling. Turf that is cut relatively thin roots faster than turf that has been cut thick and is also lighter and easier to handle.

Turf laid aside for re-use should not be stacked in heaps for more than a day or two because decomposition may set in. If it cannot be laid immediately, it should be spread out on an adjoining piece of spare ground until it is required. Care should be taken in handling, so that individual pieces will not be torn or stretched out of shape.

The soil bed on which the turf is to be laid has to be carefully prepared and worked down to a fine tilth. It should be firmed up by raking, treading and 'heeling' and any depressions dressed out with extra soil to provide a smooth, uniform surface. Just prior to laying, the bed may be dampened with a fine spray to avoid placing the roots in contact with excessively dry soil.

The method of laying is to match the first course against a straight line running across the area, then the turf pieces should be laid in checkerboard fashion. It is important to ensure that each turf is placed on a firm, level soil bed, taking care not to allow the corners to droop and they must fit together snugly without overlapping. Care should be taken not to stretch turf while it is being laid since it shrinks upon drying to leave unsightly gaps between the turf pieces. On slopes, it **Continued on page 27...**



GREENKEEPER APRIL 1983 25

Brouwer Expansion

Due to increased demand for the Brouwer PTO Gang Mower and an extended product range, Chris Watmore (Turf Equipment) has expanded its professional team.

Ray Woodward, appointed general manager of the turf equipment division of the company, has had five years direct involvement in distribution and dealership within the professional turf maintenance industry. Previously, he was employed in land-





Chris Watmore.

Rav Woodward.

Master Builder's Beliefs

Books has Grant added Dr Mackenzie's Golf Architecture to its extensive list of books on golf. It is a limited edition restricted to 700 numbered copies.

A compilation of the works of Dr Mackenzie, the book includes a fascinating insight into the man. His most important criterion was that the game should be pleasurable, interesting and challenging and he coupled this with a keen desire to retain natural beauty in architecture.

There is also a section providing Hints On Greenkeeping, which served as a brochure for prospective clients, and Plans For The Ideal Course, written in 1932, in which Dr Mackenzie expounds on The Augusta National Course and its potential.

scape construction. Ray will be supported by two new area sales managers Chris Kennedy as southern and John Young as northern area manager.

Ray Woodward will work from head office. Chris Kennedy is based in Fleet, Hampshire and John Young in Darlington, Co Durham.

Stan Whittingham-Jones, who has been with the company for two years, will continue in an active role as sales-



Chris Kennedy.



John Nicholls. dealer for Northampton and Leicester. Finally, John Nicholls has been promoted from within the company to service controller and Angela Watmore has been appointed personal secretary to Ray Woodward.

"These appointments confirm our support for our dealers, confidence in our products and determination to give excellent products an excellent back-up service," managing director Chris Watmore said.





Angela Watmore.

by Robert Trent Jones recalls some of Dr Mackenzie's great courses and his genius for strategically planning greens. UK price - £15.50.

Full details of the company's complete list of titles can be obtained from Grant Books, Victoria Square, Droitwich, Worcestershire. Tel: 0905 778155.

Seventeen Plus One

In the recent Hydromain Seventeen competition run by SISIS Equipment (Macclesfield), Andy Wallington of Gloucestershire County Council playing fields department won the first prize of a portable colour television.

The seventeen runners-up were: B. Stubbings, Chelmsford, Essex; J. A lively introduction to the book | Pagett, University of Warwick, Cov- | Gwnedd.

entry; D. Cowan, parks manager, Clwyd, North Wales; W. Bewick, head greenkeeper, Boldon GC, Tyne and Wear; K. Williams, Borough of Torfaen, Cwmbran, Gwent; A. Ferris, parks department, Tewkesbury; J. Riley, Borough of Pendle, Lancashire; J. Stoa, deputy manager, parks and cemeteries dept, Darlington; D. Bentley, joint training scheme, Durham; R. Thompson, Northumbria Police HQ, Newcastle on Tyne; P. Davies, Conwy, Caernarvon Conwy GC, Gwynedd; Mr Gledhill, Mold, Clwyd, playing fields officer; G. Keers, area supervisor, Co Durham; J. Lomax, education dept, Durham; P. Virgo, groundsman, Gloucester; R. Kerr, school groundsman, Gloucester and D. Hughes, Pwllheli Golf Club in



Turf Topics — Continued ...

may be necessary to stabilise the turf with wooden pegs to prevent slippage.

Following laying, a good compost mixture should be thoroughly worked in to the joints and seams to prevent dry-out and to maintain good surface levels. This may be done with a drag mat or birch broom. The turf should also be lightly tamped or rolled to ensure good contact between the turf and soil. Rolling should be done in a perpendicular direction to the way the turf was laid. If tamping or rolling is not done, air pockets are likely to remain between the turf and the soil, which results in drying of the roots and rhizomes and a consequent delay in turf rooting.



These days, cutting large areas of turf is best performed by efficient powered equipment.

The rooting capabilities of turf grown on different types of soil has often been discussed and comparisons of the transplant rooting ability of turf grown on organic soil versus mineral soil have not generally indicated any significant difference — provided the turf was produced under comparable conditions. Rooting ability of turf is usually more influenced by cultural practices than from the soil on which the turf was grown. Turf that has been stimulated by high nitrogen fertility is soft and succulent and possesses relatively low carbohydrate reserves and the rooting ability is impaired compared to turf grown under controlled nitrogen fertility levels that has a higher carbohydrate reserve.

The presence of a cleavage plane at the interface of the turves with the undersoil may be a problem, particularly on sports turf where play involves the twisting and churning action of spikes or cleated shoes. Turf possessing a particle size that is substantially different from the underlying soil has a cleavage plane at which the turf tears more readily when stress is exerted by twisting and turning pressures.

Nursery turf made up of soil of a distinctly different texture may also be a problem on greens and tees because of the disruption in water movement. Thus, the turf used on greens and tees should be grown on soil comparable to the underlying soil on the site where the turf is being transplanted.

Newly laid turf should be left untouched for three or four weeks to give the roots a chance to become established in the underlying soil. When there are signs of growth, mowing should be done with blades set high and gradually lowered as the vigour of the sward improves.

JOHN CAMPBELL

Thanks To Their Eagerness!

I have read much ill-informed comment about the new association, but not one word of appreciation to those who worked so hard getting EIGGA on the road.

Therefore, I would like to be the one to say 'thank you' to Michael Coffey, Mr and Mrs David Jones, Hugh McGillivray and all the others concerned for giving us such a splendid alternative to the stagnant, narrow-minded association I was a member of before.

Stagnant because of a lack of ideas and appreciation of what is happening outside Yorkshire and an old-fashioned approach to a new generation of greenkeepers. Narrow-minded because new ideas were offered to them and blatantly refused because of personalities. The BGGA, it was reported, is still going strong. Going strong, but where?

The BGGA offers very little compared to EIGGA and that is only after a couple of months — wait until EIGGA really gets going! And strong? How many greenkeepers out of the total employed on golf courses in England and Wales are members of the BGGA? Not many.

I would like to urge every greenkeeper, assistant and groundsman to give EIGGA a chance. With their help, in time it can be something to be proud of.

Why don't the stalwarts of the BGGA join us instead of backstabbing and sniping? We all have a common interest and I am sure they will be made welcome. We could all then start to improve our jobs, image and even ourselves.

D. Johnson, New Zealand Golf Club.

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Branch News

48818 or Kenny MacNiven, Warren

Effingham, Surrey. Tel: Bookham

Guildford Golf Club, Merrow on

Tuesday, May 17 will start at 8.45 am.

The Cresta Cup at New Zealand on

June 13 begins at 3 pm, while The

MacGillivray Shield at Richmond GC,

Sudbrook Park will be contested on

will be played at Ifield GC, Crawley

on Monday, August 15 and The Mac-

Millan Tankard at Bramley GC on

Finally, the annual autumn invi-

tation tournament will be played over

36 holes at Surbiton GC on October

12. All those who enter must bring a

partner, ideally his club captain, sec-

August 24 commences at 3 pm.

A match against the Sussex section

Tuesday, July 19 from 4 pm.

A 36-hole spring tournament at

Farm Cottage, Guildford

54312.

Road,

Surrey

It is with great sadness that the branch reports the death of Henry Tullo, secretary of the New Zealand Golf Club, Byfleet. He was a great friend.

The following summer fixtures have been arranged and members are reminded that their support of all functions is essential for the future success of the branch.

The AGM is to be held at New Zealand GC on Wednesday, April 13 at 7.30 pm and will include the draw for the Huxleys Bowl pairs knockout competition. The annual dinner dance will take place at The Manor Inn, Farncombe on April 30. The function will commence at 7.15 pm and dress is optional. Applications for tickets — which cost £8.50 each — should be made to David Johnson, The Flat, New Zealand Golf Club, Woodham Lane, Weybridge, Surrey. Tel: Byfleet

Tom Takes Trophy

Tom Bennyworth, phase three student of the year for fine turf management at Plumpton College, received a trophy from the Sussex branch of EIGGA recently. Tom works for East Sussex County Council as a school groundsman in Eastbourne. Also pictured (from left to right) are: Nick Rigden, head of horticulture at Plumpton College; Michael Pollard, principal, and Lionel Harris, chairman of EIGGA's Sussex branch.

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retary or a member.

Entry forms for all competitions are available from D. Lenham at Sunningdale Golf Club.

East Anglia

Notes by Mick Lathrope

It looks like the merry band is rolling along with more and more switching to EIGGA. Several Essex lads have joined and it is hoped to have at least one golf day in the area, as well as a couple of lectures in London in the winter.

There are a few tournaments for Roger Plummer to win this year! They're at Colchester — May 11; Theydon Bois — June 28; Royal Norwich — August 23 and Gog Magog — October 18. A Turkey Trot at Bishop's Stortford is still to be arranged.

I have also been informed by my friendly SISIS rep Bob Chesham, that his company is having a few field days. They are to be held at the Kings & Selwyn Sports Ground on April 11; Royal Norwich Golf Club on April 12; the third, on April 13, is at a venue yet to be arranged and the fourth is on April 14 at Warren Golf Club, Danbury.

More Drive In Sussex

The Easterfields Driving Range at Horam, near Heathfield, situated in wooded surroundings of the Sussex Weald, is part of a new golf complex. A nine-hole course will be completed later this year. The range has 18 covered tees, including a bunker bay, and is open from 9.30 am to 10.30 pm.

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Cotton (CK), Pennink, Lawrie & Partners Ltd., Marlow Place, Station Road, Marlow, Bucks, SL7 1NB Tel: Marlow 72555 Telex: 311210. Hamilton Stutt & Co., 12, Bingham Avenue, Poole, Dorset, BH14 BNE Tel: (0202) 708406 Hawtree & Son 5. Oxford Street Woodstock, Oxford, OX7 1TQ Tel: Woodstock (0993) 811976. T. J. A. McAuley BSc FICE. 7. Donegal Square West, Belfast, N. Ireland, BT1 6JF Tel: (0232) 26981. BRITISH ASSOCIATION GOLF COURSE CONSTRUCTIONS Chipman Ltd., Horsham, Sussex, RH12 2NR Tel: 0403 60341. Eccles Contracting Ltd., Brickfield Street, Hadfie Hyde, Cheshire, SK14 7DZ (04574) 63425. Golf Landscapes Ltd., Ashwells Road, Bentley, Brentwood, Essex, CM15 9SR Tel: 0277 73720. Land Unit Construction Ltd., Folly Farm, Hanslope, Milton Keynes, Bucks, MK19 7BX Tel: 0908 510414. Brian D. Pierson (Contractors) Ltd., 27, Vicarage Road, Verwood, Wimbourne, Dorset, BH21 6DR Tel: 0202 822372 Southern Golf & Landscapes Ltd. 85, West Street. Warwick, Warwickshire, Tel: 0926 492898. CONSTRUCTION

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Bigger tambeller Bigger tambeller Sesex, SS1 2RR Tel: 0702 61 2344 Contact: Mr. Elvin. H. Pattison & Co. Ltd., Stanmore Hill Works, Stanmore, Middlesex, HA7 3HD Tel: 01-954 4171. GOLF COURSE & BOWLING GREEN CONSULTANT John Campbell, 121/123 High Street, Dovercourt, Harwich, Essex, C012 3AP.

GOLF COURSE CONSULTANTS John Souter Esq., Cunningham Road, Stirling, Scotland Tel: Stirling (0786) 2141.

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Toro Irrigation Ltd., Unit 7, Millstream Trading Estate, Ringwood, Hampshire, BH24 3SD Tel: Ringwood (042 54) 6261, Watermation Ltd., Monument Way E., Woking, Surrey, GU21 5LY Tel: Woking 70303 Telex: 859224.

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Cheshire, SK9 7NN Tel: Alderley Edge (0625) 584571/2 Contact: Nick Gray. SEAWEED FERTILISERS Seamac Agricultural Ltd., Foundry Lane, Chippenham Wilts, Tel: (0249) 652811.

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1	Deane & Fletcher Sprayer	£100

Enquiries:---

R. Broome DAVYHULME PARK GOLF CLUB Tel: 061-748-7324

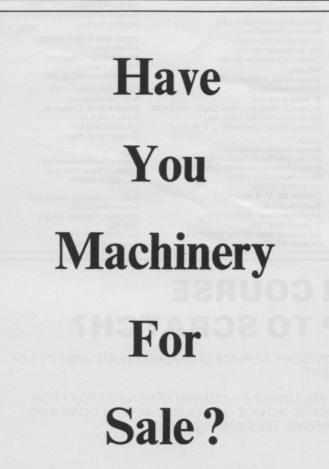
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> New grass box Very good condition

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Fully re-ground and serviced $3\frac{1}{2}$ years old

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New machine Full Manufacturer's warranty

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Subject to V.A.T. Delivered free Ready for work U.K. mainland

For further information, write to:---P.O. Box 90, Greenkeeper, 121-123 High Street, Dovercourt, Harwich, Essex.

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SISIS HYDRATOR, Model HMA-644 Little-used

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Appointments

FILTON GOLF CLUB (Est. 1909)

A parkland course with interesting prospects following the acquisition of adjoining land with re-alignment and construction of new holes already in hand, invites applications from fully experienced and highly competent persons to fill the posts of:

HEAD GREENKEEPER

AND

Experienced Greenkeeper

Applicants must possess sound knowledge and experience of modern turf management techniques, a thorough knowledge of the use and maintenance of machinery, equipment and watering systems.

Salary/wage negotiable but will be attractive and commensurate with these important positions. No accommodation available.

Write in the first instance giving full details of training, experience and present salary to:

The Secretary, Filton Golf Club, Golf Course Lane, Filton, Bristol.

ELMWOOD COLLEGE CUPAR, SCOTLAND

Take the first step towards becoming a REGISTERED GREENKEEPER by attending a block release course in GREENKEEPING & GROUNDSMANSHIP

leading to SCOTEC Pt. 1 & 2 Cert.

We also conduct block release SUPERVISORY COURSES in GREENKEEPING & GROUNDSMANSHIP

> Details from the Registrar Tel: 0334-52781

Notebook Extra

Turftalk

Rigby Taylor (South) recently held two open days at its Guildford, Surrey depot to introduce customers to the Mascot range of turf-care products, as well as other items from a wide range the company stocks.

Managing director Derek Phillips said: "It was a pleasure to welcome over 250 to our first open day. Many travelled from as far as Oxford, Berkshire, Essex and Kent."

Products on view included those not only for the turf culture use, but also those for the horticultural industry.

"It is the policy of Rigby Taylor (South) to offer customers the widest possible range of products, the majority of which are delivered by the company's own transport fleet.

"While we appreciate that the open day was held during a busy period, we would like to take this opportunity of thanking all those who attended for their interest. The general opinion of everyone was that it had been very worthwhile," Mr Phillips said.

Number Five For North West

The north-west branches of the Institute of Groundsmanship are to mount their fifth exhibition of sports ground machinery and equipment. The show will take place at Ribby Hall Park, Wrea Green, near Blackpool on October 4 and 5.

Nearly 100 trade exhibitors took part in the 1982 event and the organisers are expecting a much larger participation this year.

Space application forms can be obtained from the secretary P. M. Phillips, 12 Brereton Close, Crewe, Cheshire CW2 8PR. Tel: Crewe (0270) 663420.

Scotsturf '83

Following the Scotsturf exhibition at Ingliston in November, the Scottish zone of the IOG is planning to stage the event for a second time.

Scotsturf '83 will again be held at the Royal Highland Exhibition Hall, Ingliston, near Edinburgh on Thursday, November 3, from 9am till 5pm. Over 50 trade exhibitors are expected to take part and the institute plans to arrange a seminar during the morning of the exhibition.

Rationalisation Plan

May & Baker has withdrawn its distributorships from Rigby Taylor and Rigby Taylor (South).

Richard Fry, May & Baker environmental product department manager, said: "This action has been taken to further rationalise the distribution of our turf, amenity and industrial weedkillers and fungicides. This decision will in no way restrict the access of May & Baker chemicals to any of our customers, who will continue to receive a first-class service from our distribution network throughout the United Kingdom and Eire."

Why It Pays To Spray The Cushman Way

To keep Greens and Tees healthy, you need to act promptly and effectively at the first sign of any turf disease.

With the Cushman System, you can spray all 18 Greens with fungicide quickly and accurately, in half a morning, leaving plenty of time for other important jobs you planned to do that day.

Of course, the Huxley Sprayer is also ideal for applying selective weedkiller or wormkiller, and with an 18 foot boom width you've got a highly versatile and mobile unit to spray Aprons, Fairways and virtually any part of the course.



You can be sure of a consistent spray rate, regardless of terrain, because the Cushman PTO is controlled by the transmission and ground speed governor, ensuring accurate spray distribution and less chemical waste. Ask to see how your course can benefit from Spraying the Cushman Way, and how, with other accessories, the Cushman Turf

Care System can transport, spike, aerate, topdress, vertirake and mow.

It's a system that really WORKS, and that's why to hundreds of British Golf Greenkeepers IT'S THE ONLY SYSTEM.

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